ANNUAL REPORT 2021

ROLLS-ROYCE HOLDINGS PLC

PIONEERS OF POWER

At Rolls-Royce, we believe in the positive, transforming potential of technology. We pioneer the power that matters. Power that has an impact and is central to the successful functioning of the modern world.

DISCOVER MORE AT ROLLS-ROYCE.COM

FRONT COVER IMAGE

Spirit of Innovation the world's fastest all-electric aircraft

INSIDE COVER IMAGE

The MT30 is the world's most powerful in-service marine gas turbine

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Use of underlying performance measures in the Annual Report
All figures in the narrative of the Strategic Report are underlying from continuing businesses unless otherwise stated. We believe this is the most appropriate basis to measure our in-year performance as this reflects the substance of trading activity, including the impact of the Group's foreign exchange forward contracts, which lock in transactions at predetermined exchange rates. In addition, underlying results exclude the accounting impact of business acquisitions and disposals, certain impairment charges and exceptional items. A full definition of underlying and the reconciliation to the statutory figures can be found on pages 215 and 216. All references to organic change are at constant translational currency and exclude M&A.

Forward-looking statements
This Annual Report contains forward-looking statements. Any statements that express forecasts, expectations and projections are not guarantees of future performance and guidance may be updated from time to time. This report is intended to provide information to shareholders, and is not designed to be relied upon by any other party or for any other purpose, and the Company and its Directors accept no liability to any other person other than that required under English law. Latest information will be made available on the Group's website. By their nature, these statements involve risk and uncertainty, and a number of factors could cause material differences to the actual results or developments.

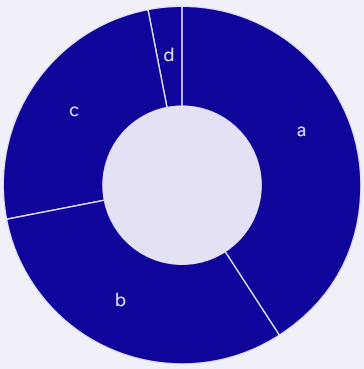
PIONEERS OF POWER

Rolls-Royce pioneers cutting-edge technologies that deliver clean, safe and competitive solutions to meet our planet's vital power needs. Our purpose is to pioneer the power that matters to connect, power and protect society.

FREE CASH FLOW [1,2,3]	STATUTORY CASH FLOW	UNDERLYING REVENUE [1,2,3]	STATUTORY REVENUE [1,2]
£(1,485)m	**£(775)m**	**£10,947m**	**£11,218m**
2020: £(4,255)m	2020: £(995)m	2020: £11,430m	2020: £11,491m

UNDERLYING OPERATING PROFIT/(LOSS) [1,2,3]	STATUTORY OPERATING PROFIT/(LOSS) [1,2]	UNDERLYING PROFIT/(LOSS) BEFORE TAX [1,2,3]	STATUTORY (LOSS) BEFORE TAX [1,2]
£414m	**£513m**	**£36m**	**£(294)m**
2020: £(2,008)m	2020: £(1,972)m	2020: £(3,993)m	2020: £(2,799)m

UNDERLYING EARNINGS PER SHARE [1,2,3]	STATUTORY EARNINGS PER SHARE [1,2]	NET DEBT [4]	LIQUIDITY [5]
0.11p	**1.48p**	**£(5,157)m**	**£7.1bn**
2020: (67.48)p	2020: (51.81)p	2020: £(3,576)m	2020: £9.0bn



UNDERLYING REVENUE BY BUSINESS IN 2021

a. Civil Aerospace	**41%**
b. Defence	**31%**
c. Power Systems	**25%**
d. New Markets and Other businesses	**3%**

ORDER BACKLOG	GROSS R&D EXPENDITURE [3,6]	COUNTRIES WITH ROLLS-ROYCE PRESENCE	EMPLOYEES (MONTHLY AVERAGE)
£50.6bn	**£1.2bn**	**49**	**44,000**

[1] 2021 figures represent the results of continuing operations.
[2] 2020 figures have been restated, where relevant, to show ITP Aero as a discontinued business in line with 2021 reporting.
[3] A reconciliation of alternative performance measures to their statutory equivalent is provided on page 215 to 216.
[4] Net debt (including lease liabilities) is defined on page 113.
[5] Liquidity is defined as net funds plus any undrawn facilities, as listed on page 59.
[6] See note 3 on page 139 for a reconciliation of gross R&D expenditure to total R&D expenditure.

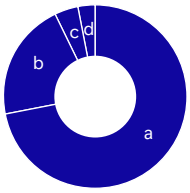
See note 2 on page 131 for a reconciliation between underlying and reported results.

OUR BUSINESSES IN 2021

CIVIL AEROSPACE

Civil Aerospace is a major manufacturer of aero engines for the large commercial aircraft, regional jets and business aviation markets. The business uses its engineering expertise, in-depth knowledge and capabilities to provide through-life support solutions for its customers.

UNDERLYING REVENUE MIX



a. Large Engines	**72%**
b. Business Aviation	**21%**
c. Regional	**4%**
d. V2500	**3%**

UNDERLYING REVENUE [7,8]

£4,536m

2020: £5,068m

UNDERLYING OPERATING LOSS [7,8]

£(172)m

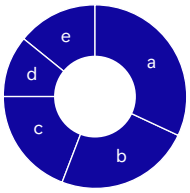
2020: £(2,535)m

See page 26

DEFENCE

Defence is a market leader in aero engines for military transport and patrol aircraft with strong positions in combat and trainer applications. It has significant scale in naval and also designs, supplies and supports the nuclear propulsion plant for all of the UK Royal Navy's nuclear submarines.

UNDERLYING REVENUE MIX



a. Transport	**32%**
b. Combat	**24%**
c. Submarines	**19%**
d. Naval	**11%**
e. Other	**14%**

UNDERLYING REVENUE [8]

£3,368m

2020: £3,355m

UNDERLYING OPERATING PROFIT [8]

£457m

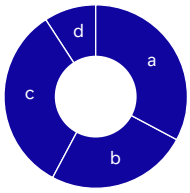
2020: £461m

See page 28

POWER SYSTEMS

Power Systems, with its product and solutions brand, *mtu*, is a world-leading provider of integrated solutions for onsite power and propulsion, developing sustainable, climate-friendly solutions to meet the needs of its customers.

UNDERLYING REVENUE MIX



a. Marine	**33%**
b. Industrial	**25%**
c. Power Generation	**33%**
d. Defence	**9%**

UNDERLYING REVENUE [8]

£2,749m

2020: £2,735m

UNDERLYING OPERATING PROFIT [8]

£242m

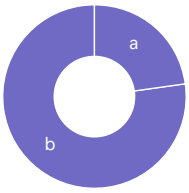
2020: £188m

See page 30

NEW MARKETS

New Markets are early-stage businesses, with high growth potential, focused on addressing the opportunities being created by the transition to net zero. The businesses leverage our existing, in-depth engineering expertise and capabilities to develop new sustainable products for new markets.

R&D EXPENDITURE



a. Rolls-Royce SMR	**23%**
b. Rolls-Royce Electrical	**77%**

UNDERLYING REVENUE [8]

£2m

2020: £5m

UNDERLYING OPERATING LOSS [8]

£(70)m

2020: £(45)m

See page 32

[7] The underlying results for Civil Aerospace have been restated to reflect the transfer of the Hucknall site with associated fabrications activities from Civil Aerospace to ITP Aero during 2021.
[8] The underlying results of Civil Aerospace, Defence and Power Systems for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new Electrical power solutions activities as New Markets and UK Civil Nuclear as Other businesses.

DELIVERING ON OUR COMMITMENTS

We have made significant progress on the path to recovery by focusing upon the elements within our control, in the face of the continued impact of the COVID-19 pandemic in 2021. We are emerging as a better quality business with significant long-term business opportunities presented by the global energy transition.

ANITA FREW, CHAIR

This is a challenging but incredibly exciting time to join Rolls-Royce as Chair and I do so with a strong sense of purpose and the determination to realise the tremendous potential of our business. I would like to extend the Board's heartfelt thanks to Sir Ian Davis for the leadership, dedication and perseverance he showed throughout his tenure as Chairman. To that, I would add my sincerest thanks for the assistance he gave me as Chair designate, upon my arrival at the start of July. Since then, I have visited as many of our sites as COVID-19 pandemic restrictions have allowed and met with colleagues from all levels, as well as numerous external stakeholders. What has struck me everywhere I go within the Group is the pride and passion of our people, their sense of purpose and desire not only to secure and protect Rolls-Royce but to see it flourish and thrive.

I share that sentiment and have watched Rolls-Royce closely for years. Like many people within our business, I have a family connection. My father was what you might term a Rolls-Royce lifer. He had been a pilot in the Second World War and then trained as an engineer at the Rolls-Royce site in Hillington, Glasgow, where he spent the rest of his career. From my early childhood in Scotland, I have a very clear memory of the day my father came home and told us that the Company had been nationalised. That was a real shock, not just for us but for the whole community. We felt it for all of the Rolls-Royce family. The causes of that dramatic event half a century ago are well documented and when I now hear colleagues talk of the RB211 engine – which forms the basis of today's Trent engines – it brings back to me the importance of making Rolls-Royce a business with sustainable foundations; of ensuring that never again are we reliant on just one product.

During 2021, we have focused on execution to deliver on our commitments to investors, having taken transformative action in the previous year to secure our future following the unprecedented impact of the pandemic. We have delivered on our fundamental restructuring; we are completing our disposal programme; and our results are testament to the progress achieved in the year. There remains, however, much hard work still to be done to return to strong cash generation and create sustainable long-term value.

We have engineering excellence at our heart and an incredible focus on innovation, research and development activity that creates opportunities for significant value creation. Despite the financial impact of travel restrictions as a result of COVID-19 on Civil Aerospace, we have continued to invest in the new technologies that our customers across all our businesses will require in the future. This positions us well as economic recovery increases in the shorter term for Power Systems and over the longer term in civil aviation, where we firmly believe the societal and economic need for flight remains strong. We have also innovated to successfully capture new business in Defence, which has remained resilient throughout the pandemic.

This year has also seen us take significant steps to widen the scope of our activities through new business ventures that give us significant long-term opportunity. After many years of hard work, our Rolls-Royce SMR venture is now up and running. We have both UK Government and third-party financial support, and we are progressing through the required regulatory processes before the construction of the first power stations and zero carbon energy production around the turn of the next decade. The new, emerging areas of all-electric and hybrid-electric aviation also give us the opportunity to take our very strong track record in aerospace engineering and safety into new markets, such as urban air mobility and commuter aviation. Our work with these exciting new technologies also gives us a potential route to return to the regional aviation market, where we can pioneer new solutions unencumbered by the need to protect any significant market share that relies on existing technology.

As I said earlier, there remains much hard work still to be done to return to strong and sustainable cash generation and we must continue to focus on the management of the risks associated with delivering on our

commitments. There also remains a high level of operational complexity within our business, which we are addressing through the restructuring (see page 26). It is imperative that the gains made through the, at times painful, decisions taken during this programme are embedded within the business, providing us with a solid foundation as we return to growth. Costs must be kept under control and capital invested in opportunities which represent the greatest potential return for stakeholders. We are world leaders in the provision of complex, safety-critical power and propulsion systems for our customers. We must achieve similar pre-eminence in our business processes and operations.

Shareholder payments

Our results represent a marked improvement over the nadir that was 2020 and the return to positive free cash flow during the third quarter of 2021 shows our general upward trajectory. However, we have some considerable way still to go on our journey to the sustainable level of cash generation which would provide us with a stronger balance sheet and ability to return to shareholder payments in due course. In addition, some of our loan facilities place restrictions and conditions on payments to shareholders until 2023. The restrictions mean no shareholder payment will be made for 2021. From 2023, the Board may recommend shareholder payments, subject to satisfaction of the conditions and our consideration of progress made to strengthen the balance sheet. Further information can be found in Shareholder Information on page 220.

Board developments

During the year, we strengthened the Board's skills and experience in aerospace, engineering, operations, technology and digital transformation with the appointments of Paul Adams, Mike Manley and Wendy Mars as Non-Executive Directors. In May, Panos Kakoullis took up his post as Chief Financial Officer. Previously, he led the audit and assurance practice of Deloitte where he worked with a wide range of multinational corporations.

During 2022, we will see some departures from the Board. Lee Hsien Yang will have completed his nine-year term of office at the end of 2022. In addition, Irene Dorner has indicated her intention to step down and will not be standing for re-election at this year's Annual General Meeting on 12 May. Irene is currently Chair of the Remuneration Committee and Employee Champion. Irene has been a valued member of the Board, a thoughtful Chair of the Remuneration Committee through some challenging periods for the Group and a very engaged Employee Champion, ensuring the voice of the employee is heard in the boardroom. On behalf of my colleagues, I would like to thank her for her dedication during her time with Rolls-Royce.

As a result, we are strengthening the Board's international, geopolitical and remuneration experience and we are pleased to announce the appointment of Jitesh Gadhia, who will join the Board on 1 April 2022. Upon his appointment to the Board, Jitesh will become a member of the Nominations & Governance and Remuneration Committees (see pages 80 and 87 for more detail).

Sir Kevin Smith, now in his seventh year on the Board, has indicated his wish to relinquish his roles, both as Senior Independent Director and as Chair of the Science & Technology Committee. With effect from the conclusion of this year's AGM, George Culmer will be appointed Senior Independent Director and Paul Adams will be appointed Chair of the Science & Technology Committee.

Early in 2022, Warren East informed the Board that he had decided to step down at the end of this year, after nine years on the Board and almost eight years as Chief Executive. As a result, the Board is conducting a thorough and extensive search for his successor. I know that during this time, Warren will continue to lead Rolls-Royce with all the dedication he has shown throughout his tenure. He is an exceptional leader and has set a pioneering vision and strategic direction for Rolls-Royce to lead the transition to net zero across our markets. He has led Rolls-Royce to a point where we have substantially delivered on our recent commitments to investors and are now firmly set on the path to a more prosperous and sustainable future.

Looking forward

Our markets are fundamentally attractive, and our customers are increasingly requiring more sustainable solutions within these markets so they are able to play their part in the global energy transition. The need to combat climate change represents a challenge for us (see page 40) and, more importantly, a significant commercial opportunity which we are firmly grasping, as we operate in some of the most critical systems of the global economy where decarbonisation is particularly complex. Leading the transition to net zero by enabling our customers to use our products – both existing and future – in a way that is compatible with emissions reduction is firmly embedded within our purpose and strategy (see page 10). It is also a mission which resonates very strongly with our people and has provided a rallying cry during the recent tough times. The work we are doing on net zero (see page 36) is positioning us as part of the solution to climate change, a point perhaps best demonstrated during the year by the fact that we were one of only a handful of companies chosen to participate in the 26th UN Climate Change Conference of the Parties (COP26).

I am proud to be taking my place among the leaders of a Group which is not only pushing the boundaries of technology and innovation but pioneering new solutions to help the world achieve net zero by 2050. While there is much work to do to return Rolls-Royce to sustainable growth as a better quality and more balanced business, significant progress has been made this year and we have very exciting opportunities now and into the future, which will deliver value for all our stakeholders. Finally, I would like to take this opportunity on behalf of the whole Board to thank everyone in Rolls-Royce for their continued dedication and hard work during the year.

Anita Frew
Chair

GENERATING POSITIVE MOMENTUM

We improved our financial performance, delivered our near-term commitments, won new business opportunities and took important strategic steps forward during the year. While challenges remain, we can look with increasing confidence to the future and the significant commercial opportunity presented by the transition to net zero.

WARREN EAST, CHIEF EXECUTIVE

We have improved our financial and operational performance, continued to deliver on our commitments and created a better balanced business capable of sustainable growth. We have achieved the benefits of our restructuring programme a year ahead of schedule, positioning Civil Aerospace to capitalise on increasing international travel. In Defence, we have seen growth driven by strong demand in all our markets and in Power Systems we achieved record order intake in the last quarter. The positive momentum we are generating gives us confidence as we look to the future. We have also made significant progress with our new businesses in electrical power and small modular reactors, both of which have the potential to create very significant long-term value. We are continuing to make disciplined investments to develop new and existing technologies, which will enable us to seize the significant commercial opportunity presented by the global energy transition driving sustainable returns.

During the year, we continued to invest prudently in the new technologies, products and services our customers will need for their future success and saw our more recent investments deliver new growth opportunities. We attracted new customers, secured our place on new aerospace platforms and pushed our existing products into new markets. Our Defence business continued to perform well with strong demand for OE and services driving growth in all our end markets: combat, transport, submarines and naval (see page 28) and we won a strategically important contract with the US Air Force.

In Power Systems, the effects of COVID-19 on our end markets lessened over the course of the year and we recorded a strong increase in order intake in the second half, especially in power generation with orders for data centres and infrastructure projects. The transition to net zero power is a significant opportunity for us in Power Systems with mission critical power for data centres, power for construction and infrastructure, and marine solutions leading the demand for net zero carbon solutions (see page 30).

Notwithstanding our crucial focus in Civil Aerospace on completing the restructuring, we secured new customers and our place on new aircraft platforms in the widebody and business jet markets (see page 26). Within our New Markets reporting segment, which we have introduced to provide greater clarity for stakeholders on our early-stage businesses with high growth potential, Rolls-Royce Electrical saw pre-orders announced for a key urban air mobility customer, a new platform partner unveiled and passed a number of significant development milestones, including securing the world all-electric aircraft speed record (see page 32). Five years after our programme to develop a small modular nuclear reactor business was created, we established as a special purpose vehicle. We have attracted not just UK Government funding but capital from external investors (see page 32). We will now proceed through the regulatory process and identify sites for the factories, which will manufacture the modules that will enable the on-site assembly of SMR power plants, as well as focusing on securing our first orders.

There remain challenges and risks around the pace of growth in the global civil aviation market and there is additional uncertainty caused by rising inflation and ongoing global supply chain disruption, especially in areas such as semi-conductors which are becoming ubiquitous in modern technology solutions. The potential for further variants of the COVID-19 virus to create future disruption also cannot be discounted. Recovery from the pandemic is unlikely to be a simple linear trajectory but we are a different business going into 2022 than we were when the pandemic hit. Looking further back, we are also culturally and strategically a dramatically different business from the one I joined, and we have a clear vision and direction – to lead the transition to net zero. With the advances we have made, this is now the time to look to the future. As a result, I have informed the Board of my intention to step down at the end of 2022. I am thoroughly committed to leading this business while we work towards a smooth leadership transition.

Improved financial performance

The progress made in 2021, particularly on our restructuring programme in Civil Aerospace, resulted in a return to underlying operating profit from continuing operations. This was bolstered by continued resilient performance in Defence and strong growth in Power Systems, as it benefited from recovering end markets. Group underlying revenue, meanwhile, reflected a more balanced contribution from the business units compared with the prior year and was obviously impacted by lower widebody engine deliveries as a result of reduced demand for new aircraft from our airline customers. Free cash outflow was substantially improved on the prior year helped by robust progress on cost reduction, stronger operating performance including higher flying hour receipts in Civil Aerospace and reduced capital expenditure.

Across the Group, we seized new opportunities throughout the year. We were very proud to secure the contract with the US Air Force to power its fleet of 76 iconic B-52 aircraft. This was a tremendous success and the result of intense effort and hard work by the team in Defence. In the UK, the Ministry of Defence announced our role in the next generation of nuclear-powered submarines, which will replace the Astute class in the future. Towards the end of the year, we agreed to work with Japan's IHI Corporation to develop and deliver a future fighter engine demonstrator. Using our unparalleled expertise in the generation of energy from nuclear sources at small-scale, we also began exploring the potential of space, signing an innovative contract during 2021 with the UK Space Agency for a study into future nuclear power options for space exploration.

Technology is the lifeblood of our business and we must ensure we create, through prudent investment, the cutting-edge technologies that our customers will need for the future.

Power Systems is at the vanguard of the drive to net zero as customers look to transition from traditional diesel-powered engines, and as a result much of our activity in 2021 was centred around new sustainable power solutions (see page 8). We are also increasing our sales of complete system solutions, including gensets, battery storage systems and automation, generating even closer customer relationships. In Civil Aerospace, despite the impact of the pandemic, we were able to continue to build on the success of our existing technology portfolio. The Pearl 10X became the third member of our family of Pearl business jet engines, after being chosen by Dassault, to exclusively power its new flagship aircraft, the Falcon 10X. This was a particularly significant achievement as it is the first time that Dassault has chosen our engines to power a member of its business jet fleet. During the year, another key new business jet engine, the Pearl 700 for Gulfstream's new G700 aircraft, successfully passed a number of important test milestones on its way to certification and entry into service in 2022. In the widebody market, our Trent XWB – the world's most efficient large aero engine in service today – will now be powering the new Airbus A350F fleet of freighters, with Singapore Airlines agreeing, during the year, to take seven of the new aircraft. The introduction of the Airbus A350F into the growing freighter market represents a significant opportunity for us. Finally, we welcomed new widebody customers including Vietnamese airline Vietjet Aviation for the Trent 700, a further example of our success in the market for aircraft transitions, and German airline Condor Flugdienst for the Trent 7000.

Delivering on our commitments

I said in last year's Annual Report that unprecedented times had called for unprecedented action and we have delivered on the commitments that we made in order to secure the funding for the decisive action we needed to take. The restructuring programme we launched in 2020 has now largely been completed. The investment we made before the pandemic to improve productivity and efficiency has enabled us to act at pace and realise the benefits of the restructuring ahead of schedule. We have met our £1.3bn run-rate savings target a year ahead of schedule and delivered on our Group restructuring commitment with the removal of more than 9,000 roles from continuing operations. Our focus now is on ensuring the benefits are sustained. Our restructuring programme has fundamentally changed the way we work in our Civil Aerospace business, reducing the size of the business by around a third and creating a more productive, more efficient business poised for future growth. We are also delivering on our commitment to raise around £2bn of proceeds from disposals, with four agreements announced. Three have already completed: two in 2021 and the other one since the start of 2022. The final and largest of the disposals, ITP Aero, is progressing well and we expect completion in the first half of 2022. Disposal proceeds, together with underlying free cash flow generation from the Group, will be used to reduce net debt, in line with our ambition to return to an investment grade credit profile in the medium term.

Investing to create long-term growth and sustainable value

Technology is the lifeblood of our business and we must ensure that we create, through prudent investment, the technologies that our customers are going to need for the future. Our continued prioritisation of targeted investment, even in the most challenging of years, has driven commercial wins in 2021, and we are increasingly pivoting our activity towards supporting our mission to lead the transition to net zero. We pioneer the power that matters, power which is central to the successful functioning of the modern world. To combat the climate crisis, we know that power must be made compatible with net zero carbon emissions. Our technology and engineering expertise gives us a critical role in enabling the transition to a low carbon global economy. We are focused on producing the technology breakthroughs society needs to decarbonise the global economy and capture the economic opportunity this transition represents.

During 2021, we laid out our technology pathway to net zero and committed to ensuring our new products will be compatible with net zero operation by 2030, and all our products compatible by 2050 (see page 37). We aim to meet our net zero ambitions in part by working towards enabling our products to be used in a way which is compatible with net zero emissions. We have already made considerable progress on the testing of sustainable fuels and the development of new products and engine architectures, which will further increase fuel efficiency and help improve the economics of new forms of energy storage. During 2021, we set out clear short-term targets, connected to senior management remuneration, to make all the commercial aero engines we produce, and our most popular reciprocating engines in Power Systems, compatible with sustainable fuels by 2023 and to work with our armed forces customers to achieve the same goal for the Rolls-Royce engines they use. We are actively testing 100% Sustainable Aviation Fuels (SAF) in our Trent engines right now, while Power Systems is developing engines, and upgrade kits for existing products, for new fuels such as hydrogen, methanol and synthetic e-diesel.

The transition to net zero is both a societal imperative and one of the greatest commercial opportunities of our time.

At the same time we are pioneering new breakthrough technologies that can enable our customers to achieve net zero. Our Power Systems portfolio has already expanded into microgrids and battery storage and during the year we added hydrogen fuel cells for the climate-neutral generation of emergency power for the data centre market, an area where we are already among the world's top three suppliers. We are increasingly bringing our technologies together to provide complete solutions such as for the German Port of Duisburg where we are creating a first-of-a-kind microgrid that combines renewable power, battery storage, fuel cells and hydrogen combustion engines to meet the clean energy needs of a new container terminal. Such a combined solution has potential applications for our Defence customers as they look to decarbonise their estates, which make up a significant proportion of government-owned emissions.

Our innovation is also taking us into exciting new areas, with novel technologies opening up new markets and significant growth opportunities: from all-electric Urban Air Mobility (UAM) and regional aviation to hybrid-electric systems. Perhaps one of the most high-profile technology milestones we passed during the year on our journey to net zero was the success of the Spirit of Innovation, which secured the record for the world's fastest all-electric aircraft. It was powered on its record-breaking runs by the most power-dense propulsion battery pack ever assembled in aerospace. The advanced battery and propulsion technology developed for this programme has exciting applications for the emerging advanced air mobility market. Our customers in this field are already announcing orders, with Vertical Aerospace claiming the largest conditional pre-order book in the electric vertical take-off and landing (eVTOL) industry during the year. Towards the end of 2021, we also announced our involvement with Eve, the UAM business created by Embraer. Our innovation with SMRs, meanwhile, has seen us develop existing technology to enter new markets and sectors where we can offer technological solutions that can provide further growth opportunities.

Executive leadership

During the year, I was pleased to be joined by Panos Kakoullis as our new Chief Financial Officer. He is already having a significant positive impact on our Finance function and has clearly laid out his near-term priorities (see page 19). During the year, Paul Stein announced his intention to step down as Chief Technology Officer (CTO) though he will remain as Chairman of Rolls-Royce SMR; Harry Holt took the decision to leave his role as Chief People Officer (CPO) to take up a post with one of our partners in the UAM market; and Ben Story, Strategic Marketing Director, decided to leave us to pursue new opportunities. I would like to extend the thanks of all of us at Rolls-Royce to the three of them for their hard work and dedication. From the start of 2022, I am delighted to have been joined on the Executive Team (ET) by Grazia Vittadini as CTO. She has extensive expertise, from her career at Airbus, in the emerging and disruptive technologies that will help us on our journey to net zero. Sarah Armstrong, who led the restructuring in Civil Aerospace as People Officer, has joined the ET as CPO. Finally, Rob Watson, who has been instrumental in creating Rolls-Royce Electrical, has joined the ET as President - Electrical.

2022 Outlook and longer-term prospects

As I said earlier, the positive momentum we are generating, along with the growth we can see in our end markets, gives us confidence that we will see further improvement in our performance in 2022 (see page 19). Looking further ahead, our technology and engineering expertise gives us a critical role in enabling the transition to a low carbon global economy. For us, this is a societal imperative as well as one of the greatest commercial and technological opportunities of our time although not without risk. The early-stage businesses, with high growth potential, within our New Markets segment are focused on addressing exactly these opportunities. They are leveraging our existing, in-depth engineering expertise and capabilities to develop new sustainable products. The desire to be part of the solution to climate change is strong throughout Rolls-Royce. The ambition, ingenuity and skill of our people will be instrumental to our success and I would like to thank all of them for their hard work during 2021. There are few companies better placed than us to pioneer the vital solutions we need to create a net zero carbon future. Success in this endeavour will also play a key role in the creation of a more sustainable – in all senses of the word – and prosperous Rolls-Royce.

PIONEERING THE POWER THAT MATTERS

Our **purpose**...	Purpose, Vision and Mission, page 10
...guides our **near-term areas of focus** and **strategic priorities**, which are informed by our **business environment**.	Near-term Areas of Focus, page 11 Strategic Priorities, page 12 Business Environment, page 13
Our strategy is delivered by our **people**, enabled by our **business model**, enacted by our **business units** and measured through our **KPIs**.	People and Culture, page 46 Business Model, page 14 Business Review, page 26 Key Performance Indicators, page 16
Our strategy is underpinned by strong **governance** and leadership...	Governance, page 67
...which manages **risk** and uncertainty...	Principal Risks, page 52
...and creates **value for all our stakeholders**.	Financial Review, page 18 Stakeholder Engagement, page 61

OUR PURPOSE, VISION AND MISSION

We pioneer the power that matters. Power that has an impact and is central to the successful functioning of the modern world. As a broad-based power and propulsion provider, we operate in some of the most complex, critical systems at the heart of global society.

Purpose

We pioneer the power that matters. Power that is vital to the success of our customers and which drives the functioning of the modern world. We harness the potential of cutting-edge technologies to create safe, cleaner and more efficient power and propulsion solutions. We push the boundaries of what is possible as pioneers.

We operate in some of the most complex and critical parts of the global economy, from transport and energy to the built environment. Our products and services enable our customers to connect people, societies, cultures and economies together; they meet the growing need for power generation across multiple industries; and enable governments to equip their armed forces with the power required to protect their citizens.

Vision

We create industrial technologies using expertise built over many years, that puts us in a leadership position. We combine distinct engineering disciplines to deliver highly complex power and propulsion solutions in the air, at sea and on land, building long-term relationships with our customers through service packages. The thread linking the Group together is the technical and engineering expertise needed to create power for very challenging applications. We share this expertise across the Group and create value through deployment in our multiple markets as required by customer demand.

Mission

Global economic growth and rising prosperity are expected to lead to increased demand for travel, trade and energy. As demand for power rises, so are calls from customers for that power to be more compatible with combatting climate change. We believe there are significant business growth opportunities to come from Rolls-Royce playing a leading role in the transition to net zero. At the same time, climate change poses a potentially significant risk to our business to which we must respond with the appropriate governance, risk management, strategic resilience and metrics. We are well positioned to capture the structural growth opportunity presented by the global energy transition and we are excited to be playing a leading role in enabling our customers make the move to net zero (see page 36).

Our values and behaviours

Trust: We strive to outperform the expectation of key stakeholders. We have to earn trust every day and always remember it is easy to lose.

Integrity: We live up to all of our ethical principles and we demonstrate this by being true to ourselves and showing honesty and good judgement in all we do.

Safety: We put health and safety first. We care about the health and safety of our people and our products.

Embrace Agility: We explore different ways of doing things, we respond quickly and adapt to challenges.

Be Bold: We believe in ourselves, push boundaries and speak up.

Pursue Collaboration: We find strength in working together, both inside and outside of our business, and value the diversity of people and perspectives.

Seek Simplicity: We keep it simple and remove complexity, in how we communicate and the way we work.

Near-term areas of focus

The unprecedented times caused by the COVID-19 pandemic, particularly in the civil aviation market, called for unprecedented action in 2020 as we secured our future through the launch of the largest restructuring in our history, a fund raising and a disposals programme. Since then we have made significant progress on the path to recovery, by focusing upon the elements within our control. We are emerging as a better quality business, due largely to the restructuring in Civil Aerospace, and a more balanced one as Defence has remained resilient and Power Systems sees a strong recovery in demand, primarily for sustainable solutions. Our overall strategic direction is unchanged as we capitalise on the opportunities presented by our long-term customer relationships and installed product base; grow our capabilities in sustainable power; harness new digital technologies and create new business opportunities. Many of these individual elements, such as the drive for sustainable power, are now fundamental to our future direction. Our journey to creating a better quality and more balanced business, however, is far from over. As we look at the near term, there are three areas upon which we will focus.

Delivering on our commitments

We made clear commitments alongside the fund raising in late 2020, which we must deliver and which will assist us in rebuilding our balance sheet and achieving our mid-term ambition of returning to an investment grade credit rating. Very significant progress has been made on the restructuring (see page 26), assisting us in meeting our pledge to turn cash flow positive sometime during the second half of 2021. We must protect the savings that have been made and ensure value and cost consciousness remain a central tenet of the whole business as we look to future growth. During the year, we also announced a series of agreements as a result of our programme to raise around £2bn from disposals (see page 77) and we aim for completion in the first half of 2022.

Maximise value from existing capabilities

We are the beneficiaries of years – in some cases decades – of hard work to build up our market share, especially in Civil Aerospace, and now our focus is on optimising the returns from these positions. The current restructuring is a key enabler of this optimisation. We are also moving beyond a period of unprecedented investment in new Civil Aerospace engine programmes, with four new widebody engines and three new business jets launched in the last decade, to a period in which we must realise the benefits of that effort and investment. This means we must remain focused on our services strategy, increasing the opportunity to generate value from the installed product base, and supporting our products by innovating to extend their service life. Extending the life of our products in service also means enabling our customers to use them in a way that is compatible with net zero. We can pull the technology levers in our control through testing our existing products with new lower carbon and net zero fuels (see pages 37 and 42) and creating upgrade kits, where necessary, to assist adoption.

Across all our business units, the underlying driver of services revenues will continue to be the size of our installed product base – that is the number of assets in the market. This provides resilience against Original Equipment (OE) sales volatility and allows us to continuously increase the scope of our aftermarket reach and to maximise value from the whole system life of our solutions. Some areas of the business, such as Power Systems, are at an earlier stage in this process than others, notably Civil Aerospace.

Seizing opportunities for growth

There are opportunities for growth, both within our existing businesses and from new areas which are emerging. In our Defence business, for instance, governments around the world are exploring approaches to reduce the carbon footprint of their armed forces, which means demand for newer, more efficient, powerplants and for sustainable fuels. Our airline and business jet customers are keen to address the same issues, as are our customers in the multiple sectors addressed by Power Systems. The context in which we are creating one of the world's leading industrial technology companies is that of a world which is taking on the challenge of achieving net zero by 2050. It represents a significant commercial opportunity for Rolls-Royce as some of our core applications are hard to decarbonise and require deep domain knowledge, which reduces the potential for the emergence of disruptive new entrants. The sectors in which we operate sit at the heart of modern society. As other parts of the global economy decarbonise, they will contribute a more significant proportion of remaining emissions. As a result, our innovation in sectors where reducing emissions is tough, has a fundamental role to play in enabling and even accelerating the overall global transition to a net zero carbon future.

OUR STRATEGIC PRIORITIES

Our purpose, vision and mission provide an overall framework within which our strategic focus for the next several years sits. To complete the picture, we have a priorities framework which provides our people with clear guidance on our in-year priorities across five areas.

Secure a sustainable future

Our priorities framework is used by our business units in the setting of individual in-year targets. Our overall theme for 2022 is to secure a sustainable future for our business, not just in terms of making progress on our continued journey towards net zero but making significant strides towards meeting our ambition of creating a better quality and more balanced business. The five priority areas expand beyond what each part of the business needs to achieve in order to meet our in-year financial targets (see page 19).

Key Performance Indicators

Financial Performance Indicators

A Order backlog
B Underlying revenue
C Underlying operating profit/(loss)
D Capital expenditure as a proportion of underlying revenue
E Self-funded R&D as a proportion of underlying revenue
F Free cash flow from continuing operations

Non-financial Performance Indicators

G Customer metric
H Employee engagement

See Key Performance Indicators on pages 16 and 17.

Strategy

All our people have clear line of sight not just to the strategic priorities of their team but to their business unit and the Group as a whole. Leaders are charged with helping individual employees understand the role they play in meeting our strategy. As we play our part in enabling the transition to net zero we have also tied part of our senior management remuneration to meeting our sustainability targets introduced in 2021 (see page 42).

Customers

Links to KPI G

Our customers are vital to our success and we must ensure we continually strive to provide the best possible service by delivering the value and quality we promise, at the time we promise, for the price we promise. Increasingly, our customers are requiring us to develop more sustainable solutions. We track customer engagement and success across the business, including for our internal support functions.

Efficiency

Links to KPIs C F

To ensure that we can maintain and improve our competitiveness, fund future growth and meet our promises to investors we must ensure we continue to champion efficiency across our whole business. For instance, we must retain the benefits of the restructuring programme as civil aviation recovers and returns to growth. We track cost metrics across the business and take effective action swiftly.

People

Links to KPI H

Our people and culture are vital to our long-term success (see page 46) and we have a platform for engagement tracking which operates across the Group, allowing individual businesses to create action plans and set targets which roll-up to an overall score against which a proportion of senior management remuneration is set annually (see page 88).

Financial

Links to KPIs A B C D E F

We must deliver on the financial commitments that we have made. We must continue our journey to rebuild strength in our balance sheet by meeting our financial goals, including driving positive net cash flow and increased profitability. This will play a vital role in assisting us in our ambition to return to an investment grade credit profile (see page 19).

BUSINESS ENVIRONMENT

Climate change

We recognise that human behaviour is increasing the levels of greenhouse gas in the atmosphere and accelerating global climate change. This is one of the world's greatest and most urgent challenges and has the potential to undermine every nation's ability to achieve sustainable development. Many of the countries we operate in, as well as a number of our customers, have made commitments to significantly reduce or reach net zero carbon emissions by the middle of the century. For example, our Defence customer, the RAF, our airline customers through IATA, and our Power Systems customers in the marine sector represented by the International Maritime Organization have published far-reaching commitments. Transitioning the essential, but difficult to decarbonise industries in which we operate to net zero is a tremendous challenge, but also provides business opportunities for bringing cutting-edge technologies to market.

Our response

To us, being sustainable means understanding the impact our business has on the world around us, and the impact climate has on our Group. We use this understanding to inform our purpose, strategy, and the decisions we make. Reducing the carbon impacts of our product portfolio and accelerating the decarbonisation of the sectors in which we operate is the most significant contribution Rolls-Royce can make to a more sustainable future; it is our mission to lead the transition to net zero. To that end, we are increasing our investment in lower carbon and net zero technologies. There are already tangible results of our efforts in advancing the efficiency of our existing portfolio, making new and existing products compatible with net zero operation, and pioneering new technologies in electric flight, SMRs, fuel cells, and microgrids.

Digitalisation

The digital revolution has already transformed ways of living, working, and entire industries. As a consequence of the COVID-19 pandemic, investment in digitalisation and the adoption of digital technologies has increased. This trend has been evident in industries like entertainment, where digital players have been able to outpace traditional rivals; and is increasingly reaching industries that have remained largely immune to digital disruption until recently. In our end markets, the US Department of Defense (DoD) for example, has more than doubled its budget for cyber in the last ten years, large players in the aviation industry are increasingly offering digital services, and the Internet of Things (IoT) platforms have been established to enable energy management and automation for power generation and consumption. Vast amounts of data are being generated by the over ten billion IoT connected devices globally today – forecast to reach over 30 billion by 2025. To draw insights, big data analytics and artificial intelligence are increasingly used, which require tremendous amounts of processing – now increasingly done via cloud computing services. As these technologies converge and become increasingly accessible and affordable, further innovation and disruption is sure to occur in all industries, including our own.

Our response

Having pioneered engine health monitoring for aircraft engines over 25 years ago, we have a heritage in data innovation. Pursuing our Civil Aerospace IntelligentEngine vision, we continue to utilise digital twins to maximise aircraft availability; and increasingly for product innovation, advanced manufacturing and for enabling the journey to electric flight. Our TwinAlytics digital services allow Defence customers securely to gather and analyse data and simplify decision-making processes; we are also extending our digital capabilities as part of the Tempest programme. In Power Systems, we operate the *mtu* Go platform, which enables users to quickly analyse system data, determine important action steps and plan them efficiently. Through our R² Data Labs team, which focuses on data innovation within Rolls-Royce, we have been able to deliver over 60,000 hours of learning on digital and AI to our employees, connected to hundreds of companies through our ecosystem, and were able to complete transformative digital projects in a wide range of areas. Finally, we are positioning Rolls-Royce as a thought leader in the space of AI ethics, having published and refined The Alethia Framework that guides developers, executives and boards through ethical considerations surrounding artificial intelligence.

Population and economic growth

As the global population is set to increase to over 9.7 billion people by 2050 (a rise of more than 20% from 2020) and global gross domestic product is set to roughly double by that time, investment in clean power will also increase significantly. This will be particularly evident in the markets served by Power Systems, including power generation, commercial marine and industrial applications. Demand for Defence products is determined by national defence budgets – these are closely linked to economic growth and are expected to increase at low single digit rates in real terms each year. Further, as more people reach middle and higher income levels, it is expected that revenue passenger kilometres will increase; by some estimates more than double by 2050, a key driver for the growth of our Civil Aerospace business.

Our response

Addressing diverse end markets through our Defence and Power Systems businesses has helped us be more resilient to the short-term shocks caused by COVID-19. At the same time, we are positioning ourselves for growth by directly addressing key growth markets that will particularly benefit from increased population and economic activity, for example, by establishing dedicated business units for China and for sustainable power solutions within Power Systems. Through Rolls-Royce SMR, we seek to bring to scale a low-carbon source of power and have obtained significant government and partner funding. In pioneering electric flight, we see the potential for us to disrupt in the commuter aircraft and urban air mobility markets – both of which will increasingly become relevant in a more urban and densely populated world.

BUSINESS MODEL

We believe we have a sustainable business model which will create value for all our stakeholders over the long term.

Our cross-cutting capability and assets that support our strategy

Brand and heritage

Our brand has global appeal; is enduring; engages a wide range of stakeholders; and is a powerful tool for attracting customers, partners and talent.

People and culture

We create an environment where all our people can be at their best. We work hard to release their full potential.

Innovation and technology

Delivering highly complex systems solutions has enabled us to build a significant breadth of disciplines; while the nature of our products means we have acquired extraordinary depth.

Partnerships

We build meaningful relationships with partners across the value chain.

Global network and infrastructure

Our geographic footprint ensures we are able to serve customers where they need us.

Digitalisation

We use digital tools and skills across our business to enable growth without a commensurate increase in costs.

Business excellence

We drive a culture of continuous improvement.

See our Viability Statement on page 60 and Stakeholder Engagement on page 61.

Our competitive advantage comes from:

Cutting-edge technologies
Our technologies ensure that our customers have the vital power that meets their emerging needs in an increasingly sustainable manner.

System solutions
We integrate individual enabling technologies into complete systems and power solutions, providing customers with the ability to work with a single partner.

1 Anticipate the needs of our customers

Link to risks: b, d, e, h, i, j, k

2 Develop cutting-edge technologies

Link to risks: a, b, d, e, f, g, j, k

3 Design solutions

Link to risks: a, b, d, e, f, g, k

4 Develop world-class production capability

Link to risks: a, b, c, d, e, f, g, k

DISCIPLINED CAPITAL ALLOCATION

1. Anticipate the needs of our customers
Our focus on building complete power solutions provides the basis for strong customer relationships. Increasingly, our customers are requiring us to develop more sustainable solutions as they look to make the transition to net zero. Our aftermarket model of through-life support further deepens our connection with customers.

2. Develop cutting-edge technologies
Our products rely upon cutting-edge technologies, which are generated from intellectual property developed over decades and often in collaboration with our long-term partners.

3. Design solutions
We harness the potential of digital technologies and design thinking to create solutions that generate the greatest value from our cutting-edge technologies.

4. Develop world-class production capability
We use our production expertise and network of partners to harness new manufacturing techniques and technologies.

System life
Our products have significant aftermarket requirements during their lengthy operating lives and we provide complete through-life support.

5
Grow installed original equipment base
Link to risks:
a, b, c, d, e, f, g, i, j, k

6
Capture through-life value of in-service products
Link to risks:
a, b, c, d, e, f, g, i, j, k

7
Generate stakeholder value
Link to risks:
a, b, c, d, e, f, g, h, i, j, k

See page 19

5. Grow installed original equipment base
Increasing our installed product base generates both in-year growth and the potential for our business to capture long-term service revenue.

6. Capture through-life value of in-service products
We believe our substantial installed product base provides a large, captive, visible, and long-term revenue, profit and cash flow stream.

7. Generate stakeholder value
Our activities worldwide generate value for a wide range of stakeholders.

Principal risks
a Safety
b Strategic transformation
c Business continuity
d Climate change
e Competitive environment
f Compliance
g Cyber threat
h Financial shock
i Market shock
j Political risk
k Talent and capability

See Principal Risks page 52

Value creation for our stakeholders

Customers
We develop product solutions that improve the competitiveness of our customers and assist them in their journey to net zero.

See Business Review page 26

Investors
We aim to generate attractive returns for investors over the long term.

See Remuneration Committee Report page 87

Employees
To help our people be at their best, we enable them to learn and develop in a style and at a pace that suits them, at every point of their career.

See People and Culture page 46 and Non-financial KPIs page 17

Partners
We create partnerships based on collaboration where each partner benefits from the relationship.

Communities
We improve the communities that we impact locally, nationally and globally.

See People and Culture page 46

GROSS R&D EXPENDITURE
£1.2bn

2021 TOTAL SHAREHOLDER RETURN
10.45%

INVESTMENT IN LEARNING AND DEVELOPMENT (HOURS)
263,840

SPEND WITH EXTERNAL SUPPLIERS
£7.9bn

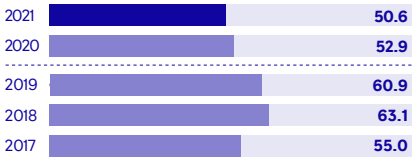
HOURS OF EMPLOYEE TIME VOLUNTEERED
26,427

See Stakeholder Engagement page 61

KEY PERFORMANCE INDICATORS

FINANCIAL PERFORMANCE INDICATORS [1,2,3]

ORDER BACKLOG (£BN)

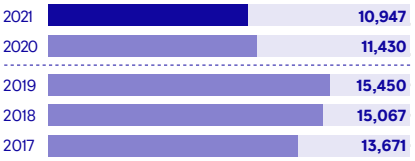


How we define it
Total value of firm orders placed by customers for delivery of products and services where there is no right to cancel. This KPI is the same as the statutory measure for order backlog. See note 2 on page 136 for more information.

Why it is important
Order backlog provides visibility of future business activity.

Link to remuneration
Customer orders drive future revenue growth which in turn, enables profit and cash flow growth. Profit and free cash flow performance are key financial metrics in the Rolls-Royce incentive plan, accounting for 75% of the metrics in 2021.

UNDERLYING REVENUE (£M)

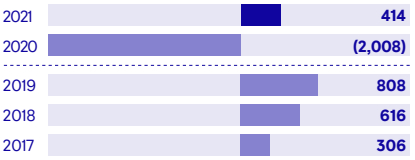


How we define it
Revenue generated from operations at the average exchange rate achieved on effective settled derivative contracts in the period that the cash flow occurs. See note 2 on page 132 for more information.

Why it is important
Underlying revenue provides a measure of business growth and activity.

Link to remuneration
Underlying revenue growth maximises the opportunity to improve profit and free cash flow performance in the year, both of which are financial metrics in the Rolls-Royce incentive plan.

UNDERLYING OPERATING PROFIT/(LOSS) (£M)

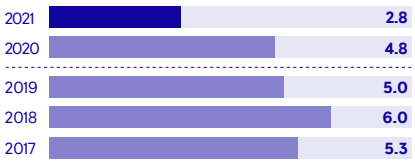


How we define it
Operating profit generated from operations at the average exchange rate achieved on effective settled derivative contracts in the period that the cash flow occurs. It excludes exceptional and one-off items. See note 2 on page 132 for more information.

Why it is important
Underlying operating profit indicates how the effect of growing revenue and control of our costs delivers value for our shareholders.

Link to remuneration
Profit is a key financial performance measure for our Rolls-Royce incentive plan.

CAPITAL EXPENDITURE AS A PROPORTION OF UNDERLYING REVENUE (%)

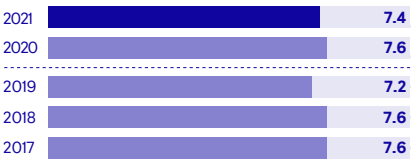


How we define it
Cash purchases of PPE in the year for continuing operations relative to underlying revenue.

Why it is important
This measure demonstrates the balance between essential investments in infrastructure and delivering short-term shareholder returns.

Link to remuneration
Disciplined allocation of capital expenditure optimises in-year profit and cash flow performance without compromising longer-term growth. Long term metrics in the Rolls-Royce incentive plan in 2022 and 2023 reward strong financial performance.

SELF-FUNDED R&D AS A PROPORTION OF UNDERLYING REVENUE (%)

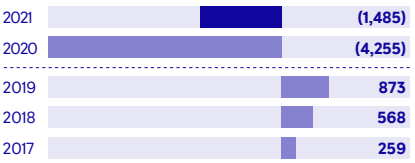


How we define it
In-year self-funded cash expenditure on R&D before any capitalisation or amortisation relative to underlying revenue.

Why it is important
This measure demonstrates the balance between long-term strategic investments and delivering short-term shareholder returns.

Link to remuneration
Disciplined control and allocation of R&D expenditure optimises in-year profit and cash flow performance without compromising long-term growth through innovation. There is a balance of long term metrics which reward strong financial performance and also relative returns to our shareholders through total shareholder return (TSR) in the 2023 incentive plan.

FREE CASH FLOW FROM CONTINUING OPERATIONS (£M)



How we define it
Free cash flow is the change in cash and cash equivalents excluding: transactions with ordinary shareholders; amounts spent or received on activity related to business acquisitions or disposals; financial penalties paid; exceptional restructuring payments; proceeds from increase in loans; and repayment of loans. Cash flow is our statutory equivalent, see note 28 on page 183.

Why it is important
Free cash flow is a key metric used to measure the performance of our business and how effectively we are creating value for our shareholders. It enables the business to fund growth, reduce debt and make shareholder payments.

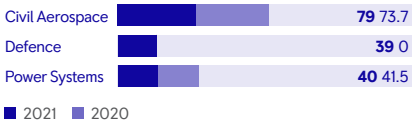
Link to remuneration
Free cash flow is a key financial metric in the Rolls-Royce incentive plan.

[1] Following the adoption of IFRS 15 *Revenue from Contracts with Customers* in 2018, the 2017 figures were restated.
[2] The adoption of IFRS 16 *Leases* in 2019 had no material impact on our financial KPIs, see page 214 for more information.
[3] 2021 figures represent the results of continuing operations. 2020 figures have been restated, where relevant, to show ITP Aero as a discontinued operation in line with 2021 reporting. 2017, 2018 and 2019 figures have not been restated.

A reconciliation from the alternative performance measure to its statutory equivalent can be found on pages 215 and 216.

NON-FINANCIAL PERFORMANCE INDICATORS

CUSTOMER METRIC (%)



How we define it

In 2019, we introduced a new balanced scorecard of metrics for each business. The business scorecards include on-time delivery, engine availability and quality amongst other indicators. The focus for 2021 has been on the individual business performance against the scorecards.

Why it is important

Customer satisfaction demonstrates whether we are meeting our commitments to our customers across our businesses. This, in turn, drives our cash and profitability.

Link to remuneration

This metric accounts for up to 15% of the individual business incentive outturns.

EMPLOYEE ENGAGEMENT (SCORED 1 TO 5) [4]

How we define it

In 2019, we introduced a new survey, Gallup Q12. Responses are scored on a scale of one to five. The employee engagement score averages the responses to all 12 questions in the survey. See pages 48 to 49 for more information.

Why is it important

Our people are crucial to delivering future business success. This is an objective way to assess how engaged our employees are with the business and its leaders.

Link to remuneration

Employee engagement performance against our target accounts for 10% of our incentive plan.

SUSTAINABILITY

In 2021, sustainability was 5% of the Rolls-Royce incentive plan. Going forward we expect sustainability to become a more prominent metric in our incentive plans.

See Reconciliation of Alternative Performance Measures (APMs) to their Statutory Equivalent on pages 215 and 216 for additional commentary on our financial KPIs.

[4] External assurance over the employee engagement score is provided by Bureau Veritas. See page 211 for their assurance statement.

FINANCIAL REVIEW

We have focused on the elements within our control to deliver on our commitments and improve our financial performance. As a result, we are building a better and more balanced business.

PANOS KAKOULLIS, CHIEF FINANCIAL OFFICER

We can be proud of our performance in 2021. We have focused on the elements within our control, delivered on our commitments and driven improving cash flow and profits. We have also invested prudently in the products and programmes that are key to the transition of our markets to net zero carbon emissions by 2050.

I joined Rolls-Royce in May 2021, attracted by the opportunity to make a difference and to be a part of a company that is right at the heart of the energy transition with the technology and engineering excellence to transform the way we provide the power the world needs. I am excited by the journey ahead and encouraged by what we have achieved so far, while remaining very focused on the challenges ahead.

Delivering on our commitments

As a result of the actions we have taken, we are a better quality and more balanced business. We have strong order books and revenue growth in Power Systems and Defence and a structurally lower cost base in Civil Aerospace. As a result, we are more able to withstand macro uncertainties and we are well positioned to benefit from the return to pre-pandemic levels of activity.

Our fundamental restructuring programme to remove over 9,000 roles from continuing operations, has largely been completed, reducing our Civil Aerospace headcount by around a third. This rapid action delivered more than £1.3bn of run-rate cost savings by the end of 2021, one year earlier than our 2022 target. These are sustainable cost savings that are supported by better ways of working as well as automation and digitalisation to keep cost increases proportionately low when activity levels rise.

A strong balance sheet and liquidity position are important. We ended 2021 with £7.1bn of liquidity with no debt maturities due before 2024. We repaid €750m maturing bond and the £300m Covid Corporate Financing Facility (CCFF) commercial paper in the first half of the year and extended the duration of the unused £1.0bn loan facility to 2024.

In line with our 2020 commitment to rebuild our balance sheet, we have announced disposals to generate around £2bn of proceeds and retained cash that will be used to strengthen our financial position. Two of these disposals completed in 2021 and one more completed early in 2022. The final agreed disposal, ITP Aero, is expected to complete in 2022. We remain focused on reducing our net debt and aim to return to an investment grade credit profile in the medium term.

Improving financial performance

We generated £414m of underlying operating profit from continuing operations in 2021, recovering from a loss in the prior year as the benefits of our actions to restructure the business along with growth in Power Systems and Defence helped to deliver a substantial improvement in our financial performance.

Our 2021 free cash outflow from continuing operations of £1.5bn was significantly better than the £2bn outflow guided at the start of the year, despite a slower than expected recovery in international travel. This was driven by fast delivery of cost and efficiency savings and also the benefit from the delayed timing of around £300m concession payments. The sequential £2.8bn improvement in 2021 was a huge step forward and we are aiming to continue in 2022 with guidance to deliver a modestly positive free cash flow outcome.

Our end markets improved in 2021, helping to drive better performance and order intake across the Group. In Civil Aerospace, business aviation flying hours returned to pre COVID-19 levels of activity while large engine flying hours saw a gradual recovery. This drove increased cash receipts on our long-term service agreements. In Power Systems, our order intake increased significantly reflecting recovery in our industrial and power generation markets in addition to continued resilience in both yachts and governmental demand. Defence, which was resilient throughout the pandemic, continued to perform well and contributed significantly to Group profitability and cash flow.

Investing to drive growth and deliver sustainable value

Balancing the opportunity to invest with the need to strengthen our balance sheet is critical to our long-term vision as a leading industrial technology company.

In 2021, we spent £1.2bn on research and development, £366m of which was paid for by funding from third parties. We are an innovative company with deep and broad engineering and technology capability. Our continued prioritisation of targeted investment, even in the most challenging years, drove commercial success in 2021, including commercial wins of our Pearl engine on new airframes, the B-52 engine replacement contract, a first-of-a-kind hydrogen micro-grid, a world speed record for all-electric flight and entry into the UK GDA for our SMRs.

Our technology and engineering expertise gives us a critical role in enabling the transition to a low carbon global economy. The creation of our New Markets segment, bringing together Rolls-Royce Electrical and Rolls-Royce SMR, reflects the strategic importance and future financial potential of these businesses and increases the visibility of the early-stage investment we are making to create long term value from high potential opportunities for sustainable growth.

Our financial priorities

In the near term, I have three clear priorities for Finance. Firstly, to ensure we deliver on our promises. We will strengthen our balance sheet by completing our programme of disposals. We will finish the actions related to our restructuring with the closure of the final sites and associated role reductions and stay focused on sustaining the productivity improvements, keeping cost increases proportionately low as activity levels rise. Secondly, to simplify our reporting. We want to make our financial communications easier to understand. We intend to simplify our reporting, break down the complexity and focus on the key value drivers and targets in a more balanced and straightforward way. Thirdly, to invest wisely for the future. We are at an exciting point in our journey with the opportunity to lead our markets in our transition to net zero. Choosing the right investments and balancing the development of new solutions with investment in our established businesses is critical to generating good returns today and in the longer term.

2022 Outlook

We are well positioned for the anticipated growth in our end markets as the impact of the COVID-19 pandemic eases. This, along with consistent good performance in Defence, gives us confidence that we will see positive momentum in our financial position in 2022, despite the challenges and risks around the pace of market recovery, global supply chain disruption and rising inflation. We expect low-to-mid-single digit revenue growth and we expect our operating profit margin to be a low-to-mid single digit percentage as we increase our engineering spend to support sustainable growth opportunities. We expect to generate modestly positive free cash flow in 2022, seasonally weighted towards the second half of the year.

Our framework for capital allocation and investment

It is key that we optimise our investments in order to deliver our strategy most effectively, maximise our returns and achieve our net zero commitments. In 2021, our approach to analysing investment cases was updated to place a greater focus on sustainability as well as other ESG considerations. We use an investment appraisal process that considers all Group-wide investment cases against a balanced set of criteria. This has been designed to ensure we both develop as well as adopt the most appealing investment choices which best deliver against our commitments and goals.

The approval process for investments fits within our overall governance framework. All projects must demonstrate alignment with the criteria identified. Smaller scale projects are approved at the business level. Above a defined threshold, approval is sought through the Investment Review Committee, a sub-committee of the Executive Team, chaired by the Chief Financial Officer. The Board has approval rights over our largest investments.

Our levels of investment will be prudently managed, enabling us to deliver on our strategy whilst generating improved levels of free cash flow. This will enable us to reduce net debt and return to an investment grade credit profile in the medium term. We remain restricted on making shareholder payments until 2023, after which we will revisit our shareholder payment policy as cash flow further improves and our balance sheet strengthens.

Four primary factors are taken into account when making investment decisions:

1. Returns
Does it add shareholder value through explicit financial returns?

2. Risks
Is the proposal inside or outside our risk appetite?

3. Carbon
How does it contribute towards the transition to net zero?

4. Other ESG
What is the impact on the wider community? Is it required to protect our employees and stakeholders?

DEFINING OUR ALTERNATIVE PERFORMANCE MEASURES

Business performance is reviewed and managed on an underlying basis. These alternative performance measures reflect the economic substance of trading in the year, including the impact of the Group's foreign exchange activities.

The tables below and to the right summarise the adjustments between reported and underlying results for cash flow, revenue, and operating profit.

For more information on the reconciliation of alternative performance measures (APMs) to their statutory equivalent, including the definition of APMs, please see pages 215 to 216.

Free cash flow

£m	2021	2020
Statutory cash flow	**(775)**	(995)
Net cash flow from changes in short-term investments, borrowings & lease liabilities	**(658)**	(1,636)
Movement in net funds from cash flows	**(1,433)**	(2,631)
Exclude: capital element of lease payments	**(374)**	(284)
Rights issue	**–**	(1,972)
Payments to shareholders	**4**	92
Business acquisitions and disposals	**(49)**	119
Penalties paid on agreements with investigating bodies	**156**	135
Restructuring exceptional cash flow	**231**	323
Other underlying adjustments	**23**	33
Free cash flow	**(1,442)**	(4,185)
Less: discontinued operations free cash flow	**(43)**	(70)
Free cash flow from continuing operations	**(1,485)**	(4,255)

Revenue from continuing operations

£m	Notes	2021	2020
Statutory revenue		**11,218**	11,491
Derivative & FX adjustments	2	**(271)**	(61)
Underlying revenue		**10,947**	11,430

Operating profit/(loss) from continuing operations

£m	Notes	2021	2020
Statutory operating profit/(loss)		**513**	(1,972)
Derivative & FX adjustments	2	**40**	(1,003)
Programme exceptional charges	2	**(105)**	(620)
Restructuring exceptional charges	2	**(45)**	470
Acquisition accounting & M&A	2	**50**	85
Impairments and asset write-offs	2	**(9)**	1,336
Pension past-service credit	2	**(47)**	(308)
Other underlying adjustments	2	**17**	4
Underlying operating profit/(loss)		**414**	(2,008)

GROUP STATUTORY RESULTS

Statutory income statement

£ million	2021	Restated 2020	Change
Revenue	**11,218**	**11,491**	**(273)**
Gross profit/(loss)	**2,136**	**(187)**	**2,323**
Operating profit/(loss)	**513**	**(1,972)**	**2,485**
Gain/(loss) on disposal/acquisition of businesses	56	(14)	70
Net financing costs	(863)	(813)	(50)
Loss before taxation	**(294)**	**(2,799)**	**2,505**
Taxation	418	(302)	720
Profit/(loss) for the year from continuing operations	**124**	**(3,101)**	**3,225**
Earnings per share from continuing operations (p)	**1.48**	**(51.81)**	**53.29**

Statutory revenue of £11.2bn was 2% lower compared with 2020 driven by a decline in Civil Aerospace revenue, due to lower OE deliveries and shop visit volumes. Revenue included a £214m positive LTSA catch-up in Civil Aerospace compared with a £(1.1)bn negative revenue catch-up in the prior year. Defence benefitted from increased spare parts and spare engine sales. Power Systems revenues were driven by our more resilient end markets, with increased demand for Services from our defence and industrial customers.

Gross profit returned to profit of £2.1bn compared with a prior year loss of £(187)m reflecting growth and cost discipline as well as substantial cost savings and productivity gains delivered by the restructuring programme. Gross profit also included a £105m provision reversal in relation to the Trent 1000 engine programme (2020 £620m) and a £256m positive LTSA catch-up in 2021. The prior year comparative included £(1.8)bn of net charges relating to negative LTSA catch-ups, impairments and write-offs.

Operating profit improved significantly to £513m from a prior year £(2.0)bn loss. Research & Development costs were £(778)m down 35% from 2020 as a consequence of one-off impairments in the prior year. Commercial & Administrative costs of £(890)m were 15% higher than the prior year (2020:£(771)m), which benefitted from a one-off pension credit partly offset by a restructuring provision.

Loss before taxation of £(294)m included £(538)m net fair value losses on derivative contracts, £(245)m net interest payable and a net £56m profit from disposals.

Profit from continuing operations of £124m included a tax credit of £418m, (2020: tax charge £302m), which mostly related to movements in deferred tax balances due to the impact of the UK tax rate change from 19% to 25%, effective from April 2023. The tax charge in 2020 was mostly driven by the derecognition of some of the deferred tax asset on UK losses previously recognised, partly offset by a credit relating to the change in the UK tax rate from 17% to 19%.

Earnings per share of 1.48p (2020: (51.81)p) reflected the improvement in profit and an increase in weighted average number of shares compared with the prior year to reflect the full year impact of the bonus element of the rights issue completed in November 2020.

Statutory balance sheet

£ million	Statutory 2021	Adjusted 2020	Held for sale [1]	Statutory 2020	Change excluding HfS [1]
Intangible assets	4,041	4,191	954	5,145	(150)
Property, plant and equipment	3,917	4,103	412	4,515	(186)
Right of use assets	1,203	1,390	15	1,405	(187)
Joint ventures and associates	404	386	8	394	18
Contract assets and liabilities	(8,836)	(8,945)	23	(8,922)	109
Working capital [3]	1,458	464	106	570	994
Provisions	(1,582)	(1,907)	(38)	(1,945)	325
Net debt [4]	(5,110)	(3,556)	(71)	(3,627)	(1,554)
Net financial assets and liabilities [4]	(3,034)	(3,077)	(34)	(3,111)	43
Net post-retirement scheme deficits	(225)	(673)	–	(673)	448
Taxation	1,787	1,240	55	1,295	547
Held for sale	1,305	1,490	(1,430)	60 [2]	(185)
Other net assets and liabilities	36	19	–	19	17
Net liabilities	**(4,636)**	**(4,875)**	**–**	**(4,875)**	**239**
Other items					
US$ hedge book (US$bn)	22			25	
Civil LTSA asset	915			726	
Civil LTSA liability	(7,129)			(6,841)	
Civil net LTSA liability	(6,214)			(6,115)	

[1] 2020 figures have been adjusted to reflect ITP Aero being classified as a disposal group held for sale since 30 June 2021; the Group's investment in Airtanker Holdings Limited being classified as a non-current asset held for sale since 13 September 2021; and certain tangible assets related to the Group's site rationalisation activities being classified as held for sale at 31 December 2021.
[2] Relates to Bergen Engines AS and the Civil Nuclear Instrumentation & Control business which were classified as disposal groups held for sale at 31 December 2020. Both disposals were completed in 2021.
[3] Net working capital includes inventory, trade receivables and payables and similar assets and liabilities.
[4] Net debt includes £37m (2020: £251m) of the fair value of derivatives included in fair value hedges and the element of fair value relating to exchange differences on the underlying principal of derivatives in cash flow hedges. Net debt has been adjusted to exclude net debt held for sale.

Key drivers of balance sheet movements, adjusted for assets held for sale, were:

Intangible assets: Net decrease of £(150)m included additions of £223m primarily related to programme development in Civil Aerospace and Power Systems, and investment in the development of software applications across the business. There was an adverse foreign exchange impact of £(146)m and amortisation for the year was £(281)m.

Property, plant and equipment: Net decrease of £(186)m included additions of £299m, more than offset by £(439)m of depreciation and a foreign exchange impact of £(63)m. Additions were £254m lower than prior year as a result of focus on prioritisation of business critical infrastructure projects and focus on reducing capital intensity.

Right-of-use assets: Net reduction of £(187)m was driven by £(272)m depreciation charged in the year partly offset by additions of £82m.

Contract assets and liabilities: The £109m movement in net liability balance was mainly driven by the utilisation of deposits, foreign exchange movements and invoiced LTSA receipts in Civil Aerospace exceeding revenue recognised in the year, partly offset by £214m LTSA catch-ups.

Working capital: The £1,458m net current asset position was £994m higher than prior year, due to a £0.7bn reduction in payables driven mostly by Civil Aerospace, including a £0.5bn reduction in concessions payable as payments significantly exceeded new concessions accrued in the year, alongside a modest reduction in trade payables due to the timing and volume of supplier payments. We also made the final financial penalty payment of £156m related to agreements reached in January 2017. Inventory increased by £0.2bn, mostly in Power Systems and Defence, to support 2022 sales.

Provisions: The £325m decrease primarily reflected the utilisation and reversal of restructuring provisions of £212m as the restructuring programme nears completion, utilisation of Trent 1000 provision of £199m, partly offset by £82m of contract loss provision net of reversals.

Net debt: Increased from £(3.6)bn to £(5.1)bn primarily driven by free cash outflow of £(1.5)bn.

Net post-retirement scheme surpluses/deficits: £448m movement driven by an increase in the UK scheme surplus reflecting company contributions and actuarial gains and a decrease in the overseas schemes deficit mainly attributable to actuarial gains and foreign exchange.

Taxation: The net tax asset increased by £547m, most of which (£344m) related to remeasurement of the opening UK deferred tax balances due to the UK tax rate change from 19% to 25% effective from April 2023. In addition, there was an increase in the deferred tax asset on unrealised losses on derivatives (£96m) and certain other UK deferred tax assets (£126m) reflecting tax relief that will be taken in the future, based on profit forecasts.

GROUP UNDERLYING [3] RESULTS

Underlying income statement

£ million	2021	Restated 2020	Change	Organic Change [1]	M&A [2]	FX
Underlying revenue	**10,947**	**11,430**	**(483)**	**(214)**	**19**	**(288)**
Underlying OE revenue	4,911	5,626	(715)	(598)	19	(136)
Underlying services revenue	6,036	5,804	232	384	–	(152)
Underlying gross profit/(loss)	**1,996**	**(613)**	**2,609**	**2,672**	**6**	**(69)**
Gross margin %	*18.2%*	*(5.4)%*	*23.6%pt*	*23.8%pt*		
Commercial and administration costs	(899)	(866)	(33)	(45)	(8)	20
Research and development costs	(774)	(708)	(66)	(79)	(1)	14
Joint ventures and associates	91	179	(88)	(82)	(1)	(5)
Underlying operating profit/(loss)	**414**	**(2,008)**	**2,422**	**2,466**	**(4)**	**(40)**
Underlying operating margin	*3.8%*	*(17.6)%*	*21.4%pt*	*21.8%pt*		
Financing costs	(378)	(1,985)	1,607	1,605	–	2
Underlying profit/(loss) before taxation	**36**	**(3,993)**	**4,029**	**4,071**	**(4)**	**(38)**
Taxation	(26)	(46)	20	15	–	5
Profit/(loss) for the period	**10**	**(4,039)**	**4,049**	**4,086**	**(4)**	**(33)**
Underlying earnings per share (p)	**0.11**	**(67.48)**	**67.59**	**67.94**		

[1] Organic change at constant translational currency (constant currency) applying full year 2020 average rates to 2021, excluding M&A. All commentary is provided on an organic basis unless otherwise stated.
[2] M&A includes 2020 Power Systems acquisitions comprising of Kinolt Group S.A. and Servowatch Systems Limited (SSL).
[3] Underlying performance excludes the impact of year-end mark-to-market adjustments, the effect of acquisition accounting and business disposals, impairment of goodwill and other non-current and current assets, and exceptional items. Adjustments between the underlying income statement and the statutory income statement are set out in note 2 in the Consolidated Financial Statements on page 137.

Underlying revenue of £10.9bn reflected a more balanced contribution from our business units. Services revenue increased 7% while OE fell 11%. Services revenue included a £214m Civil Aerospace LTSA revenue catch-ups compared with £(1.1)bn in the prior year.

Underlying gross profit of £2.0bn reflected the benefit of cost reductions and a £256m Civil Aerospace LTSA catch-up. The prior year loss of £(613)m included £(1.3)bn of one-off COVID-19 related charges, mainly relating to negative Civil Aerospace LTSA catch-ups.

Underlying operating profit was £414m, with a return to profit reflecting the higher gross profit in the year partly offset by lower contribution from JVs and associates.

Underlying profit before tax of £36m reflected net financing costs of £(378)m with higher charges relating to interest bearing debt compared with the prior year. In 2020, a £(1.7)bn one-off underlying finance charge was taken to close out over hedged positions on the USD hedge book.

Underlying profit for the year of £10m included a tax charge of £(26)m (2020: £(46)m). The tax charge reflects the tax arising on overseas profits and increases in other deferred tax assets. Deferred tax has not been recognised on current year UK tax losses. The tax charge in 2020 included the impact of derecognising some of the deferred tax asset previously recognised on UK tax losses.

Underlying earnings per share of 0.11p reflected the improvement in profit and an increase in weighted average number of shares compared with the prior year to reflect the full year impact of the bonus element of the rights issue completed in November 2020.

Group funds flow statement *

£ million	2021	2020	Change
Underlying operating profit/(loss)	414	(2,008)	2,422
Operating loss from discontinued operations	(43)	(109)	66
Depreciation, amortisation and impairment	971	1,048	(77)
Lease payments (capital plus interest)	(403)	(379)	(24)
Expenditure on intangible assets	(185)	(316)	131
Capital expenditure (PPE)	(311)	(579)	268
Change in inventory	(169)	588	(757)
Movement in receivables/payables/contract balances (excluding Civil LTSA)	(641)	(2,115)	1,474
Civil Aerospace net LTSA balance change	66	479	(413)
Movement on provisions	(136)	(195)	59
Cash flows on settlement of excess derivative contracts	(452)	(202)	(250)
Net interest and fees on undrawn facilities	(259)	(172)	(87)
Cash flow on financial instruments net of realised losses included in operating profit	(85)	(105)	20
Other	68	(49)	117
Trading cash flow	**(1,165)**	(4,114)	2,949
…of which relates to continuing operations	*(1,211)*	*(4,198)*	*2,987*
Contributions to defined benefit pensions (in excess of)/less than that of underlying operating profit charge	(92)	160	(252)
Taxation paid	(185)	(231)	46
Group free cash flow	**(1,442)**	(4,185)	2,743
…of which relates to continuing operations	*(1,485)*	*(4,255)*	*2,770*
Shareholder payments	(4)	(92)	88
Rights issue	–	1,972	(1,972)
Disposals and acquisitions	49	(119)	168
Exceptional Group restructuring	(231)	(323)	92
Payment of financial penalties	(156)	(135)	(21)
Other underlying adjustments	(23)	(33)	10
Movement in net funds from cash flows (excluding lease liabilities)	**(1,807)**	(2,915)	1,108
Capital element of lease repayments	374	284	90
Movement in net funds from cash flows	**(1,433)**	(2,631)	1,198
Movement in short-term investments	(8)	6	(14)
Net cash flow from changes in borrowings and lease liabilities	666	1,630	(964)
Statutory cash flow	**(775)**	(995)	220

* The derivation of the summary funds flow statement from the statutory cash flow statement is included on page 182.

Key changes in the funds flow items are described below:

Expenditure on intangible assets: Expenditure of £(185)m included £(104)m capitalised Research & Development (2020: £(232)m), which was lower than prior year reflecting the mix of spend across Civil Aerospace engine programmes.

Capital expenditure: Investment of £(311)m was £268m lower than prior year as a result of continued focus on prioritisation of business critical infrastructure projects and focus on reducing capital intensity in Civil Aerospace in line with the cost reduction programme.

Increase in inventory: The £169m increase in the year was primarily driven by planned inventory build in Defence and Power Systems to meet expected sales volumes, and the impact of global supply chain disruption on Power Systems.

Movement in receivables/payables/contract balances (excluding Civil LTSA): The movement of £(641)m was primarily driven by Civil Aerospace and included a significant volume of concession payments during the year as well as a reduction in trade payables driven by timing and volume of supplier payments. In addition, deposits were utilised in Civil and Defence as we continued to execute on customer contracts.

Movement in underlying Civil Aerospace net LTSA creditor: In 2021, there was a £66m increase in the net LTSA balance as invoiced flying hour receipts exceeded revenues recognised. This reflected an improvement in invoiced flying hour receipts as air traffic recovered during the year offset by higher revenues due to materially improved LTSA catch-ups compared to the prior year.

Movement on provisions: The £(136)m movement primarily reflected a decrease in the Trent 1000 provision driven by provision utilisation, including customer disruption costs settled and remediation shop visit costs.

Cash flows on settlement of excess derivative contracts: Relates to the cash settlement costs in the year for the offsetting foreign exchange contracts that were entered into to reduce the size of the US Dollar hedge book in 2020. The cash settlement costs of £1.7bn occur across 2020-2026, of which £1.0bn remains to be paid in future years.

Fees and interest: The net payment of £(259)m in the year was higher than the prior year, reflecting £(197)m of net interest paid (2020: £(75)m).

Contributions to defined benefit pensions: In 2021, cash contributions were £92m higher than the pensions charge in the income statement (2020: £160m lower) reflecting payment deferrals from 2020 into the first quarter of 2021.

Taxation: Net cash tax payments in 2021 were £(185)m (2020: £(231)m). The decrease is mainly due to timing, with additional payments arising in 2020.

Disposals and acquisitions: The £49m inflow related to proceeds associated with disposal activity partly offset by the costs incurred on acquisition and disposal activity.

Exceptional restructuring: Payments of £(231)m related to the restructuring programme and associated initiatives.

Payment of financial penalties: The final payment of £(156)m relating to the deferred prosecution agreement (DPA) in the UK was made in January 2021.

Other underlying adjustments: Outflow of £(23)m includes timing of cash flows on a prior period disposal where we retain the responsibility for collecting cash before passing it on to the acquirer, along with other smaller items.

Net cash flow from changes in borrowings and lease liabilities: During the year, we drew down on a £2.0bn loan which is supported by an 80% guarantee from UK Export Finance. £300m of commercial paper under the Covid Corporate Financing Facility and €750m (£639m) loan notes were repaid in line with repayment terms.

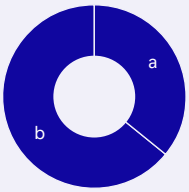
BUSINESS REVIEW

CIVIL AEROSPACE

Civil Aerospace is a major manufacturer of aero engines for the large commercial aircraft, regional jets and business aviation markets. The business uses its engineering expertise, in-depth knowledge and capabilities to provide through-life support solutions for its customers.

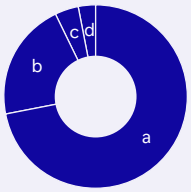
UNDERLYING REVENUE [1,2]	UNDERLYING OPERATING (LOSS) [1,2]	ORDER BACKLOG
£4,536m	**£(172)m**	**£41.1bn**
2020: £5,068m	2020: £(2,535)m	2020: £42.4bn

UNDERLYING REVENUE MIX



a. OE	**36%**
b. Services	**64%**

UNDERLYING REVENUE MIX BY SECTOR



a. Large Engines	**72%**
b. Business Aviation	**21%**
c. Regional	**4%**
d. V2500	**3%**

2021 market overview

The market for Civil Aerospace in 2021 continued to be impacted by the ongoing COVID-19 pandemic. Widespread border restrictions and short notice changes discouraged travel for both business and leisure. International travel recovery was gradual and uneven, particularly for countries with lower vaccination rates. Business aviation and domestic travel recovered more quickly, with both exceeding 2019 levels during the first half of 2021, reflecting the underlying desire to travel and connect where restrictions allow. According to industry forecasters, global international passenger traffic is expected to reach 2019 levels in late 2024.

Orders for new widebody passenger aircraft remained at very low levels. Original Equipment (OE) deliveries were low across the industry, with reduced build rates, as aircraft deliveries were rescheduled. Orders for new business aviation aircraft were strong as new airframes helped to further stimulate good underlying demand.

Financial performance

— Underlying revenue of £4.5bn, down 10% on the prior year. OE revenue of £1.6bn was down 29% reflecting the reduction in engine deliveries. Services revenue of £2.9bn was up 6% on the prior year and included £214m positive LTSA catch-ups (2020: £(1.1)bn), partly offset by lower shop visit volumes and reduced contribution from the V2500 engine programme.

— Underlying gross profit of £474m improved from a £(2.0)bn loss in 2020, driven by strong operating cost performance resulting from restructuring savings as well as positive LTSA catch-ups of £256m. The prior year loss included £(1.3)bn of one-off charges and £(0.6)bn relating to USD purchases and under recovery of fixed costs.

— Underlying operating loss of £(172)m was significantly better than the prior year. This improvement reflected the increase in gross profit partly offset by the higher R&D charge and lower contribution from JVs and associates.

— Trading cash outflow was £(1.7)bn, a substantial improvement on 2020 reflecting higher EFH receipts, lower operating costs, capex and working capital as well as the non-repeat of £(1.0)bn from invoice factoring cessation in 2020. Working capital cash flow included large engine OE concession payments that reduced the concession liability by £474m (2020: £219m increase).

Operational and strategic review

In Civil Aerospace, we have a large installed product base of more than 5,700 large engines and around 9,700 business aviation and regional engines. Around two thirds of these are covered by LTSAs, providing long-term embedded value for the Group. We also have a large order book with more than 1,500 new large engines due to be delivered over the next few years, representing 52% market share and supporting our fleet growth expectations in the medium term.

Our priority for Civil Aerospace is to maximise value from existing capabilities and position the business for the transition to net zero. In 2021, we largely completed the role reductions associated with our fundamental restructuring programme, reducing the size of our Civil

[1] The underlying results for Civil Aerospace have been restated to reflect the transfer of the Hucknall site with associated fabrications activities from Civil Aerospace to ITP Aero during 2021.
[2] The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets and UK Civil Nuclear as Other businesses.

£ million	2021	Organic Change [1]	FX	2020 [2,3]	Change	Organic Change [1]
Underlying revenue	**4,536**	**(491)**	**(41)**	**5,068**	**(10)%**	**(10)%**
Underlying OE revenue	1,612	(654)	(12)	2,278	(29)%	(29)%
Underlying services revenue	2,924	163	(29)	2,790	5%	6%
Underlying gross profit/(loss)	**474**	**2,477**	**(16)**	**(1,987)**	**–**	**–**
Gross margin %	10.4%			*(39.2)%*	*49.7%pt*	*49.9%pt*
Commercial and administrative costs	**(297)**	11	2	(310)	(4)%	(4)%
Research and development costs	**(434)**	(35)	8	(407)	7%	9%
Joint ventures and associates	**85**	(82)	(2)	169	(50)%	(49)%
Underlying operating loss	**(172)**	**2,371**	**(8)**	**(2,535)**	**(93)%**	**(94)%**
Underlying operating margin %	**(3.8)%**			**(50.0)%**	**46.2%pt**	**46.4%pt**

	2021	2020 [2,3]	Change
Trading cash flow	**(1,670)**	**(4,510)**	**2,840**

Key operational metrics:

	2021	2020	Change
Large engine deliveries	195	264	(69)
Business jet engine deliveries	114	184	(70)
Total engine deliveries	**309**	**448**	**(139)**
Large engine LTSA flying hours (million)	**7.4**	**6.6**	**0.8**
Large engine LTSA major refurbs	208	272	(64)
Large engine LTSA check & repairs	402	559	(157)
Total large engine LTSA shop visits	**610**	**831**	**(221)**

[1] Organic change at constant translational currency (constant currency) applying full year 2020 average rates to 2021, excluding M&A. All commentary is provided on an organic basis unless otherwise stated.
[2] The underlying results for Civil Aerospace for 31 December 2020 have been restated to reflect the changes to activity during 2021 due to the transfer of the Hucknall site and associated fabrications activities to ITP Aero.
[3] The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets and UK Civil Nuclear as Other businesses.

Aerospace workforce by around a third since the start of 2020. We also reduced our global operational footprint by around a third with the closure of sites in Crosspointe in the USA, and Singapore and significant consolidation activities in sites such as Barnoldswick, Inchinnan and Hucknall in the UK. These actions, and work to simplify our operating model, improved productivity in both our OE and aftermarket processes.

We have worked closely with all customers to support them during the COVID-19 pandemic and to protect their engine and aircraft availability. We are also reducing shop visit costs by re-using more parts, repairing more parts and by implementing new engine overhaul technologies. For our newer large engine programmes we are focused on improving time on wing by releasing life extensions and rolling out technical modifications. Throughout this work we are using ever more digital technology to give us new customer, engine and service insights. These actions are focused on improving cash generation and margins from our LTSA contracts while delivering a better experience for our customers.

Our 2021 operational performance was driven by delivery of cost reductions, significantly increased productivity and efficiency, and the gradual recovery of our EFH. We delivered fewer new large engines than the prior year as delivery schedules were adjusted in response to the impact of COVID-19 on the industry. Deliveries of business aviation engines were down on the prior year due to the transition to newer engine programmes in the fleet, with the Pearl engine fleet building share from a low base. Build time per engine reduced as we implemented productivity improvements and benefited from the footprint optimisation. Large engine LTSA flying hours were 7.4m in the year, up 11% on the prior year driven by over 57% year-on-year improvement in the second half.

We are also seizing new opportunities for growth. In 2021, our Pearl family of business jet engines achieved new successes, with the Pearl 10X chosen by Dassault for its brand-new flagship aircraft, the Falcon 10X, and the Pearl 700 selected by Gulfstream to power its latest ultra-long-range jet, the G800. The introduction of the Airbus A350 freighter created a great opportunity for the Trent XWB engine in a market that has long been dominated by the Boeing 777.

Our strategy for net zero focuses on improving engine efficiency, enabling the use of SAFs and being at the forefront of developing innovative propulsion technologies. In 2021, we started to build an UltraFan engine which will demonstrate increases in efficiency of up to 25% compared with early Trent engines. We have tested our engines for use with 100% SAF and we aim to demonstrate that all Trent engines are 100% SAF compatible by 2023. We also worked with Airbus on a world-first in-flight study into the benefits of 100% SAF. We are an active member of the UK's Fly Zero initiative and a prime proponent of research to understand the entire hydrogen landscape. We are also focused on reducing our own emissions and those of our supply chain (see page 44).

Outlook

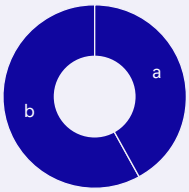
Industry forecasters expect a continuation of the gradual improvement in international travel in 2022 with an acceleration in flying hours as COVID-19 related border restrictions are lifted. We will remain focused on actions within our control, keeping costs low and maintaining the recent productivity gains as shop visits increase. This, along with an expected increase in spare engine sales, would support modest revenue growth and improved profitability in 2022, as well as a substantial improvement in trading cash flow.

DEFENCE

Defence is a market leader in aero engines for military transport and patrol aircraft with strong positions in combat and trainer applications. It has significant scale in naval and also designs, supplies and supports the nuclear propulsion plant for all of the UK Royal Navy's nuclear submarines.

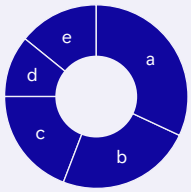
UNDERLYING REVENUE *	UNDERLYING OPERATING PROFIT *	ORDER BACKLOG
£3,368m	**£457m**	**£6.5bn**
2020: £3,355m	2020: £461m	2020: £7.5bn

UNDERLYING REVENUE MIX



a. OE	**42%**
b. Services	**58%**

UNDERLYING REVENUE MIX BY SECTOR



a. Transport	**32%**
b. Combat	**24%**
c. Submarines	**19%**
d. Naval	**11%**
e. Other	**14%**

2021 market overview

Our Defence business provides governments with the power to protect, enabling them to preserve peace, and underpin economic and social stability. In 2021 Rolls-Royce products have powered critical military assets that have deterred threats and saved lives, including in major humanitarian operations, around the world. We operate in a tightly regulated and controlled industry with key suppliers, like Rolls-Royce, chosen by governments for long-term partnerships to develop, manufacture and maintain their countries' defences.

The market for Defence in 2021 remained robust, and our business performance was strong despite the COVID-19 pandemic. Defence spending in the US and the UK, our largest end markets, is mostly driven by economic expansion and growing at low single digit compound rates. Budgets are increasingly focused on technology-led solutions that enhance capability. Sustainability is growing in importance in the defence market as governments identify militaries as their biggest opportunity to reduce their carbon emissions. We are well positioned to meet this need, harnessing our Group-wide capabilities in highly efficient gas turbines, nuclear and electrical capability and enabling the use of synthetic fuels in our applications.

In addition to our home markets in the US, UK and Germany, we export to customers in the Middle East, Korea, Japan, Canada, India and elsewhere. Export products are tightly regulated and subject to strategic export control (military and dual-use items). To serve these markets our home market governments assess export licensing criteria that include international obligations and applicable sanctions; respect for human rights and international humanitarian law; preservation of internal and global peace and security; as well as other geo-political criteria. We respect the capability and authority granted to elected government officials to determine whether to do business with other nations' governments and abide by their decisions. In addition, we work closely with government and trade associations to raise awareness and advise on the need for mechanisms to promote responsible arms trade including significant support of the UN Arms Trade Treaty.

Financial performance

- Order intake was £2.3bn with a book-to-bill of 0.7x. Our order book is strong following several years' of high intake with a five year average book-to-bill of 1.1x and 85% order cover for 2022. In 2021 we secured a key award with the US DoD for the replacement engine programme for the B-52 aircraft, with an initial value of $0.5bn and total OE programme value of $2.6bn.
- Underlying revenue increased by 5% to £3.4bn, with services revenue up 6% and OE revenue up 3%. Sales benefitted from strong sales of parts in our export markets in Asia and Middle East.
- Underlying gross profit of £721m was 9% higher than the prior year and the gross margin expanded 0.9%pt to 21.4%. This was driven by a positive mix towards higher margin spare parts and spare engine sales.

* The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets and UK Civil Nuclear as Other businesses.

£ million	2021	Organic Change [1]	FX	2020 [2]	Change	Organic Change [1]
Underlying revenue	**3,368**	**155**	**(142)**	**3,355**	**–**	**5%**
Underlying OE revenue	1,411	42	(59)	1,428	(1)%	3%
Underlying services revenue	1,957	113	(83)	1,927	2%	6%
Underlying gross profit	**721**	**63**	**(26)**	**684**	**5%**	**9%**
Gross margin %	*21.4%*			*20.4%*	*1.0%pt*	*0.9%pt*
Commercial and administrative costs	(161)	(19)	4	(146)	10%	13%
Research and development costs	(105)	(24)	5	(86)	22%	28%
Joint ventures and associates	2	(7)	–	9	–	–
Underlying operating profit	**457**	**13**	**(17)**	**461**	**(1)%**	**3%**
Underlying operating margin %	***13.6%***			***13.7%***	***(0.1)%pt***	***(0.2)%pt***

	2021	2020 [2]	Change
Trading cash flow	**377**	**298**	**79**

[1] Organic change at constant translational currency (constant currency) applying full year 2020 average rates to 2021, excluding M&A. All commentary is provided on an organic basis unless otherwise stated.

[2] The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets and UK Civil Nuclear as Other businesses.

— Underlying operating profit was £457m, an increase of 3% compared with 2020. This profit growth occurred despite a 28% increase in R&D spend to support the UK Future Combat programme and targeted investment in growth opportunities in North America to support continued long-term product development.

— Trading cash flow was £377m, representing a cash conversion of over 80%. The prior year trading cash flow included adverse impact from the timing of cash deposit receipts.

Operational and strategic review

With over 16,000 Defence engines in service, we are a leading provider of military aircraft engines and aero-derivative gas turbines for naval use, and the sole provider of powerplants for the UK's nuclear submarine fleet. We do not provide or manufacture weapons.

In 2021, we were chosen by the US Air Force as the new provider of power for its fleet of 76 eight-engine B-52 aircraft. The testing and development phase of the award, valued at around $500m commenced in 2022 with the total OE contract valued at $2.6bn over the next 16 years to 2038. In the UK, the Ministry of Defence announced our continuation as the sole supplier of propulsion systems for its next generation of nuclear-powered submarines, which will replace the Astute class in the future. The UK Government also signed an agreement with its Japanese counterpart to develop and deliver a future combat aircraft engine demonstrator. This builds on Team Tempest, the UK-led next-generation fighter programme we are a member of, in which the MoD has committed £2bn of initial investment spending.

Protecting people around the world is central to our mission in Defence. In 2021, our engines that power the C-130J, A400M and Voyager transport aircraft aided the critical humanitarian effort in Afghanistan, evacuating thousands of people from Kabul.

Disciplined investment in long-term sustainable growth opportunities shape our Defence business for decades to come. We are maximising the value from our existing capabilities by using digital technology and data analytics to unlock further potential from services and managing our costs to maintain margin as older products are phased out over time. We will also support our Defence customers in achieving net zero by showing compatibility with SAF in all products by 2023, subject to customer engagement. We are seizing strategic growth opportunities for our established products, as well as developing future opportunities and research into novel applications for our technologies such as hypersonics, small engines, directed energy and power in space.

In 2022, the US DoD is due to select its Future Long-Range Assault Aircraft (FLRAA) solution. A win for the V-280 Valor, on which we are partnered with Bell Textron, would secure a new vertical lift market for us totalling over 5,000 engines with production through the coming decades.

Our strong position in the US is supported by our world-class facilities in Indianapolis. In 2021, we concluded a multi-year revitalisation programme at our Indianapolis facility, creating a high-tech, revolutionary advanced manufacturing campus. The new facilities feature advanced manufacturing equipment, including digital engineering and robotics capabilities on a smaller but more efficient footprint. In addition, we made significant investment in several other Defence sites and have partnered with Purdue University in Indiana, US to establish an industry leading hypersonic test facility. In the UK, we will be reducing our carbon footprint by installing a microgrid at our main Defence facility in Bristol in 2022.

Outlook

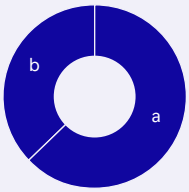
We expect continued modest revenue growth in 2022 with a strong order book cover securing near term activity in all our end markets. Our increased investment will support growth in programmes related to future projects and recent awards, as well as product development to help the transition to net zero. We do expect a return to more usual levels of spare engines and spare parts sales in 2022.

POWER SYSTEMS

Power Systems, with its product and solutions brand, mtu, is a world-leading provider of integrated solutions for onsite power and propulsion, developing sustainable, climate-friendly solutions to meet the needs of its customers.

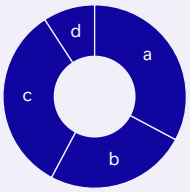
UNDERLYING REVENUE *	UNDERLYING OPERATING PROFIT *	ORDER BACKLOG
£2,749m	**£242m**	**£2.8bn**
2020: £2,735m	2020: £188m	2020: £2.4bn

UNDERLYING REVENUE MIX



a. OE	**63%**
b. Services	**37%**

UNDERLYING REVENUE MIX BY SECTOR



a. Marine	**33%**
b. Industrial	**25%**
c. Power Generation	**33%**
d. Defence	**9%**

2021 market overview

The effects of COVID-19 on our end markets lessened over the course of 2021 as vaccination programmes were rolled-out and pandemic-related risks were balanced with economic needs. Governmental demand in land defence and marine end markets continued to be resilient. Across the different applications, we had a strong increase in order intake in the second half of 2021 and record order intake in the fourth quarter.

Along with many manufacturing businesses, global supply chain disruption impacted the availability of some parts and components in the second half of 2021. Challenges are likely to persist into 2022 until additional capacity has been created.

Financial performance

- Order intake of £3.3bn was 24% higher than the prior year, with record order intake in the fourth quarter and a book-to-bill ratio of 1.2x in the year. Order growth was strongest in marine, defence and power generation end markets. The customer interest in net zero carbon solutions is accelerating and our investment in decarbonising our solutions is critical to our future growth.
- Underlying revenue of £2.7bn was up 3%. Aftermarket services grew 10% as product utilisation increased in our end markets, and OE was broadly flat. Sales were strongest in industrial and power generation end markets, partly offset by lower activity in China.
- Underlying gross profit grew by 18% to £778m and gross margin increased by 3.6%pt. This included an increase in higher-margin aftermarket spare parts as well as improved utilisation in our manufacturing facilities and lower warranty costs.
- Underlying operating profit was £242m, up 37%. Operating margin of 8.8% was 2.2%pts higher than the prior year, reflecting the positive mix of activity and increased volumes. The increase in commercial and administrative costs reflected an increase in employee costs, partly due to the non-repeat of government support received in the prior year.
- Trading cash flow was £219m (2020:£162m), representing a cash conversion of about 90%.

Operational and strategic review

In Power Systems, we are focused on expanding our position as an industry leader in mission critical power and propulsion solutions in our end markets. To achieve this, we are maximising the value from existing capabilities by transitioning from supplying standalone products to fully integrated systems, as well as increasing our penetration in countries with high-growth economies. We are also seizing strategic growth opportunities by developing the solutions our customers need to support them in their transition to alternative power with net zero carbon emissions.

* The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets and UK Civil Nuclear as Other businesses.

£ million	2021	Organic Change [1]	M&A [2]	FX	2020 [3]	Change	Organic Change [1]
Underlying revenue	**2,749**	**89**	**19**	**(94)**	**2,735**	**1%**	**3%**
Underlying OE revenue	1,744	(2)	19	(60)	1,787	(2)%	-
Underlying services revenue	1,005	91	–	(34)	948	6%	10%
Underlying gross profit	**778**	**120**	**6**	**(26)**	**678**	**15%**	**18%**
Gross margin %	*28.3%*				*24.8%*	*3.5%pt*	*3.6%pt*
Commercial and administrative costs	(383)	(57)	(8)	13	(331)	16%	18%
Research and development costs	(157)	(1)	(1)	5	(160)	(2)%	1%
Joint ventures and associates	4	5	(1)	(1)	1	–	–
Underlying operating profit	**242**	**67**	**(4)**	**(9)**	**188**	**29%**	**37%**
Underlying operating margin %	***8.8%***				***6.9%***	***1.9%pt***	***2.2%pt***

	2021	2020 [2]	Change
Trading cash flow	**219**	**162**	**57**

[1] Organic change at constant translational currency (constant currency) applying full year 2020 average rates to 2021, excluding M&A. All commentary is provided on an organic basis unless otherwise stated.
[2] M&A includes 2020 Power Systems acquisitions comprising of Kinolt Group S.A. and Servowatch Systems Limited (SSL).
[3] The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets and UK Civil Nuclear as Other businesses.

We have a large installed product base with over 150,000 engines and around 40,000 active customers worldwide, generating revenues from both OE and aftermarket services. Our established portfolio of products consists of a range of high-speed reciprocating diesel and gas engines delivered within a complete system solution or as a standalone engine. We have been increasing sales of complete system solutions, including gensets, battery storage systems and automation to achieve greater value capture and closer customer relationships and have been exploring opportunities to provide energy-as-a-service. Our agreement with Sustainable Development Capital LLP (SDCL) to jointly work on energy-as-a-service is an example of how we are helping to accelerate the transition to more sustainable power.

In 2021, customer demand was particularly strong for data centres with an increase in orders for power generation solutions. In particular, our *mtu* branded standby power generation solution was key to an order for one of the largest hyperscale data centre customers, leading to expansion of our global footprint and market share. Governmental orders were also strong, including large orders for both land defence and marine solutions in the year. In marine we established a framework agreement with a leading luxury yacht building company to pioneer the adoption of our hybrid solutions and fully-integrated bridge, bringing together our complete propulsion and ship management system.

Our main objective is the transition to net zero power, which is a huge opportunity, and we are rising to the challenge. Our end markets are transitioning at different speeds. The three markets at the forefront of change are: mission critical power for data centres, power for infrastructure (including the transition of our own operating sites to clean energy), and marine solutions. To support the transition we are investing in new technology to replace internal combustion engines and further develop them to run on sustainable fuels such as green hydrogen and green methanol, and ensuring all our current engines are compatible with carbon-neutral e-diesel. These actions support our commitment to achieve a 35% cut in lifetime emission, compared with 2019, of new sold products by 2030 and for all our products to be compatible with net zero operations by 2050. Milestone achievements in 2021 included our partnership with cellcentric, a Daimler Truck and Volvo joint venture to develop hydrogen powered fuel cells for energy supply, mainly for data centres, which is targeting pilot installations by 2023 and full launch by mid-decade. A major step towards a carbon-neutral future in the infrastructure sector is the first-of-a-kind microgrid for the Port of Duisburg in Germany, which will combine fuel cells and hydrogen combustion engines to meet the clean energy needs of this new container terminal. In addition, we are adapting our mtu Series 500 and Series 4000 gas engines to run on hydrogen. Our gas engines for use in gensets can already run on a 10% hydrogen blend, by 2022 this will be increased to 25% and from 2023 conversion kits will be available for 100% hydrogen operation.

Throughout the year we have been monitoring and mitigating the global supply chain disruption reported across many manufacturing sectors. In the second half of 2021, shortage of a relatively small number of components slowed our production rate resulting in a modest increase in inventory and some delayed revenue recognition.

Outlook

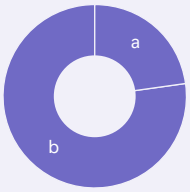
Looking ahead to 2022, we see continued strong demand growth from our customers supported by global economic growth and the transition to lower carbon solutions. We expect good revenue growth in 2022 helped by the strong order intake, partly offset by the current global supply chain constraints. Higher activity levels will drive improved profitability partly offset by increased Research & Development investment as we pursue net zero growth opportunities. Cash conversion is expected to be lower in 2022 as we focus on inventory and supply chain management to mitigate the impact of industry-wide disruption.

NEW MARKETS

New Markets are early-stage businesses, with high growth potential, focused on addressing the opportunities being created by the transition to net zero. The businesses leverage our existing, in-depth engineering expertise and capabilities to develop new sustainable products for new markets.

UNDERLYING REVENUE *	UNDERLYING OPERATING LOSS *	EMPLOYEES (FTE AT YEAR END)
£2m	**£(70)m**	**>570**
2020: £5m	2020: £(45)m	

VALUE R&D SPEND £68M



a. Rolls-Royce SMR **23%**
b. Rolls-Royce Electrical **77%**

2021 market overview

Our technology and engineering expertise gives us a critical role in enabling the transition to a low carbon global economy. We are focused on producing the technology breakthroughs society needs to decarbonise three critical areas of the global economy – transport, power, and the built environment – and capture the economic opportunity this transition represents. We are making our existing products compatible with net zero and pioneering new technologies that can meet accelerating demand for net zero power, as well as identifying additional applications for our current portfolio of technologies in new markets.

Nuclear power is central to producing the sustainable zero carbon power the world needs, both on grid and as a standalone power source. Our small modular reactors (SMRs) enable this power to be generated in a broader array of locations around the world, with a faster construction time and lower financing costs compared with the conventional nuclear power stations that exist today. Off grid end markets for small nuclear power stations include hydrogen and synthetic fuel production, data centres, desalination plants and electrolyser factories.

Electrification will contribute to decarbonisation of aviation and electrical technologies and capabilities can also be leveraged for civil, defence and marine applications. Smaller, all-electric aircraft will enable more efficient, quieter and zero-emission air mobility, while hybrid-electric systems increase range and enable more sustainable solutions for larger regional aircraft. The emerging market of advanced air mobility, which includes electrical vertical take-off (eVTOL) aircraft as well more conventional electric commuter aircraft, is aiming to enable a new way of using air mobility on urban and regional routes.

The potential new market opportunities are significant. Our New Markets businesses, Rolls-Royce Electrical and Rolls-Royce SMR, are well positioned to address these opportunities.

Financial performance

- Underlying revenue of £2m came from Rolls-Royce Electrical sales relating to marine engineering services and propulsion systems. Both Rolls-Royce Electrical and Rolls-Royce SMR are early-stage businesses in their investment phase, with significant future revenue generating potential in the 2030s.
- Underlying operating loss of £(70)m increased from the prior year comparative as we increased the pace of investment in both Rolls-Royce SMR and Rolls-Royce Electrical. The increased investment is critical to the development of the products that will drive our net zero growth in the future and is in line with our plans. R&D costs of £(68)m included £(16)m on the design development to ready our SMRs to enter the UK GDA process and £(52)m on electrical propulsion technology.
- Trading cash flow of £(56)m was lower than operating losses mainly due to the receipt of funding for the SMR programme.

* The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets.

£ million	2021	Organic Change [1]	FX	2020 [2]	Change	Organic Change [1]
Underlying revenue	**2**	**(2)**	**(1)**	**5**	**(60)%**	**(40)%**
Underlying OE revenue	–	(2)	(1)	3	(100)%	(67)%
Underlying services revenue	2	–	–	2	–	–
Underlying gross profit	**1**	**(1)**	**–**	**2**	**(50)%**	**(50)%**
Gross margin %	*50.0%*			*40.0%*	*10.0%pt*	*(6.7)%pt*
Commercial and administrative costs	(3)	(2)	–	(1)	200%	200%
Research and development costs	(68)	(24)	2	(46)	48%	52%
Underlying operating loss	**(70)**	**(27)**	**2**	**(45)**	**56%**	**60%**

	2021	2020 [2]	Change
Trading cash flow	**(56)**	**(55)**	**(1)**

[1] Organic change at constant translational currency (constant currency) applying full year 2020 average rates to 2021, excluding M&A. All commentary is provided on an organic basis unless otherwise stated.
[2] The underlying results for 31 December 2020 have been restated to reclassify the results of the Group's small modular reactor (SMR) and new electrical power solutions as New Markets.

Operational and strategic review

Our investment in SMRs and electrical propulsion create net zero solutions and seize the opportunities in new end markets, as we aim to maximise the future market potential for our technological and industrial solutions and products.

Rolls-Royce SMR takes our existing technology and experience in nuclear power, established over 60 years of powering the UK's fleet of nuclear-powered submarines, and applies this to the demand for affordable clean energy on and off grid. Rolls-Royce Electrical applies new technology and innovation to deliver all-electric and hybrid-electric power and propulsion. Both these businesses are supported by our extensive experience and long track record of delivering advanced technology in highly regulated markets.

Rolls-Royce Electrical achieved a number of key milestones in 2021:

- Spirit of Innovation became the world's fastest all-electric aircraft with a world speed record of 345.4 mph;
- we joined together with Tecnam and Widerøe to deliver the Tecnam P-Volt, an all-electric passenger aircraft for the commuter market, ready for revenue service in 2026;
- Vertical Aerospace, in which we have a minority investment, took $5.4bn pre-orders for VX4, their urban air mobility vehicle powered by a Rolls-Royce Electrical system;
- we announced our intention to take a minority position in Embraer spin-out Eve Urban Air Mobility Solutions (EVE) as they move to deliver eVTOL aircraft to a global market;
- we launched an £80m investment into energy storage systems that will enable aircraft to undertake zero emissions flights of over 100 miles on a single charge; and
- our power generation system (PGS1) for regional aircraft achieved more than 1 MW of power in 2021 on our newly renovated Testbed 108 in Bristol.

Rolls-Royce SMR was established as a special purpose vehicle in 2021, five years after the programme began. As a result of a successful equity raise, in which £230m was agreed in exchange for approximately 30% of the company to be received in tranches over the coming years, as well as £210m UK Research and Innovation (UKRI) grant funding and additional investment from Rolls-Royce, the programme has £490m of investment to help fund phase two of its development plan. Rolls-Royce SMR will now proceed rapidly with a range of parallel delivery activities, including entry to the UK GDA process and identifying sites for the factories which will manufacture the modules that enable on-site assembly of the power plants.

The development of SMRs is a core part of the UK Government's 10-point plan for a green industrial revolution. A Rolls-Royce SMR power station will have the capacity to generate 470MW of low carbon energy on a site around one tenth of the size of a conventional nuclear station. Costs will be competitive with sources of renewable energy and will not be subject to the intermittency challenges associated with other low carbon technologies.

Outlook

Our financial performance in 2022 will show a significant increase in Research & Development costs as we invest to develop our products and grow our businesses in these exciting new markets. Cash outflow is expected to be approximately £100m better than the underlying operating loss in 2022, mainly due to the phased receipt of secured third party equity investment in Rolls-Royce SMR.

SUSTAINABILITY

We have a significant opportunity to contribute to global sustainable development and create shared value for us and our stakeholders by conducting our business in an environmentally, ethically and socially responsible manner.

Our vision is to play a leading role in the global transition to a low carbon future by pioneering sustainable technology solutions. We start by understanding the impacts of our business activities on society and the environment and using that understanding to inform our decisions, creating shared value for Rolls-Royce and our stakeholders.

Our approach

Our sustainability framework defines the topics where we can make the most material contribution to a more sustainable future, intrinsically linked to our purpose and strategy. Our purpose is to contribute to global sustainable development through the provision of the power that matters, and our sustainability framework ensures we do so in an environmentally, ethically and socially responsible manner.

2021 HIGHLIGHTS

Published decarbonisation strategy and pathway to net zero

•

Active participation at the UN Climate Change Conference of the Parties (COP26) in Glasgow, UK

•

Introduced ESG metric into remuneration policy

At its highest level, our framework sets out our key areas of impact and focus, building on our values and behaviours and taking into account the expectations of our key stakeholders, including our people, customers, investors and regulators. This is the result of a specific strategic review of our approach, overseen by the Safety, Ethics & Sustainability Committee (see page 105) completed in 2020. We have used the United Nations Sustainable Development Goals to articulate the primary contributions we can make to a more sustainable society.

Since introducing our framework in 2020 we have made considerable progress in both our overall sustainability strategy and against our primary aims. This is reflected in our continued strong performance in ESG assessments and indices, such as our position in the Dow Jones Sustainability indices.

OUR SUSTAINABILITY FRAMEWORK

Our purpose: pioneering the power that matters to connect, power and protect society

Our mission: leading the transition to net zero

Managing environmental impacts across our value chain	Creating a positive social impact for our people, partners and communities	Maintaining high standards of ethics and compliance
See pages 36–45	See pages 46–50	See page 51

Underpinned by our values and behaviours

Climate action and transition to net zero

Our mission is to play a leading role in the transition to net zero; of the focus areas in our framework, climate action, adaptation and the transition to net zero are the most significant. Given the scale and nature of our business, it is the biggest potential contribution that we, as an organisation, can make to a more sustainable future and is consequently one of the greatest potential risks to our business success. Mitigating our impact on climate change and decarbonising our product portfolio is intrinsically linked to our purpose and business strategy.

Since joining the UN Race to Zero and UN Business Ambition to 1.5°C campaigns in 2020, we have made substantial progress to ratify our commitment to play a leading role in the global transition to a lower carbon future. In 2021, we published a decarbonisation strategy and pathway to net zero setting out the technology levers we are pulling to transition towards net zero carbon. We have established new interim targets, some of which are linked to senior management remuneration (5% of the metrics for the 2023 annual incentive) and aim to introduce further Group targets in accordance with the Science-Based Targets Initiative during 2022, as per our commitment under the UN Business Ambition to 1.5°C pledge.

Implementing our approach

Guiding principles

Integrating sustainability into decision making often requires judgement to consider the interplay between complex factors. To guide us, we have a simple set of sustainability principles, underpinned by our values and behaviours:

- understanding and minimising our impact on the environment, particularly in the context of climate change;
- seeking opportunities to adopt circular business practices to promote responsible resource consumption;
- making a positive contribution to the communities within which we operate;
- acting with integrity and considering the potential and actual ethical implications of all business decisions;
- ensuring zero harm to the people who work for or with us and giving them the opportunity to be at their best; and
- reporting and communicating with our key stakeholders transparently and honestly.

For more information on our sustainability approach, including Group policies and performance data, see rolls-royce.com

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals provide a framework for action for business and society alike. We have identified the goals we are best placed to contribute to through a sustainability materiality assessment, which is reviewed on a regular basis. During 2021, we added Goal 7, Affordable and Clean Energy, to reflect the introduction of our New Markets businesses and the role our technologies can play in the energy transition.

SDG	PRIMARY CONTRIBUTION	2021 PROGRESS
7 AFFORDABLE AND CLEAN ENERGY	As a global power group, we have the opportunity to provide clean, affordable power for all. Our products and technologies will play an important role in accelerating the availability and affordability of reliable clean energy, in both grid and off grid application.	– Secured funding to establish the new business and invested in Rolls-Royce SMR – Partnered with cellcentric, a Daimler Truck and Volvo joint venture, to develop hydrogen powered fuel cell solutions
8 DECENT WORK AND ECONOMIC GROWTH	We foster an innovative culture, underpinned by our company values and behaviours. We are committed to creating a diverse and inclusive workplace where everyone can be at their best. We support communities local to our operations and actively promote STEM education and outreach.	– Launched a new learning brand called, Leatro, to support our always-learning culture – Continued focus on leadership enablement, talent, capability and creating a diverse and inclusive culture
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	We are committed to substantially reducing our social and environmental impact across our manufacturing and production activities and promoting responsible and sustainable procurement practices in our supply chain.	– Introduced new recovery and recycling rate target – Launched new sustainable procurement framework
13 CLIMATE ACTION	Our mission is to lead the transition to net zero. Operating in some of the most carbon-intensive sectors, we are committed to leading the transition of the global economy towards a net zero carbon future.	– Published decarbonisation strategy and pathway to net zero – Partnered with Vertical Aerospace to pioneer low carbon urban air mobility – Established interim targets linked to senior management remuneration – Active participation at COP26 in Glasgow, UK
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Our approach to being a responsible business is underpinned by our commitment to act with integrity. We aim to meet the expectations of all of our key stakeholders and support them in achieving their sustainability goals.	– Continued to progress human rights policy review and due diligence programme – Initiated programme to enhance sustainability due diligence measures in the supply chain

TRANSITION TO NET ZERO AND TCFD RECOMMENDATIONS

We believe in the positive, transforming potential of technology. We pioneer the power that matters. Power that has an impact and is central to the successful functioning of the modern world. To combat the climate crisis, we know that power must be made compatible with net zero carbon emissions.

These pages summarise our decarbonisation strategy and progress made in 2021. It also details our disclosures in line with the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations. We have made considerable progress on the implementation of our net zero strategy and have undertaken our first quantified scenario analysis in 2021. We believe our approach is consistent with nine of the 11 TCFD recommendations (see page 43). The areas which we will continue to work on during 2022, are: strategy, part C, relating to the assessment of organisational resilience in the face of climate change; and metrics and targets, part B, relating to scope 3 emissions disclosure. Our explanation can be found on page 42.

Mitigating our impact on climate change and decarbonising our product portfolio are intrinsically linked to our purpose and business strategy; we believe there are significant business growth opportunities to come from Rolls-Royce playing a leading role in the transition to net zero. At the same time, climate change poses a potentially significant risk to our business, and we are working to ensure we have the appropriate governance, risk management, strategic resilience and metrics in place to respond.

In 2020, we joined the UN Race to Zero coalition and pledged to play a leading role in enabling the sectors in which we operate to reach net zero by 2050. We have taken significant steps to deliver against that commitment during 2021, including laying out our technology pathway to net zero and committing to ensuring our new products will be compatible with net zero operation by 2030, and all our products compatible by 2050.

Our decarbonisation strategy

Our decarbonisation strategy starts with the emissions in our own operations, extends to our value chain, and ultimately focuses on the contribution we can make to the global transition. Our decarbonisation strategy has three interconnected pillars:

1. making our operations net zero carbon;
2. decarbonising complex, critical systems at the heart of global society, by:
   a. enabling our products to be used in a way that is compatible with net zero, and;
   b. pioneering new breakthrough technologies that can accelerate the global transition to net zero; and
3. advocating for the necessary enabling environment, with public and policy support to achieve this ambition.

Our direct emissions (scope 1 + 2 emissions, see page 212), represent a small but important part of our footprint. The majority of emissions, arise from the use phase of the product lifecycle, hence this is the primary focus of our decarbonisation strategy and activities.

Making our operations net zero carbon

Delivering net zero carbon emissions from our operations and facilities is a vital step towards our 2050 target and will help ensure our business is more resilient for the future. By 2030, we will achieve net zero GHG emissions from all energy purchased and consumed in the operation of our buildings, facilities and manufacturing processes. This target is well aligned with the ambition and emissions reduction trajectory required to curb global temperature rise to 1.5°C.

We will meet our goal through continued investment in onsite renewable energy installations; the procurement of renewable energy; and continued investment in energy efficiency improvements to reduce our overall energy demands and operating costs. We expect our Bristol, UK, manufacturing site to be the first Rolls-Royce site to achieve net zero carbon operations during 2022, see page 42.

Decarbonising complex, critical systems

Achieving net zero carbon will require a wholesale transformation of the systems that make up the backbone of our global economy, including transport, energy and the built environment, some of the very sectors in which reducing emissions is the hardest. To decarbonise complex, critical systems we must continue to act across three areas: pioneering new low and zero carbon technologies and sustainable solutions; accelerating the availability and affordability of sustainable fuels; and continuing to improve engine efficiency and environmental performance.

OUR PROGRESS IN 2021

Published technology pathway and related targets linked to remuneration

•

Achieved world speed record for all-electric flight with our Spirit of Innovation aircraft

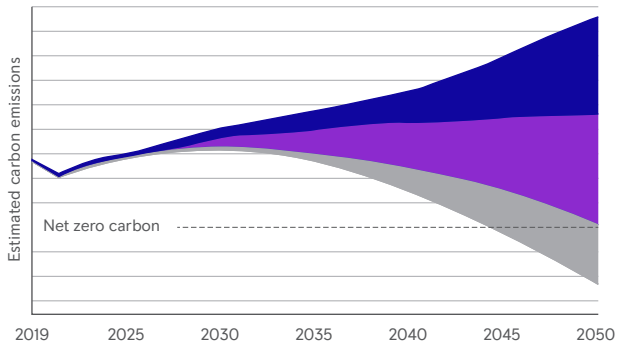
•

Established Rolls-Royce SMR to pioneer the rollout of small modular nuclear reactors in the clean energy transition

•

Initiated series of engine tests on 100% sustainable fuel across our gas turbine and reciprocating engine product portfolio

TECHNOLOGY PATHWAY TO NET ZERO



This indicative pathway depicts the positive contribution of key technologies towards reducing our future emissions, related to the use of sold products, to net zero in 2050. Without these actions, emissions would be expected to rise. The impact of new technologies is based on our current best understanding of the solutions available and potential future market applications. In this chart, we have also depicted the impact of the new businesses within our New Markets segment, which serve sectors in which we are not currently present (e.g. SMRs for large scale power generation), as additional compensation actions. These technologies do not abate emissions within our current footprint but instead support the decarbonisation of other sectors.

Enabling our products to be used in a way that is compatible with net zero carbon

To achieve net zero carbon we must ensure that all of our products are compatible with net zero carbon operation by 2050, at the latest. This will be achieved through further advancing the efficiency of our engine portfolio through next generation technologies and introducing new low or zero emission products, including fuel cells, microgrids, hybrid-electric and all-electric technologies. These new technologies represent a significant commercial opportunity. By 2030, all new products will be compatible with net zero operation.

Beyond that, the scale up of sustainable fuels will play a crucial role in reaching net zero carbon. To accelerate this, we will demonstrate that all the commercial aero engines we produce, and our most popular reciprocating engines, are compatible with sustainable fuels by 2023 and work with our armed forces customers to achieve the same goal for the Rolls-Royce engines they use. We are working in partnership with fuels manufacturers to encourage the ramp-up of sustainable fuels production and with policy makers to create the necessary environment to support this. Currently less than 1% of global fuel demand is met with sustainable fuels.

During 2021 we initiated and entered several strategic partnerships to accelerate the availability of sustainable fuels including; supporting the launch of the World Economic Forum SAF Ambassador Toolkit; partnering with Airbus, German research centre DLR and fuels producer Neste on a world first in-flight sustainable fuels emissions study; and entering a memorandum of understanding with Shell which aims to support the decarbonisation of the aviation industry and progress towards net zero emissions.

Pioneering new breakthrough technologies that can accelerate the global transition to net zero

As we pivot to become a net zero carbon business, we will enter new markets and sectors where we can offer technological solutions that can abate emissions outside of our current emissions footprint. This will help further drive our future innovation and growth. These technologies are depicted as additional compensation actions as they do not abate emissions within the Group's current emissions footprint but instead support the decarbonisation of other sectors.

Our strategy includes the development and deployment of SMRs which will play a vital role in supporting the decarbonisation of the energy grid and meeting increased demand for clean electricity. SMRs also have potential application as a route to the production of sustainable fuels, including SAFs for aviation, hydrogen or other e-fuels, through the provision of low cost, reliable and clean power. More detail on our New Markets business can be found on pages 32 to 33.

We are also actively researching new technologies that can deliver net negative carbon emissions, for example direct air capture (DAC). During 2021, we initiated a pilot study, with support from Australian scientific research centre CSIRO, on DAC technology. At COP26 in November, we announced a strategic partnership with the Qatar Foundation to invest, develop, and scale-up climate-tech businesses in the UK and State of Qatar. The partnership will create a centre for climate-tech innovations that will combine R&D, accelerator activities and venture capital funding in a new global hub. Rolls-Royce will provide research, engineering and high-end manufacturing support.

These new technologies and partnerships, when scaled, have the potential to deliver further carbon benefits to society beyond decarbonising our current product portfolio.

Advocating for the necessary enabling environment

Our ability to deliver on our decarbonisation roadmap hinges on an external environment that enables us to successfully transition to a net zero carbon future. To support this we continue to actively engage policy makers and others to advocate for the necessary conditions society needs to achieve its net zero target.

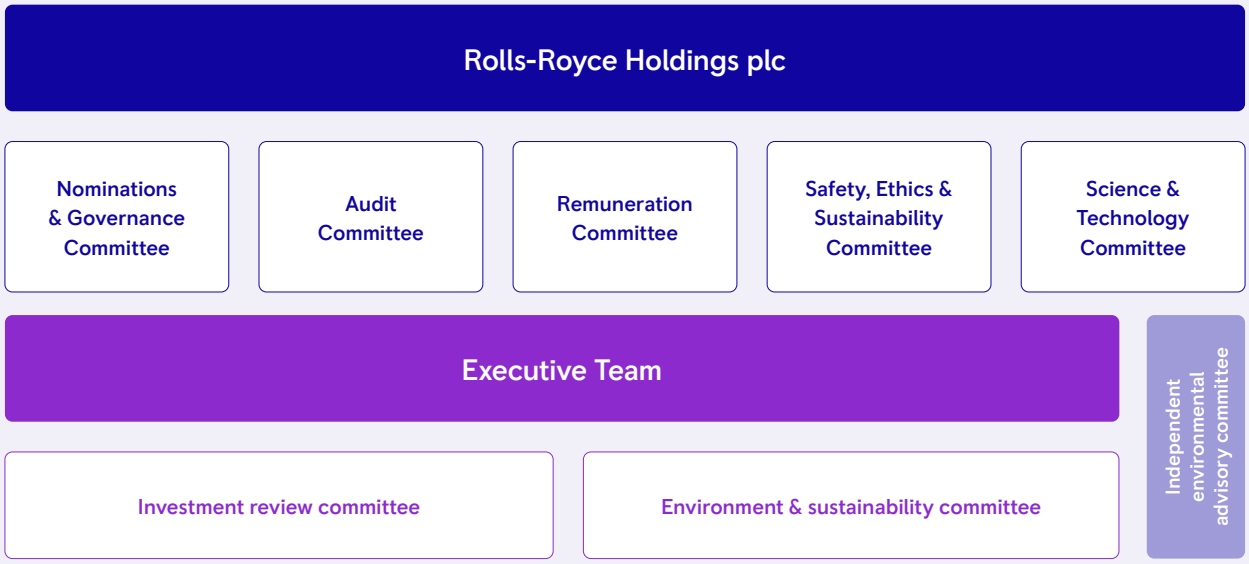
During 2021 this included:

- hosting our Maritime Summit, bringing together all parties in the maritime sector, including operators, policy makers, and suppliers, to consider decarbonisation levers for the marine industry;
- participating in COP26 in Glasgow, UK;
- reaffirming our commitment to work in partnership with competitors and customers across the aerospace value chain through the aviation Chief Technology Officer Forum; and
- initiating a review of our global policy bodies and trade associations participation in line with our climate position and net zero goals.

Governance of climate-related risks and opportunities

Sustainability is embedded in our global governance framework, risk management system and operating standards. At Board level, the Safety, Ethics & Sustainability Committee has oversight of our overall sustainability approach. In 2021, we introduced an ESG dashboard, including climate-related targets, used by the Committee to assess progress against our plan. Specific elements of our sustainability framework also have oversight by the appropriate Board level committees.

COMMITTEE STRUCTURE



THE BOARD'S OVERSIGHT

The **Board** has oversight of climate-related risks and opportunities impacting the Group. These risks and opportunities were central to the Board's discussions as they developed the strategic narrative for the Group which was central to the Board's discussions in the year. In turn, some elements of their responsibilities are delegated to committees of the Board as set out below and all Board Committees have climate-related issues as part of their remit, each Committee reports back to the Board formally on the topics discussed following each Committee meeting. The Directors' skills and experience are set out on pages 71 to 73 including the details of those Directors who have experience in sustainability and climate change. All Directors received training on climate-related risks and regulations in the year and further training on climate-related issues is planned for 2022.

The **Safety, Ethics & Sustainability Committee** (see page 105) reviews the Group's sustainability strategy, priorities and progress and has delegated responsibility to review the principal risk relating to climate change. It monitors our environmental sustainability performance and approves updates to our environmental sustainability strategy and targets annually. It receives reports at each meeting from the head of sustainability who also reports on the discussions of the executive-level environment & sustainability committee on a regular basis.

The **Science & Technology Committee** provides oversight of the Group's technology programmes and the approach to low carbon power.

The **Audit Committee** is responsible for reviewing and approving the content of our TCFD recommendations and noted progress as preparations were being made for the disclosures in this report. The Committee also ensures that, where material, climate change is factored into the financial statements and disclosed appropriately. See note 1 on page 117 and the Audit Committee Report on page 83.

The **Remuneration Committee** determines our remuneration policy, which includes sustainability and climate metrics. In 2021 the Committee approved the linking of climate-related targets to executive remuneration, these targets are detailed on page 42.

The **Nominations & Governance Committee** reviewed the Group's governance of ESG in September including published targets. The Committee also received a briefing on directors' responsibilities for climate-related disclosures in December. In appointing Wendy Mars to the Board, her insights into innovation and sustainability were considered particular strengths.

MANAGEMENT'S ROLE

The **Executive Team** is responsible for managing climate-related risks and opportunities on a day-to-day basis and for delivering the roadmaps to achieve our net zero strategy, and the Chief Executive has specific risk ownership of the principal risk related to climate change.

The **environment & sustainability committee** is a sub-committee of the Executive Team that is responsible for formulating and overseeing implementation of the Group's response to environmental and sustainability related matters, including strategy, policy, approach, and related key performance indicators related to climate change. The committee is chaired by the Chief Executive and all members of the Executive Team are also members alongside: the chair of the environment advisory committee; head of sustainability, chief governance officer; the director of external communications and brand; the director of central technology; and, the director of risk and internal audit. The Committee reports regularly to the Safety, Ethics & Sustainability Committee, as well the Science & Technology Committee as required.

The **investment review committee (IRC)** is an executive-level committee that reviews all investments, acquisitions and divestment proposals against a set of balanced criteria relevant to the Group's strategy, including the Group's core capability to deliver the transition to net zero. See detail on capital allocation factors on page 19.

Internal expertise is complemented by an independent **environmental advisory committee** which comprises external experts and academics who are leaders in relevant fields, including climate science, materials science and environmental policy. One member is a lead author of the Intergovernmental Panel on Climate Change (IPCC). The committee provides input and independent critique of our sustainability and environment policy and strategy, and is commissioned to undertake or review scientific research on behalf of the Group. Recently commissioned examples include reviewing the climate targets and product strategy of Rolls-Royce in relation to recent science developments and identifying key strategic materials for the transition to net zero. Member details are available on rolls-royce.com

Strategy in relation to climate change

Our decarbonisation strategy will ensure that Rolls-Royce is not only compatible with, but actively supports, a net zero future.

We assess our resilience over three time horizons: short term (<five years), medium term (five to ten years) and long term (ten to 30 years). Our short-term assessment aligns with the existing five-year planning horizon used across the Group and is also aligned with our viability assessment (see page 60). Our medium-term assessment is aligned to our 2030 goals, including our scope 1 + 2 target and commitment to ensure all new products are compatible with net zero carbon operation (see page 42). 2030 also represents the point at which we expect our New Markets businesses, which are inherently low or net zero carbon, to begin growing rapidly. Our long-term time horizon has been chosen as it aligns with our 2050 commitments and the nature of our business model means that products introduced today may be in active operation for the long term.

Scenario development and analysis

We use climate scenarios to assess the viability of our business strategy, decarbonisation plans and approach to managing climate-related risk including the impact on our financial results. Three scenarios were first developed in 2019, drawing upon externally published scenarios and emissions reduction pathways, to understand the impact of varying degrees of global temperature rise on our business activities and operations. During 2021, we have reviewed these scenarios and rationalised these into two primary climate scenarios, focused on 1.5ºC and around 4ºC of global average temperature change by 2100. Our decision to remove the third original scenario, which described a potential 6ºC global average temperature increase, is consistent with the level of global commitment and policy made since the 2015 Paris Agreement, including at the most recent COP26. A revised scenario, focused on a fragmented global policy response with temperature rise of around 4ºC is more appropriate.

In combination, these two scenarios enable us to further explore both transition and physical risks and opportunities that the Group may be subject to. To understand further the potential impact that climate change could have on our business, we have completed high-level analysis of each scenario to identify a range of climate risks and opportunities, considering both physical and transitional aspects of each and their potential impact on the Group. This exercise included modelling the impact of macroeconomic factors, i.e. GDP and carbon pricing, underpinned by global temperature changes and climate scenarios, against our strategic goals and future demand. For the most part, this was a qualitative exercise in 2021, but for a limited number of risks and opportunities which were perceived to have the potential to be material, we have quantified the risk or opportunity to test the resilience of our strategy, ensuring the impact is built into financial forecasts and reflected in the financial results. This work will continue in 2022 and we expect to make further disclosures related to the quantified impacts of these risks and opportunities in due course. We believe we have more work to do to fully meet the TCFD recommendation, strategy, part C, to better describe the resilience of the organisation's strategy under a 1.5ºC scenario.

*Accelerated Transition Risk Analysis (1.5ºC scenario) **

Under this scenario we see strong international alignment to limit global temperature rise in accordance with the Paris Agreement, i.e. keeping a global temperature rise this century well below 2ºC above pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5ºC, in an orderly manner. Governments around the world adopt strict product and behavioural standards, high carbon pricing and strategic investments in low carbon alternatives.

* Under each scenario our analysis considered both physical and transition risks. Our assessment suggests that in the 1.5ºC scenario the transition risks are more material than the physical risks.

Pressure from society is relentless and there is acceptance of the need to control carbon emissions and a willingness to pay for low carbon solutions.

The scenario is based on IPCC SSP1-19 and uses carbon prices and temperature rises from the IEA Net Zero data set and GDP information from the Oxford Economics Net Zero model.

As set out in our principal risk related to climate change, our analysis has shown that, without action, this scenario presents risk over the medium to longer term, particularly to our Civil Aerospace and Power Systems businesses. However, some of these changes also represent material opportunities, particularly to our Power Systems and New Markets businesses. Furthermore, we do believe that there is a viable pathway for decarbonising our existing businesses. See the technology pathway to net zero graphic on page 37.

Key findings from our analysis of this 1.5°C aligned scenario are:

- impacts primarily arise from lower demand (than in other scenarios) and increasing costs e.g. due to carbon pricing increasing costs; and
- customers switch to newer more fuel-efficient products, and retire older less efficient products, which leads to threats to our older products and opportunities for newer products (e.g. Trent XWB, Power Systems low carbon engines and our New Markets businesses).

Accelerated Physical Risk Scenario Analysis (4°C scenario) [1]
To understand further the risk that climate change could have on our business, we have undertaken a high-level assessment of the physical climate change risks to assets, and key parts of our supply chain, under a 4°C scenario at 2030, 2040 and 2050. These timescales are important in order to mirror the longevity of our assets, even with the increased level of uncertainty generated under such timeframes. The exercise is not yet underway and therefore only initial results and the approach are shared in this year's disclosure.

Our analysis of physical climate risks is aligned with recognised climate scenarios, specifically the Intergovernmental Panel on Climate Change's (IPCC) Representative Concentration Pathway (RCP) scenarios which provide a uniform framework for exploring potential climate changes and related impacts. RCPs are used globally for climate modelling and give access to a wide range of peer-reviewed and accepted climate datasets, as well as allowing consistency across territories.

Our assessment has focused primarily on: river and surface water flooding; coastal inundation; high winds; and the risk of forest fires. These hazards are considered as part of our business continuity risk in relation to climate change (see page 53).

Key findings from our analysis of this 4°C aligned scenario are:

- physical risks are more material than transition risks; and
- we will be most vulnerable to physical risks at our UK and US operations due to the combination of our significant operational presence and physical risk exposure.[2]

Outcomes of climate scenario analysis
Further details on how these scenarios have been considered in preparing our financial statements are set out in the Notes to the Consolidated Financial Statements (see page 117).

These scenarios will be further developed in 2022 for incorporation into annual strategic and financial planning processes.

Climate-related risks and opportunities

The scale of ambition and speed of change required to meet both our Group, wider sector and nationally determined net zero emission targets, along with the changes in temperature and weather patterns, present both risks and opportunities to our business. The assessment and management of climate-related risk and opportunity is an integral part of our enterprise risk management process (see pages 52 to 53). This looks to understand the risks to our objectives and sets common assessment criteria across the Group so that risks, including those arising from climate change, can be assessed and compared across the Group. Risk owners are accountable for managing their risks effectively, with risks subject to review and oversight based on their materiality.

In 2019, a principal risk related to climate change, specifically the potential of risk to future revenue changes as a result of failure to transition to an inherently lower carbon product portfolio, was developed and added to our Group risk register (see pages 54 to 57). This principal risk was identified through a range of processes, including horizon scanning, the work undertaken on climate scenario development and inputs from subject matter expertise (such as our environmental advisory committee) and other stakeholders. The Chief Executive is recognised as risk owner for the climate-related principal risk, and the Safety, Ethics & Sustainability Committee has delegated oversight. More detail on our treatment of the climate change principal risk is detailed on page 55.

Broader climate-related risks and opportunities can manifest themselves beyond those described in the principal risk. The assessment is based on the risks and opportunities set out in the TCFD guidance and our view of the most material risks and opportunities with input from across the business and external sources.

A summary of the climate-related risks and opportunities identified as having a potentially material impact on the Group, and our associated controls, includes:

[1] Under each scenario our analysis considered both physical and transition risks. Our assessment suggests that in the 4°C scenario the physical risks are more material than the transition risks.
[2] Vulnerability to hazards does not mean that risks will be realised. Whether vulnerability translates into risk depends on the exposure (location) of individual assets relative to projected changes in climate hazards, as well as any site-specific resilience measures in place.

RISKS*

RISK TYPE	POTENTIAL IMPACTS	OUR RESPONSE
Transition risks including: – Policy and legal technology market and reputation – Timeframe: short, medium and long term – Impacted businesses: Civil Aerospace and Power Systems	– Reduced sale or use of our existing products; including as a consequence of: government policy, increased cost (including resulting from carbon taxes), customer behaviour (including as a result of sector stigmatisation), or substitution with lower carbon alternatives – Fines or litigation for climate damage – Asset write downs – Higher financing costs	As set out above our response is focused on four key areas: – Investing £30m in our facilities so that they are net zero by 2030 – Improving the fuel efficiency of our products – Investing in our products so that they are capable of using 100% sustainable fuels – Investing in new technologies such as electric propulsion and hydrogen fuel cells
Physical risks including: – Chronic and acute – Timeframe: short, medium and long term – Impacted businesses: all	– Increased capital costs as a result of damage to facilities – Reduced revenues from decreased production capacity (e.g. supply chain interruptions) or disruption to customer operations	As set out in our business continuity risk, see page 55, our approach is, where possible, to have a resilient supply chain, both internally and externally and to put in place controls to respond quickly to limit the impact of any event should it occur.

OPPORTUNITIES*

OPPORTUNITY TYPE	POTENTIAL IMPACTS	OUR RESPONSE
Energy source	– Shift toward decentralised energy generation	As set out in our Chief Executive's Review, see pages 6 to 8, our Power Systems and Defence businesses, alongside our New Markets businesses, envision significant opportunities to come from the clean energy transition.
Products and services	– Development and/or expansion of low emission goods and services – Development of new products or services through R&D and innovation	See our response to transition risk above.
Markets	– Access to new markets	Our New Markets businesses (see page 32) are focused on addressing the opportunities created by the transition to net zero. They will develop new sustainable products for future markets.

* A limited number of risks and opportunities which were perceived to have the potential to be material have been identified. This work will continue in 2022.

As detailed on page 53, the risk level associated with the principal risk related to climate change has increased during 2021. Moreover, we recognise that our emissions go up between now and 2030 as the decarbonisation levers we are pursuing scale, and markets recover post COVID-19 (see page 37).

This also presents opportunities articulated in the strategy section, (see pages 9 to 12). Our strategic ambition to lead the transition to net zero carbon and our agreed targets are designed to pivot climate change from an existential threat to an opportunity to refocus and grow. Definitions of net zero, positioning our role as part of the solution and sufficiently robust delivery plans will be key to bringing our strategic vision to life. Our strategic objectives recognise this, we acknowledge that these are bold ambitious targets and the risk that we don't achieve them is also now reflected as a principal risk.

Our short-term financial plans include funding required to progress against our climate change commitments. Our capital investment approach has been updated this year to make climate change a key consideration when allocating capital (see page 19). Our longer-term plans also set out ambitious growth targets for our low and net zero technology businesses.

As described above and in our principal risks, climate change presents both threats and opportunities for the Group and the financial impact on the Group will be dictated by our ability to mitigate the threats and exploit the opportunities.

Net zero by 2050: metrics and targets to measure progress

The foundation of our decarbonisation approach is our commitment to reach net zero carbon across our value chain by 2050, ratified through our participation in the UN Business Ambition to 1.5°C campaign and involvement in the Race to Zero initiative. To monitor progress against our 2050 net zero carbon commitment we have established a suite of interim milestones and targets over the shorter term. During 2022, we will supplement these targets with further measures as we look to achieve Science Based Targets initiative (SBTi) accreditation.

SHORT AND MEDIUM TERM DECARBONISATION TARGETS

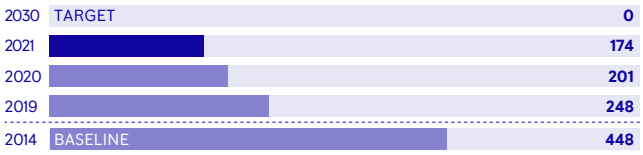
EMISSION	TARGET	2021 PROGRESS HIGHLIGHTS
Operations and facilities (scope 1 + 2)	Achieve net zero GHG emissions from operations and facilities by 2030	– Reduced emissions by 27 $ktCO_2e$ from 2020 – Continued investments in energy efficiency improvements – Commissioned second ground source heat pump at Bristol, UK site
Product testing (scope 1)	Use SAF for 10% of Civil Aerospace and Defence UK product testing regime by 2023	– Secured fuel supply to meet testing demand
Product portfolio (scope 3)	Certify *mtu* Series 2000 and 4000 series reciprocating engines to run on sustainable fuel by 2023	– Successfully tested *mtu* Series 2000 and 4000 reciprocating engines on 100% sustainable fuels – Certified the *mtu* Series 4000 reciprocating engines for the 50Hz markets to run on sustainable fuels
	Prove compatibility of all in-service Civil Aerospace engines and all major in production Defence engines with 100% SAF by 2023	– Successfully flight tested Trent XWB-84 and Trent 1000 TEN on 100% unblended SAF – Ground tested Pearl 700 on 100% unblended SAF

Our 2050 commitment is supported by a suite of short and medium term targets and metrics related to various categories of our emissions footprint and other environmental targets, such as our responsible consumption targets (see page 45), which do have an inherent carbon impact.

Each business is responsible and held accountable for delivering its agreed metrics and targets that relate back to the Group's agreed sustainability priorities and targets dashboard, and also the remuneration policy targets (see pages 87 and 88).

One such target is to reduce the GHG emissions related to our operations and facilities (scope 1 + 2 emissions) to net zero by 2030. During 2021, absolute emissions of GHG associated with our operations decreased by 27 $ktCO_2e$ to 174 $ktCO_2e$ from 201 $ktCO_2e$ in 2020. In 2021, we commenced installation of a second ground source heat pump project at our Bristol, UK site. Due to become fully operational in spring 2022, this will deliver annual cost savings of approximately £0.7m, and reduce operational emissions by 0.8 $ktCO_2e$, per annum. This project represents a key step forward in our journey to reach net zero carbon from operations and facilities.

ABSOLUTE GHG EMISSIONS ($ktCO_2e$) [1,2,3,4]



Further details of our GHG emissions are published on page 212. This includes a breakdown of our scope 1 + 2 emissions data, reported in accordance with the Streamlined Energy and Carbon Reporting (SECR) requirements.

Disclosure of scope 3 emissions

During 2021, we published details of our estimated total emissions footprint, including scope 3 GHG emissions, as we set out our plans to reduce emissions associated with the use of sold products. This included estimations based on best available data and methodology at time of publication. In preparing this report we have considered the completeness and robustness of the scope 3 emissions calculations used at that time and have decided not to include that data in these disclosures. For this reason we consider ourselves to not be in full compliance with the TCFD requirements at this stage. During 2022, we will focus on maturing our reporting process to enable future disclosure.

[1] Emissions associated with product test and development, critical to ensuring product safety, are excluded from our GHG target. Statutory GHG emissions data, including emissions from these sources, are detailed on page 212.
[2] External assurance over the GHG data is provided by Bureau Veritas. See page 211 for the Sustainability Assurance Statement.
[3] Data has been reported in accordance with our basis of reporting, available at rolls-royce.com/sustainability
[4] Bergen Engines and Civil Nuclear data is included. ITP Aero is classified as a discontinued business in line with 2021 financial reporting. Therefore, 2021 and historical data excludes ITP Aero.

TCFD RECOMMENDATIONS

This table outlines where our TCFD recommendations can be found. We believe our approach is consistent with nine of the 11 TCFD recommendations. The two we are inconsistent with are: strategy, part C, relating to the assessment of organisational resilience in the face of climate change; and metrics and targets, part B, relating to scope 3 emissions disclosure. Our explanations can be found on page 39 and 42.

		RECOMMENDATION	PAGE
Governance	A	Board oversight of climate-related risks and opportunities	38
	B	Management's role in assessing and managing climate-related risks and opportunities	38 to 39
Strategy	A	The organisation's identification of climate risks and opportunities it faces over the short, medium, and long term	39 to 41
	B	Consideration of the impact of climate risks and opportunities on the organisation's business, strategy, and financial planning	36, 39 and 117
	C	Resilience of the organisation's strategy, taking into consideration different climate-related scenarios	39
Risk management	A	Presence of the organisation's processes for identifying and assessing climate-related risks	40
	B	Processes for managing climate-related risks including prioritisation methods	40 to 41
	C	Processes for identifying, assessing, and managing climate-related risks are integrated into overall risk management	40 to 41
Metrics & targets	A	Disclosures of metrics used to assess climate risks and opportunities in line with strategy and risk management processes	41 to 42
	B	Disclosure of greenhouse gas emissions and the associated risks	42 and 212
	C	Presence of targets used to manage climate risks and opportunities and performance against targets	41 to 42

RESPONSIBLE CONSUMPTION

Understanding and managing our impact across our value chain is a key part of being a responsible and resilient business. We are committed to reducing the environmental impact and enhancing the operational resilience of our facilities and supply chain.

Responsible consumption of resources ensures we are a more resilient business and contributes towards a more sustainable society. This requires us to innovate throughout our value chain; considering which raw materials we use and how we procure them; how we design and manufacture products; and how we manage our products at the end of their life. We are committed to minimising the negative impact of our business activities and enlisting the support of our partners in the value chain to do the same.

2021 HIGHLIGHTS

Launched new recycling and recovery target

Initiated new sustainable procurement framework

Operations and facilities

Across our global estate we seek opportunities to reduce our environmental impacts and increase our operational resilience. Our governance framework, including our health, safety and environment policy, sets out common practices all Rolls-Royce sites follow, alongside compliance with local legislative requirements. We focus particularly on opportunities to: optimise energy use; reduce GHG emissions; reduce waste and optimise material efficiency; and reduce water use. During 2021, we continued to progress our footprint consolidation and upgrade programme, including concluding a major overhaul of our Indianapolis, US facilities.

Moving towards a circular economy

The significant aftermarket and maintenance requirements of our products, which often run for decades, means the incentive for circularity and resource efficiency is deeply embedded in our business model. Through our revert programme, we are leaders in high-value metal recycling and, with an innovative approach to our manufacturing technology strategy, we are driving significant improvements in the efficient and responsible use of water, energy and consumable resources.

At the beginning of 2021, we introduced a new target to increase the recycling and recovery rate to 68% by 2025, whilst maintaining zero non-hazardous waste to landfill. Moving up the waste management hierarchy, this target incentivises circularity by keeping materials within the value chain and avoiding waste being sent to incineration or landfill. We have made good progress towards our target in 2021, increasing the recycling and recovery rate to 60.8% from 59.6% in 2020. This has been driven by rapid adoption of best available technology and improved segregation. We are continuing to experience reduced production, engine overhaul and site consolidation due to the impacts of COVID-19, and in turn, less recyclable waste compared to 2019, our baseline year.

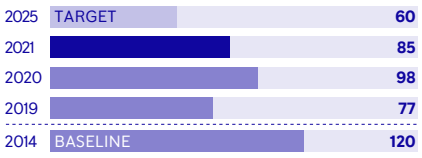
As part of the recycling and recovery target, we are continuing to explore options to recover the remaining waste streams from our previous waste to landfill target. This includes a significant amount of foundry sand from our Pascagoula, US facility, where local requirements have hindered our ability to identify a plausible recovery route to date. In 2021, operations and activity at the Pascagoula facility increased, causing the volume of waste being sent to landfill to rise to 3.7 kilotonnes.

Building a resilient, sustainable supply chain

Our ability to succeed is dependent on the resilience and sustainability of our supply chain and we have a responsibility to support our partners in mitigating the impact of our supply chain activities. Through our business practices, including our supply chain due diligence, we aim for compliance with our Supplier Code of Conduct.

In 2021, we completed a comprehensive review of our sustainable procurement strategy and introduced a new sustainable procurement plan. This aims to enhance the integration of sustainability into our existing supply chain management processes. This includes enhancing tier 1 supplier due diligence across environmental, social, ethical and governance criterion through a third-party platform; and working to identify high carbon impact areas of our supply chain for prioritised engagement to identify opportunities to reduce our scope 3 emissions.

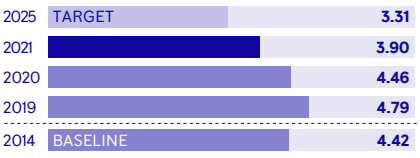
ENERGY CONSUMPTION (MWh/£m)



Target:
Reduce normalised energy consumption by 50% by 2025 [1,2,3,4]

We have made good progress to date towards our 2025 target, reducing absolute energy consumption by 465,920 MWh (33)% since 2014. This was driven by energy efficiency improvements and the continuation of our baseload reduction campaign involving weekly monitoring of our production sites. Significant infrastructural improvements were also enabled by a temporary shutdown of several UK sites due to the impacts of COVID-19. In 2021, normalised energy consumption was 85 MWh per £m, a 29% reduction since 2014.

TOTAL SOLID AND LIQUID WASTE (t/£m)



Target:
Reduce solid and liquid waste by 25% by 2025 [1,2,3,4]

We continue to focus on opportunities to prevent waste generation. This year, in partnership with a key facility management supplier, we hosted innovation campaigns to generate employee-led ideas and actions to reduce waste, whether in our office or manufacturing facilities, or in the virtual workplace. The outputs of these campaigns will be incorporated into our ongoing waste management activities. The total amount of solid and liquid waste generated in 2021 was 43.8 kilotonnes. Normalised total liquid and solid waste was 3.90 kilotonne/£m, a 12% reduction since 2014.

RECYCLING & RECOVERY RATE (%)

Target:
Increase the recycling and recovery rate to 68% by 2025 [1,2,3]

In 2020, we replaced our previous zero waste to landfill target with a new target aimed at increasing the recovery and recycling of materials across our production, manufacturing and overhaul activities. We continue to concentrate on diverting waste from landfill where possible. In 2021, 3.7 kilotonnes of waste were sent to landfill, a 44% reduction since 2014. In 2021 the recycling and recovery rate was 60.8%.

[1] External assurance over the energy and waste data is provided by Bureau Veritas. See page 211 for the Sustainability Assurance Statement.
[2] Data has been reported in accordance with our basis of reporting. More data charts and our basis for reporting is available at rolls-royce.com/sustainability
[3] Bergen Engines and Civil Nuclear data is included. ITP Aero is classified as a discontinued business in line with 2021 financial reporting. Therefore, 2021 and historical data excludes ITP Aero.
[4] Energy and total waste reduction targets are normalised by revenue.

NON-FINANCIAL INFORMATION STATEMENT

The following chart summarises where you can find further information on each of the key areas of disclosure required by the EU Non-Financial Reporting Directive.

	RELATED GROUP POLICIES	RELATED PRINCIPAL RISKS	PAGE
ENVIRONMENTAL MATTERS	— Health, safety & environment	— Climate change — Safety	36 to 45 and 212
EMPLOYEES	— Security — People	— Talent and capability — Safety	46 to 50
SOCIAL MATTERS	— Charitable contributions & social sponsorships	— Political risk	46 to 50
HUMAN RIGHTS	— People — Human rights	— Compliance	51
ANTI-BRIBERY AND CORRUPTION	— Anti-bribery and corruption	— Compliance	51

— Our business model provides an insight into the key resources and relationships that support the generation and preservation of value within Rolls-Royce. See pages 14 and 15.
— Non-financial key performance indicators allow us to assess progress against objectives and monitor the development and performance of specific areas of the business. These are set out on page 17.
— Further information on Group policies can be found on rolls-royce.com
— Full details of the Group's principal risks can be found on pages 52 to 57.
— TCFD recommendations are detailed on pages 36 to 43.

PEOPLE AND CULTURE

We are powered by our people. We strive to release their full potential to position Rolls-Royce as a leading industrial technology company, delivering sustainable business growth and solving vital power needs.

2021 HIGHLIGHTS

Evolved new ways of working to enable delivery throughout and beyond the COVID-19 pandemic

•

Largely completed on our restructuring commitments whilst ensuring we retained key capabilities

•

Focused on inclusion and diversity and made significant progress

•

Continued our focus on leadership enablement, talent and capability

•

Launched a new learning brand to support our always-learning culture – Leatro

In a year that was again dominated by the impact of COVID-19 and the return to a new normal we continued to focus on keeping our people safe whilst ensuring our essential operations continued. Our fundamental restructuring programme has largely been completed, which included making substantial headcount and employment cost reductions. We further resized and reshaped the business, through the establishment of new businesses such as Rolls-Royce SMR and through our disposals programme.

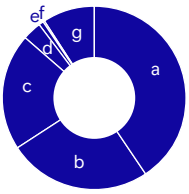
We worked hard to retain, motivate, and inspire our people through the challenges of a continuing global pandemic. We supported our people to continue working from home, where possible, and further embedded flexible and hybrid ways of working. We continued to transform our culture through our values and behaviours and focused on leadership capability, diversity and inclusion and employee engagement. Our approach to people and culture is underpinned by our people framework and our care promise remains central to everything we do, creating a working environment where everyone can be at their best.

Health, safety and wellbeing

Ensuring the wellbeing of our people, and those who work with us, by providing a safe place of work and minimising potential exposure to harm, is a key component of our care promise. We have continued to work with employees and their representatives to maintain a COVID-19 secure work environment and, to date, have been able to continue our operations without disruption. As lockdowns have lifted, we have reopened office facilities and welcomed employees back. A feature of the pandemic has been the different waves and phases that have occurred regionally.

OUR PEOPLE FRAMEWORK

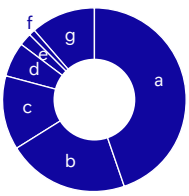
44,000 EMPLOYEES TOTAL (MONTHLY AVERAGE) *



a. Civil Aerospace	17,900
b. Defence	11,100
c. Power Systems	9,100
d. Other businesses	1,400
e. New Markets	400
f. Corporate	100
g. Discontinued business (ITP Aero)	4,000

* Segments are defined in note 2 on page 131. ITP Aero is included in headcount as a discontinued business (4,000).

EMPLOYEES IN 49 COUNTRIES (MONTHLY AVERAGE) *



a. UK	19,700
b. Germany	9,500
c. USA & Canada	5,700
d. Spain	2,700
e. Singapore	900
f. India	600
g. Rest of World	4,900

* Employee headcount data represents permanent employees and excludes contractors.

The third COVID-19 wave in India was particularly severe and we implemented a range of additional support measures, including the provision of home oxygen concentrators and enhanced access to medical advice for our people and their families in the region. We work closely with governments and public health bodies and benchmark widely to ensure our processes and practices are in line with legal requirements and best practice.

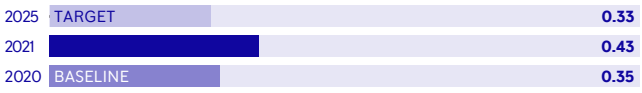
We achieved our LiveWell goal in 2020 and have used 2021 to further develop the programme ready for re-launch in 2022. In recognition of the significant mental health impact of the pandemic, we increased our focus on mental wellbeing during 2021 with further expansion of our Mental Health Champions network and roll out of our Pascal tool for assessing mental health risks in teams. We have also launched a menopause policy, menopause community of practice and a range of menopause guidance and resources to support colleagues in discussing this important topic.

This year we introduced our safety index, a composite score of five leading indicators aligned to the aspirations of our journey to zero harm strategy. The safety index supports a more balanced approach to safety performance measurement, focusing not only on lagging injury rates, but also on key leading measures designed to drive proactive behaviour and actions.

The indicators focus around five key areas: senior leadership safety walks; safety case improvement activity; HSE alert response; close-out of HSE non-conformances; and accountable person engagement. From a baseline safety index performance score of 48%, we saw a significant improvement in 2021, ending the year at 74%, exceeding our target of 58%. We are recalibrating the targets for 2022 to ensure they are sufficiently stretching and drive the desired safety activity and behaviours.

Our total reportable injury (TRI) rate in 2021 was 0.43 per 100 employees. There were a total of 192 TRIs and 12 resulted in major injuries (including two contractors) which is a 20% reduction on the previous year. There were no fatalities.

TRI RATE (PER 100 EMPLOYEES)*



* Our TRI rate shows the Group TRI performance (absolute and rate) including Bergen Engines, I&C and ITP Aero. External assurance over the TRI data provided by Bureau Veritas See page 211.

New ways of working

During 2021 we continued to implement a range of measures to manage our pay and benefits cost to support our financial position. There were no annual pay increases in 2021 across the whole Group for works, staff and management groups. Employees in Civil Aerospace took ten days of unpaid leave, with employees in the central functions taking five days. We continued to use government job protection schemes as needed across our locations, including the UK, Germany and Italy. For example, in the UK we participated in the Government Coronavirus Job Retention Scheme, benefiting from support for those of our employees who were furloughed. In December 2021, we chose to repay £626,000 of furlough assistance received for UK employees who were subsequently made compulsorily redundant. Compulsory redundancies represented around 4% of total UK redundancies through 2020 and 2021. We have continued to make changes to our total reward arrangements to manage costs and to remove inequality between employee groups linked to tenure. These changes included the closure of defined benefit pension arrangements to future build-up of benefits in the US and Canada and the termination of our company car scheme in the UK. We also implemented a new remuneration structure across the Group linked to the new incentive policy approved by shareholders at the 2021 AGM (see pages 87 to 88). The new incentives reinforces our focus on rewarding performance, with a strong link to the commitments made to stakeholders at the point of the rights issue in 2020.

We have continued to engage with our employee representatives throughout this period with a view to ensuring that our pay and benefit arrangements are competitively positioned and sustainable for the future. Due to the scale and nature of the necessary changes this has continued to be challenging, but overall, our approach has remained collaborative. In response to our proposed site consolidation, we experienced a further period of industrial action at our Barnoldswick, UK site but this was resolved with an agreement supported by the local workforce. We will continue to work closely with our employee representatives to deliver the productivity and efficiency improvements which are vital for the future competitiveness of the Civil Aerospace UK workforce. This includes modernising our ways of working with our trade unions and simplifying employee terms and conditions.

Many of our people adapted to new ways of working through the COVID-19 pandemic, including working remotely, and this has continued for an extended period throughout 2021. We engaged our people in considering new ways of working for return to our new normal and to support everyone to work in a way that enables them to be at their best. Building on the largely positive experiences of our people we have refreshed and updated our approach to flexible and remote working. We recognise that one size does not fit all, and that support for flexible and hybrid ways of working can help employees perform better and enable us to attract and retain a more diverse range of talented people. We believe it is about balance – balancing the needs of the individual, the team and the business. We will continue to assess the effectiveness of our approach, updating our policies as needed. We have supported this by enhancing our IT platforms, providing more digital learning, and coaching our leaders on new ways of working. We have reinforced our commitment to flexible working for the long term.

Continued restructuring

Our 2020 fundamental restructuring was focused on short-term mitigation measures to secure liquidity and longer-term restructuring to resize the business whilst accelerating progress on culture and leadership. This year we continued to focus on delivering on our 2020 commitments and implementing the changes required to reshape

the business. We continued to embed the output from the strategic review of our facilities, to balance load and capacity, reduce our costs and consolidate activity from multiple into fewer core sites. We closed our Crosspointe facility in the US and our Singapore Assembly and Test facility.

We enhanced the strong progress we made in restructuring last year (removing over 7,000 roles in 2020) and have removed further roles in 2021, achieving over 9,000 role reductions from continuing operations. As in 2020, most of those who left the business left on voluntary terms. These difficult but necessary changes will help generate recurring operational benefits for the Group and, along with our mitigating actions to preserve cash, have significantly contributed to our in-year cost reduction targets.

Start of year headcount[1]	End of year headcount[1]	Number of roles removed[2]
46,619	44,676	1,943

[1] Headcount includes contractors as well as permanent employees.
[2] Change based on year-end 2020 and year-end 2021 actuals. This includes ITP Aero and Bergen Engines and has not been adjusted to reflect any M&A activity.

Throughout our restructuring, we proactively focused on talent, making sure that, where possible, we did not lose capabilities critical to our future success, or negatively impact our diversity. This included continued utilisation of our redeployment talent hub, established during 2020, to maximise the quality and quantity of critical talent retained in the business and has included making some internal transfers of key capabilities.

Leatro our new Rolls-Royce learning brand

Learning and technology sit at the core of our culture and our business. As a future-focused organisation we are always looking to push the boundaries. To pioneer what has never been done before and to enable innovation we must all learn for tomorrow, not just today. In May this year, to coincide with Learning at Work Week in the UK, we launched our new, trademarked, learning brand Leatro. The creation of this dedicated brand for learning signifies a new era of learning culture at Rolls-Royce. Under the banner of this new learning brand, colleagues are empowered and enabled at every point of their career with Rolls-Royce – able to learn in a style, and at a pace, that suits them anytime and anywhere.

Enabling and inspiring our people

The impact of COVID-19 and the subsequent restructuring created an even greater need to focus on enabling, inspiring and retaining our people this year. We launched our new, trademarked learning brand, Leatro, and in the seven months from launch to year-end, we have seen over half a million colleagues learning engagements via the new online platform (the volume of colleagues engaging with learning content). The amount of time our people are choosing to invest in learning through the site is increasing month-on-month, which provides a great indicator of improvement in our learning culture as our colleagues become more curious about the opportunities available through Leatro. Aligned with external developments, the way we deliver learning is changing and this year we have continued to focus on enabling learning in different ways and via different means. Our investment in learning in 2021 was £13.3m (2020: £13.5m) and we delivered around 0.25 million hours of formal learning (2020: around 0.5 million).

This reduction in formal hours of learning demonstrates our transition to a new learning culture at Rolls-Royce; one where colleagues are engaging with on-demand informal learning content far more than formal (e.g. face-to-face) learning. Our investment in learning this year focused on new on-line resources, content and enhanced digital tools, thereby enabling us to deliver both greater learning and skill development opportunities via informal learning engagements, alongside formal learning hours where relevant, for the same level of investment. To further drive our new learning culture within the organisation, in the second half of the year we launched Leatro Live. This is a guest speaker series of short talks from inspiring people, subject matter experts and pioneers. It is available via live-streaming and in-person to enable rapid inspiration in an entirely new and easily accessible, learning format. To embed our #alwayslearning culture across the organisation we have also run regular learning stories by our people, demonstrating how they have successfully integrated learning into the flow of work.

Continuing our focus on leadership capability in 2021, we committed to enabling all of our existing first and second level leaders to undertake our flagship leadership development programmes to accelerate the development of our organisational leadership capability. In 2021, we have seen 1,156 leaders enrolled on one of these formal development programmes. Alongside these formal programmes we have further developed our digital leadership toolkit providing our leaders with essential support to enable them to successfully lead their teams. New learning tools have focused on supporting our leaders with the shift in leadership capability, and new ways of working, that are needed post pandemic. Since launch in 2020, utilisation of this valuable resource has reached 185,000 learning engagements. Our new learning approach, and specifically the digital leadership toolkit has been recognised externally as innovative and impactful this year and we have been shortlisted as finalists in the Innovation in Learning Award category for the Learning and Performance Institute (LPI) Learning Awards 2022 as well as in the Learning Tools and Technology and Outstanding Innovation categories for the Learning Excellence Awards 2022.

Employee engagement

Employee engagement continues to be a priority and is a key measure in our incentive plans. We believe that positive engagement is the result of excellent leadership and a working environment where everyone can be at their best. Our approach remains a mix of locally-driven and Group-wide global engagement. We provide a variety of channels to communicate and engage our employees and their representatives including employee newsletters, magazines and team briefings, as well as our digital communication channels, such as Yammer. Our Executive Team has continued to hold regular 'YamJams' this year where all employees can direct questions to our leaders who will provide a response live, or as a follow up, posted on Yammer. We also work closely

with elected employee representatives through well-established frameworks, including our European Works Council. Our incentive schemes and share programmes are made available to all our people.

Our non-financial KPIs are on page 17. External assurance over the employee engagement scores is provided by Bureau Veritas (see page 211 for their Sustainability Assurance Statement).

This year, we ran our fourth Q12 employee engagement survey since partnering with Gallup in 2019. This simple survey provides our measure of engagement and a tool for our managers to implement local improvements. We also focused on providing more data and tools to our leaders to enable them to plan and lead their teams effectively. We achieved an increased participation of 76% and a Group grand mean score of 3.73 out of 5.00. This increase of +0.05 since 2020 and +0.20 since 2019, shows we remain on target to achieve top quartile scores by the end of 2023.

Community and STEM Outreach

Our community investment activities build positive relationships in the communities around us and create engagement opportunities for our people. Our community investment activities are part of our societal responsibility as a sustainable business. We work with local partners to understand issues, define objectives and evaluate impacts within a global framework. Together, we develop activities to meet local needs and particularly focus on groups disadvantaged by social and economic factors. Programmes create motivational opportunities for our people to support their communities and inspire future generations as role models and educators.

In 2021, global community contributions totalled £2.73m, including £1.79m in cash donations, and this included £0.53m raised by reclaiming and selling the shares of gone-away shareholders (those the Company has been unable to contact for 12 years). Projects supported include tackling the digital divide for young people in education in the UK and Germany; our Unnati programmes supporting STEM education and skills training for girls and women facing economic challenge in India; and, Habitat for Humanity's Women Build programme to provide homes for financially disadvantaged families in the US.

Our people remain at the heart of our programmes and, although employee time contributed was significantly lower than pre-pandemic levels at 26,427 hours during 2021, we continue to enable their participation as COVID-19 restrictions ease.

The majority of our investment supports STEM education and we reached 0.65 million people through our STEM programmes in 2021. We are now 33% towards our target to inspire 25 million of tomorrow's pioneers by 2030. Our STEM education programmes link strongly to our purpose to develop new technology to support a low-carbon economy and the drive to net zero. During 2021 we developed digital resources to sustain STEM outreach whilst activities were limited by COVID-19, such as those linked to our ACCEL programme to accelerate development of electric flight.

Continued focus on diversity and inclusion

In a year that continued to deliver challenges because of COVID-19 we maintained our focus on creating an inclusive and more representative employee population. This year we have matured our diversity and inclusion strategy, driving towards our 2025 targets through our four key pillars: leadership and governance; attracting and recruiting; retention; and, development.

We have continued our response to supporting ethnically diverse employees following the Black Lives Matter (BLM) events in 2020. Following listening sessions with black employees, we are implementing a strategy that has included increased external communications; flying black solidarity flags across multiple sites; leadership intervention from our Executive Team supporting anti-racism events and promoting black role models. We have also continued to progress our anti-bullying and harassment programme Treating everyone with dignity and respect. One of our Employee Resource Groups (ERGs) launched an employee handbook as a tool to help all of our people better support our black colleagues. We have also created a new development programme called Connect and Belong, as a direct result of our BLM listening events, which is focused on supporting career progression for our ethnically diverse employees.

Other highlights in 2021 include:

- increased representation of women in senior positions – notably recruitment of our first female Chair of the Board and female Chief Technology Officer as well as the appointment of a female Chief People Officer;
- new learning materials developed to support all of our leaders in creating an inclusive culture and leading inclusively;
- our successful Next Generation programme for developing female leaders was expanded across more of our Group;
- the launch of our new mandatory D&I learning for all including e-learning on the importance of D&I along with tools and techniques for our people to use to help create a more inclusive workplace; and
- we achieved our goal of becoming a Stonewall Top 100 employer, reaching 44th on their LGBTQ+ Workplace Equality Index. This has taken over five years of making steady progress around LGBTQ+ inclusion and sets us apart as one of very few engineering and manufacturing organisations to achieve this status. Alongside this, we also achieved a perfect score in the US Human Rights Campaign Corporate Equality Index for LGBTQ+ equality for the fifth consecutive year.

This year we also maintained our focus on increasing the diversity of our external hires. We launched a successful hiring campaign focused on reaching a more diverse population. 23% of all global hires were female this year compared with 19% in 2020. 14% of hires in the UK and 31% of hires in the US were of ethnic minority backgrounds. We have been recognised for our good work in this area and were voted best employer brand at the LinkedIn talent awards, and have also been awarded star employee status by Investing in Ethnicity for the progress of our ethnicity strategy.

In early careers we increased our female graduate hires globally from 19% in 2020 to 37%. In the UK, 32% of our apprentice hires were female and 29% were of ethnic minority backgrounds. The Talent Acquisition team were winners at the National Graduate Recruitment Awards and we were named Graduate Employer of Choice for Engineering by the Times Graduate Recruitment Awards.

We give full and fair consideration to all employment applications from people with disabilities. If an employee becomes disabled whilst working for us we take steps to support their continued working including, wherever possible, making adjustments to ways of working. All employees can take advantage of our learning programmes, often available online, and promotion opportunities are open to all employees regardless of any disabilities. We conduct annual gender pay reporting in the UK, and although our pay gap is largely unchanged from 2019 we continue to increase the number of women at all levels. We ensure that our employment benefits, both remuneration and ways of working, are flexible and competitive in the market place. We supported the FTSE Women Leaders review, which built on the excellent work of the Hampton-Alexander and Davies reviews over the last ten years and our 2021 submission highlighted our progression showing that our executive committee direct reports are 34% female.

Diversity and inclusion are integral to our strategy: to pioneer and push the boundaries of new technologies we must attract, inspire, and retain a diverse population. Diversity of thought brings positive challenge, which encourages people to work smarter and delivers better performance and sustainable profitability through innovation and problem solving. As we begin to see signs of recovery following the pandemic, we are taking deliberate action to create a more balanced and representative employee population. Diverse role models inspire future generations to join us and inclusive cultures encourage them to build their careers with us.

This year we were delighted to welcome our new Chair of the Board, Anita Frew and a new Chief Technical Officer (CTO) Grazia Vittadini to the Company, as well as appointing our new Chief People Officer, Sarah Armstrong who commenced her role with the Executive Team in January 2022. During the selection process we focused on diversity in our candidate pools and equality of opportunity throughout the process. Throughout 2021 we have also focused on our succession planning making sure that we continue to grow our gender and ethnic diversity at all levels.

Diversity and inclusion remain key priorities for us and this year we have also focused on action planning within the businesses to meet their challenging 2025 targets that we set in 2020 both on gender diversity globally, and ethnic diversity representation in the UK and US. We continue to make progress and we will maintain our focus on diversity action and fostering an inclusive culture that enables us to attract, develop and retain the right people to deliver business success now and in the future.

Female diversity percentage tracking and 2025 targets

	2020	2021	2025 Target
Board	31%	38%	40%
Executive Team	0%	9%	33%
ELG	20%	21%	35%
Senior leaders *	19%	20%	30%
All employees	17%	17%	25%

* The data for diversity information is showing permanent employee year-end actuals. It includes ITP Aero and Bergen Engines.

Ethnic diversity percentage tracking and 2025 targets for UK and US *

	2020	2021	2025 Target
UK ethnicity	10%	10%	14%
US ethnicity	15%	15%	20%

* For ethnicity information we are only able to monitor and track this in the UK and US and therefore this only includes businesses in these locations. The population is only those who have chosen to disclose this information.

Gender diversity actuals as at 31 December 2021

	Female	Male	Total	Female %
The Board	5	8	13	38%
Executive Team	1	10	11	9%
ET, Chief Governance Officer and direct reports	28	60	88	32%
Senior leaders *	19	76	95	20%
All employees	7,264	36,366	43,631	17%

* Senior leaders are defined in the Companies Act 2006 (as those who have responsibility for planning and directing or controlling the activities of the entity or a strategically significant part of it.) At Rolls-Royce, we define this as the Executive Team and the Enterprise Leadership Group (ELG).

See Board diversity on page 81.

ETHICS AND COMPLIANCE

We are committed to maintaining high standards of ethics and compliance to ensure we do business in a sustainable way. We work hard to create a working environment where everyone at Rolls-Royce and those we work with can be at their best.

We aim to be proud of the way we behave, the way we do business and the way we pioneer the power that matters for our stakeholders. This means upholding high ethical standards underpinned by our values and behaviours to enable a working environment where everyone can be at their best and avoid any potential complicity in misconduct. Our Code of Conduct (Our Code) and associated Group policies and processes provide guidance on how to live up to our values in our daily decisions.

In 2021, our mandatory ethics training focused on diversity and inclusion. This comprised of team discussions on real-life cases where people had been excluded, and everyone was asked to consider how they can ensure they are being inclusive. 97% of in-scope employees completed the training (2020: 92%) by the year-end deadline. 99% of managers certified their commitment to adhere to the principles set out in Our Code (2020: 99%). We flow these principles to our suppliers through our Supplier Code of Conduct. All suppliers are contractually required to adhere to this or a mutually agreed alternative.

We actively encourage speaking up in the event of a question or concern and provide a variety of channels through which our employees and our stakeholders may do so, including the Rolls-Royce Ethics Line. Every year we issue an annual report to everyone to highlight key statistics and remind them of the importance to speak up. In 2021, we took the report fully digital and it was made available as a video report for everyone to watch.

We have a zero tolerance approach to misconduct of any kind and will take disciplinary action, up to and including dismissal, in the event of a breach of Our Code. In 2021, 45 employees (2020: 63) left the business for reasons related to breaches of Our Code.

In 2021, we continued to cooperate with the Serious Fraud Office under the terms of our UK Deferred Prosecution Agreement (DPA). The DPA expired on 17 January 2022.

2021 HIGHLIGHTS

Conducted external and independent review of our Ethics and Compliance programme

•

Introduced anti-bribery and corruption virtual training

•

Initiated a programme to enhance sustainability due diligence measures in the supply chain

Anti-bribery and corruption

Our Code and associated policies clearly set out our commitment not to tolerate bribery or corruption in any form. In 2021, all employees who have a high risk of being exposed to potential bribery and corruption were asked to complete virtual training based around four stories to help them identify and manage bribery and corruption risks. We also asked a respected external organisation to conduct an independent review of our ethics and compliance programme. They found that we have continued to evolve the programme and it is operating appropriately. There are a series of recommendations that will help us continuously improve our programme and we will implement these throughout 2022.

Human rights and anti-slavery

With reference to international standards, our human rights policy sets out our commitment to respect the human rights of our employees, and those who may be impacted by the operations, products and services in our value chain.

We operate in accordance with human rights and humanitarian law through strict compliance to strategic export laws and other sanctions regulations in the countries where we operate, particularly in the sale of products with dual use or defence application. Our activities to identify, assess, mitigate and prevent human rights related risks are embedded within our operating and decision making practices and global governance framework. We are committed to investigating cases where our activities may have a potential or actual adverse impact on human rights. This topic has oversight from the board level Safety, Ethics & Sustainability Committee (see page 105).

During 2021, we focused on strengthening our processes to protect the rights of employees in our supply chain. This included completing a comprehensive review of our sustainable procurement strategy and onboarding a third-party platform to conduct more in-depth sustainability assessments, including human rights criteria, with our supply chain partners.

Find more information on our anti-slavery and human trafficking statement; Group policies and materials stewardship page at rolls-royce.com

For more information on our ethics approach see the Safety, Ethics & Sustainability Committee report on page 105 or view 'At our Best: Our Approach' document available at rolls-royce.com

PRINCIPAL RISKS

Our risk management system

The Board has established procedures to manage risk and oversee the risk management system (RMS). The Board has also established procedures to determine the nature and extent of the principal and emerging risks the Group is willing to take in order to optimise its commercial opportunities and achieve its long-term strategic objectives.

The Audit Committee reviews the Group's internal financial controls which form a subset of the broader set of controls. Financial reporting controls are identified and subject to periodic review by the Group's internal control team. The Audit Committee, on behalf of the Board, performs an annual review of the RMS and its effectiveness. During the year, the Board completed an assessment of both our principal and emerging risks.

Our RMS is designed to identify and manage, rather than eliminate, the risk of failure to achieve business objectives and to provide reasonable, but not absolute, assurance against material misstatement or loss.

How we manage risk

Risks are identified by individuals across all businesses and functions and at many layers of the organisation by considering what could stop us achieving our strategic, operational or compliance objectives or impact the sustainability of our business model.

Risk owners assess the risk's likelihood and impact, taking into account current mitigating control activities, identifying where additional activities may be needed to bring the risk within our risk appetite.

Risk owners consider the effectiveness of current mitigating control activities in their assessment, supported by different assurance providers including internal audit. These considerations are recorded using a variety of systems and tools depending on the risk area. In managing the identified risks, judgement is necessary to evaluate the risks facing the Group in achieving its objectives, determine the risks that are considered acceptable, determine the likelihood of those risks materialising, assess the Group's ability to reduce the impact of risks that do materialise and ensure the costs of operating particular controls are proportionate to the benefit provided.

Risk owners bring the results of their assessment, current risk status and action plans to business, function and other management review forums as often as is required depending on the nature of the risk, for support, challenge and oversight. These forums include the monthly Executive Team (ET) and regular Board and Committee meetings.

At least once a year the Audit Committee, on behalf of the Board conducts a review of the effectiveness of RMS, and where required, identifies areas for improvement (more details of this review can be found on page 85). For key compliance and safety risks, the Group has a set of mandatory policies and training which set out the expectations on employees and the controls in place. Every employee is required, annually, to complete training and confirm that they will comply with the mandatory policies. The consequences of non-compliance are addressed via performance management systems that are linked to remuneration.

During the year, we continued to embed the lessons learned from COVID-19, in particular a focus on improving the quality of our risk assessments and management activities in relation to our restructuring programmes and investment review processes. We will build on this work next year with a focus on improving our internal control environment for financial and non-financial controls, continuing to strengthen our second line assurance of key controls and focused actions to improve the effectiveness of our RMS.

Principal risks

Our principal risks are identified and managed in the same way as other risks. Principal risks are owned by at least one member of the Executive Team and subject to a review at an ET meeting at least once each year, before a review by the Board or Committee.

We have reviewed our principal risks over the course of the year and have updated them to reflect changes to the external environment and our strategy.

Changes in our principal risk levels

Last year we concluded that the risk levels for several of our principal risks had increased as a result of the direct impact of COVID-19 and changes to our ways of working. This year we have concluded that many of those risks remain at that heightened level with the exception of those set out below.

Increased risk: Business continuity

The global supply chain disruption described as impacting in particular our Power Systems business in 2021, (see page 30) will continue to have an impact in 2022. Additionally, as described above, physical climate change risks are considered as part of business continuity which captures the acute risks to our supply chain and operational facilities that may arise because of climate change. As climate change causes global temperatures to rise, the physical risks to our business from climate change will increase, with disruptions likely to be more frequent and severe if global temperature rise is not limited to 1.5°C (see page 36).

Increased risk: Climate change

Climate change risks are managed and assessed in the same way as all other risks. The transition risks may include extensive policy, legal, technological, and market changes and physical risks could include direct damage to assets and supply chain disruption. These risks are captured as part of this principal risk, with opportunities included as part of our strategic transformation principal risk. Physical risks are considered as part of business continuity which captures the acute risks to our supply chain and operational facilities that may arise because of climate change. The focus and scrutiny of all stakeholders including investors, governments, organisations and consumers on the potential impact, likelihood and timing of climate change has increased in the last year. We believe we have a critical role to play in leading the decarbonisation of complex power applications and our strategic transformation risk sets out the importance to the Group of capturing these opportunities.

Risks include demand for our existing products and services reducing at a quicker rate than demand for new net zero carbon sources increases. In addition, the global nature of our supply chain and customer base means that operational disruptions may become more common. Carbon taxes may increase. A failure to decarbonise could result in products' in-service life being reduced (e.g. through early retirement), our equity and debt becoming less attractive to investors, or our R&D projects becoming less attractive to third-party partners, increasing our cost of capital. Our transition to net zero and TCFD reporting (see page 36) sets out further considerations, scenarios and the most material transitional and physical risk factors for the Group.

In light of these changes, we have concluded that the level of our principal climate change risk as described in the table below has increased.

New and retired risks: Restructuring retired and strategic transformation introduced

As set out in the Chief Executive's Review (see page 6) and the Financial Review (see page 18), we have made good progress against our 2021 and 2022 restructuring targets, with our disposal programme expected to be completed in 2022 and cost savings delivering their expected benefits. As we look forward, it is therefore appropriate to retire the near term restructuring risk and introduce a new risk focused on achieving our longer-term objectives, as we realign our strategy to take advantage of the many opportunities we see, particularly as we look to lead the transition to net zero carbon and meet our strategic targets designed to pivot climate change from an existential threat to an opportunity to refocus and grow.

Other specific risks

Human capital: our approach to human capital risks forms part of care promise. More detail is included in our People and Culture section on pages 46 to 50.

Human trafficking and slavery: our approach is set out under the human rights and anti-slavery section on page 51.

Our current principal risks, together with how we manage them, how we assure them (by activities and functions other than internal audit), how the Board and Committees provide oversight and how the risk levels have changed over the course of the year, are set out in the table on pages 54 to 57.

Emerging risks

We continue to review additional emerging risks that could significantly impact or challenge our current strategy and business model and these were considered by the Board in February 2022. Any emerging risks identified have been recorded in our RMS and are being managed and monitored alongside our existing risks. Our approach this year looked at Political, Economic, Social, Technological, Legal and Environmental factors (PESTLE) to identify emerging risks and was complemented by a review of the technology risks lead by the Chief Technology Officer and shared with our Science & Technology Committee.

Change in risk level: ↑ Increased <> Static ↓ Decreased + New risk

HOW WE MANAGE PRINCIPAL RISKS

RISK	CONTROLS	ASSURANCE ACTIVITIES AND PROVIDERS	OVERSIGHT FORUM	CHANGE
Safety Failure to: i) meet the expectations of our customers to provide safe products; or ii) create a place to work which minimises the risk of harm to our people, those who work with us, and the environment, would adversely affect our reputation and long-term sustainability.	**Product:** – Our product safety management system includes controls designed to reduce our safety risks as far as is reasonably practicable and to meet or exceed relevant company, legal, regulatory and industry requirements. – We verify and approve product design. – We test adherence to quality standards during manufacturing. – We validate conformance to specification for our own products and those of our suppliers. – We mandate safety awareness training. – We use engine health monitoring to provide early warning of product issues. – We take out relevant and appropriate insurance.	**Product:** – Product safety assurance team – Technical product lifecycle audits	– Safety, Ethics & Sustainability Committee – Product safety boards	<>
	People: – Our HSE management system includes activities and controls designed to reduce our safety risks as far as is reasonably practicable and to meet or exceed relevant company, legal, regulatory and industry requirements. – We reinforce our journey to Zero Harm. – We use our crisis management framework.	**People:** – Safety case interventions – HSE audit team	– Safety, Ethics & Sustainability Committee	
Strategic transformation We see significant opportunities in leading the transition to net zero by pioneering the power that matters. Our strategy is to focus on delivering our plans for existing and nascent businesses and to focus on exploiting opportunities to grow into new net zero areas, both organically and inorganically. Failure to execute this plan will prevent us from achieving our longer-term ambitions.	– Regular market assessments. – Financial modelling, scenario planning and sensitivity analysis. – Allocating capital in accordance with our strategic objectives.	– Strategy and business performance reviews	– Board	+

RISK	CONTROLS	ASSURANCE ACTIVITIES AND PROVIDERS	OVERSIGHT FORUM	CHANGE
Business continuity The major disruption of the Group's operations, which results in our failure to meet agreed customer commitments and damages our prospects of winning future orders. Disruption could be caused by a range of events, for example: extreme weather or natural hazards (for example earthquakes, floods) which could increase in severity or frequency given the impact of climate change; political events; financial insolvency of a critical supplier; scarcity of materials; loss of data; fire; or infectious disease. The consequences of these events could have an adverse impact on our people, our internal facilities or our external supply chain.	– We invest in capacity, equipment and facilities, dual sources of supply and in researching alternative materials. – We provide supplier finance in partnership with banks to enable our suppliers to access funds at low interest rates. – We hold safety stock. – We plan and practise IT disaster recovery, business continuity and crisis management exercises. – We undertake supplier diligence. – We take out relevant and appropriate insurance.	– Investment reviews – Supplier strategy and sourcing reviews – Group security and resilience team	– Audit Committee	↑
Climate change We recognise the urgency of the climate challenge and have committed to net zero carbon by 2050. The principal risk to meeting these commitments is the need to transition our products and services to a lower carbon economy. Failure to transition from carbon intensive products and services at pace could impact our ability to win future business; achieve operating results; attract and retain talent; secure access to funding; realise future growth opportunities; or force government intervention to limit emissions.	– We invest in i) reducing carbon impact of existing products; and ii) zero carbon technologies to replace our existing products. – We balance our portfolio of products, customers and revenue streams to reduce our dependence on any one product, customer or carbon emitting fuel source. – We acknowledge and communicate our role in the problem and the solution, and the actions we are taking to enact a credible plan of action in line with societal expectations.	– Strategy reviews – Technology reviews – Investment reviews – Group sustainability team	– The Board and its Committees – The Executive Team and its committees	↑

RISK	CONTROLS	ASSURANCE ACTIVITIES AND PROVIDERS	OVERSIGHT FORUM	CHANGE
Competitive environment **Existing competitors:** the presence of competitors in the majority of our markets means that the Group is susceptible to significant price pressure for original equipment or services. Our main competitors have access to significant government funding programmes as well as the ability to invest heavily in technology and industrial capability. **Existing products:** failure to achieve cost reduction, contracted technical specification, product (or component) life or falling significantly short of customer expectations, would have potentially significant adverse financial and reputational consequences, including the risk of impairment of the carrying value of the Group's intangible assets and the impact of potential litigation. **New programmes:** failure to deliver a new project or product on time, within budget, to technical specification or falling significantly short of customer expectations would have potentially significant adverse financial and reputational consequences. **Disruptive technologies (or new entrants with alternative business models):** could reduce our ability to sustainably win future business, achieve operating results and realise future growth opportunities.	— We review product lifecycles. — We make investment choices to improve the quality, delivery and durability of our existing products and services and to develop new technologies and service offering to differentiate us competitively. — We protect our intellectual property (e.g. through patents). — We monitor our performance against plans. — We scan the horizon for emerging technology and other competitive threats, including through patent searches.	— Strategy reviews — Technology reviews — Investment reviews	— Board — Science & Technology Committee	<>
Compliance Non-compliance by the Group with legislation or other regulatory requirements in the heavily regulated environment in which we operate (for example, export controls; data privacy; use of controlled chemicals and substances; anti-bribery and corruption; and tax and customs legislation). This could affect our ability to conduct business in certain jurisdictions and would potentially expose the Group to: reputational damage; financial penalties; debarment from government contracts for a period of time; and suspension of export privileges (including export credit financing), each of which could have a material adverse effect.	— We continuously develop and communicate a comprehensive suite of mandatory policies and processes throughout the Group. — We undertake third-party due diligence. — We encourage, facilitate and investigate speak up cases. — We investigate potential regulatory matters. — Our financial control framework activities are designed to reduce financial reporting risks. — We classify data to meet internal and external requirements and standards.	— Compliance teams	— Safety, Ethics & Sustainability Committee	<>
Cyber threat An attempt to cause harm to the Group, its customers, suppliers and partners through the unauthorised access, manipulation, corruption, or destruction of data, systems or products through cyberspace.	— We deploy web gateways, filtering, firewalls, intrusion, advanced persistent threat detectors and integrated reporting. — We train our employees on cyber threats including phishing. — We test software. — We use our crisis management framework.	— Group cyber security team and security operations centre	— Data security sub-committee	<>

RISK	CONTROLS	ASSURANCE ACTIVITIES AND PROVIDERS	OVERSIGHT FORUM	CHANGE
Financial shock The Group is exposed to a number of financial risks, some of which are of a macroeconomic nature (for example, foreign currency, oil price, interest rates) and some of which are more specific to the Group (for example, liquidity and credit risks). Significant extraneous market events could also materially damage the Group's competitiveness and/or creditworthiness and our ability to access funding. This would affect operational results or the outcomes of financial transactions.	– Our financial control framework activities are designed to reduce financial reporting risks. – Group strategic planning process. – We incorporate trends, demand and other dependencies in our financial forecasts. – We analyse currency and credit exposures and include in sourcing and funding decisions. – We develop, review and communicate treasury policies that are designed to hedge residual risks using financial derivatives (covering foreign exchange, interest rates and commodity price risk). – We raise finance through debt and equity programmes. – We hedge with reference to volatility in external financial markets.	– Strategy reviews – Finance risk committee	– Audit Committee	
Market shock The Group is exposed to a number of market risks, some of which are of a macroeconomic nature (e.g. economic growth rates) and some of which are more specific to the Group (for example, reduction in air travel or defence spending, or disruption to other customer operations). A large proportion of our business is reliant on the civil aviation industry, which is cyclical in nature. Demand for our products and services could be adversely affected by factors such as: recession, current and predicted air travel, fuel prices and age and replacement rates of our in-service products.	– We monitor trends, market demand and future market forecasts and make investment choices to maximise the related opportunities. – We incorporate trends, demand and other dependencies in our financial forecasts. – We balance our portfolio with the sale of original equipment and aftermarket services, providing a broad product range and addressing diverse markets that have differing business cycles. – We execute our short, medium and longer term plans.	– Strategy reviews – Technology reviews	– Board	
Political risk Geopolitical factors that lead to an unfavourable business climate and significant tensions between major trading parties or blocs which could impact the Group's operations. Examples include: changes in key political relationships; explicit trade protectionism, differing tax or regulatory regimes, potential for conflict or broader political issues; and heightened political tensions.	– We develop Group and country strategies and consider associated dependencies. – We review the external environment for political implications and dependencies. – We include diversification considerations in our investment and procurement choices.	– Strategy reviews – Technology reviews – Supplier sourcing and strategy reviews – Government relations teams	– Board	
Talent and capability Inability to identify, attract, retain and apply the critical capabilities and skills needed in appropriate numbers to effectively organise, deploy and incentivise our people would threaten the delivery of our strategies.	– We undertake succession planning and monitor the talent pipeline. – We survey employee opinion. – We develop, implement and review strategic resourcing plans.	– People leadership team	– Nominations & Governance Committee	

GOING CONCERN AND VIABILITY STATEMENTS

GOING CONCERN STATEMENT

Overview

The Group operates an annual planning process. The Group's plans, and risks to their achievement are reviewed by the Board and, once approved are used as the basis for monitoring the Group's performance, incentivising employees, and providing external guidance to shareholders.

The processes for identifying and managing risk are described on pages 52 to 57. As described on these pages, the risk management process, and the going concern and viability statements, are designed to provide reasonable but not absolute assurance.

In accordance with the requirements of the UK Corporate Governance Code 2018, the Directors have undertaken a comprehensive going concern review over an 18-month period to August 2023, considering the forecast cash flows and the available liquidity of the Group over that 18-month period, taking into account the Group's principal risks and uncertainties.

Impact of COVID-19

The COVID-19 pandemic continues to have an impact on the Group, primarily within Civil Aerospace, due to continued travel restrictions and varied quarantine requirements imposed by governments across the globe. The speed of vaccination programmes, efficacy of vaccines and differing governmental testing and quarantine requirements means that uncertainty remains in the short term over the timing of recovery of demand, in particular in relation to the civil aviation industry. This has been considered by the Directors in assessing the adoption of the going concern basis in the Consolidated Financial Statements. Recognising the challenges of reliably estimating and forecasting the timing of recovery of demand, the Group has modelled two forecasts in its assessment of going concern which have been considered by the Directors, along with a likelihood assessment of these forecasts, being:

- base case, which reflects the Directors current expectations of future trading; and
- severe but plausible downside forecast, which envisages a 'stress' or 'downside' situation.

Since the start of the pandemic, the Group has taken action to reduce cash expenditure and maintain liquidity. The Group raised £7.3bn of additional funding during 2020 through a combination of equity and debt. In March 2021, the Group secured a further £1bn term-loan facility, 80% of which is guaranteed by UK Export Finance (UKEF), repayable in March 2026, and in August 2021 extended its £1bn undrawn bank loan facility from a maturity date of 15 October 2022 to a maturity date of 15 January 2024.

A major restructuring programme was launched in 2020 to reshape and resize the Group to deliver forecast annualised savings of at least £1.3bn by the end of 2022, with a plan to remove at least 9,000 roles across the Group. At 31 December 2021, over 9,000 roles had been removed from continuing operations and annualised savings exceeded the £1.3bn target 12 months ahead of schedule.

Impact of climate change

The Directors believe there are significant business growth opportunities to come from the Group playing a leading role in the transition to net zero, whilst at the same time climate change poses potentially significant risks to the Group. Whilst it is unlikely that physical and transition risks will arise during the 18-month period being assessed for going concern, both physical and transition risks have been considered as part of the Group's risk assessment. The investment required to achieve net zero scope 1 + 2 GHG emissions, together with that required to ensure our new products will be compatible with net zero operation by 2030, has been included in the Group's forecasts, including those periods used in the assessment of going concern. Over the next 18 months, 64% of the Group's R&D investment will be directed to the delivery of our decarbonisation strategy.

GOING CONCERN STATEMENT – CONTINUED

Liquidity and borrowings

At 31 December 2021, the Group had liquidity of £7.1bn, including cash and cash equivalents of £2.6bn and undrawn facilities of £4.5bn.

The Group's committed borrowing facilities at 31 December 2021 and 31 August 2023 are set out below. None of the facilities are subject to any financial covenants or rating triggers which could accelerate repayment.

(£m)	31 Dec 2021	31 Aug 2023
Issued Bond Notes [1]	3,995	3,995
Other Loans	63	–
UKEF £2bn loan (drawn) [2] and UKEF £1bn loan (undrawn) [3]	3,000	3,000
Revolving Credit Facility (undrawn) [4]	2,500	2,500
Bank Loan Facility (undrawn) [5]	1,000	1,000
Total committed borrowing facilities	**10,558**	**10,495**

[1] The value of Issued Bond Notes reflects the impact of derivatives on repayments of the principal amount of debt. The bonds mature by May 2028.
[2] The £2,000m UKEF loan matures in August 2025.
[3] The £1,000m UKEF loan matures in March 2026 (currently undrawn).
[4] The £2,500m Revolving Credit Facility matures in April 2025 (currently undrawn).
[5] The £1,000m Bank Loan Facility matures in January 2024 (currently undrawn).

Taking into account the maturity of borrowing facilities, the Group has committed facilities of at least £10.5bn available throughout the period to 31 August 2023.

Forecasts

The Group has modelled a base case, reflecting a best estimate of future trading. The base case forecast assumes the continuation of a steady recovery in customer confidence in the aftermath of the COVID-19 pandemic. Vaccination programmes continue to be rolled out but the efficacy of vaccines over different variants and differing governmental testing and quarantine requirements means that the recovery of demand is hindered in the short term, in particular in relation to the civil aviation industry.

In August 2020, the Group announced it would deliver proceeds of around £2bn from planned disposals. Some of these disposals were completed by 24 February 2022. For the remaining planned disposals, as these are due to complete within the 18-month period being considered, the proceeds have been included in the base case forecast, together with a corresponding decrease in debt facilities.

The downside forecast assumes Civil widebody EFHs remain at average Q4 2021 levels over the 18-month period to August 2023, with recovery subdued due to ongoing infection rates and a continuation of new variants of the virus, resulting in ongoing caution in opening borders to international travel and no upward trend in EFH until September 2023, resulting in a much slower recovery in demand compared with the base case. The downside forecast also reflects risks in relation to load reduction through our factories, and possible supply chain challenges.

Conclusion

After reviewing the current liquidity position, the cash flow forecasts modelled under both the base case and downside, the Directors consider that the Group has sufficient liquidity to continue in operational existence for a period of at least 18 months from the date of this report and are therefore satisfied that it is appropriate to adopt the going concern basis of accounting in preparing the financial statements.

VIABILITY STATEMENT

Viability

The viability assessment considers liquidity over a longer period than the going concern assessment. Our downside scenario uses the same assumptions as the going concern statement and in 2024 to 2026 assumes a slower recovery back to 2019 level than assumed in our base case.

Consistent with previous years, we have assessed our viability over a five-year period which is in line with our five-year forecasting process. We continue to believe that this is the most appropriate time period to consider as, inevitably, the degree of certainty reduces over any longer period.

In making the assessment, we have used the same base case, the same severe but plausible downside scenario and have then extended our assessment over five years. We have created severe but plausible scenarios that estimate the potential impact of our principal risks arising over the assessment period (descriptions of our principal risks and the controls in place to mitigate them can be found on pages 52 to 57). We have selected those principal risks that could have the most material impact to liquidity in the next five years in a severe but plausible scenario. In addition to the downside (market shock) scenario, the risks chosen and scenarios used are as follows: business continuity, the loss of a key element of our supply chain resulting in an inability to fulfil civil widebody orders for 12 months. Compliance, a compliance breach resulting in fines (greater than those agreed as part of our DPA) and loss of new business with governments and state owned companies. Political risk, a trade war between major trading blocs resulting in supply chain disruption and a loss of sales into impacted markets for six months. Climate change, the impact of climate change increasing our costs, reducing sales volumes and disrupting our supply chains (this scenario is discussed in more detail in our TCFD section); and safety, a significant Civil Aerospace product safety event resulting in additional costs, penalties and lower service revenues.

The cash flow impacts of these scenarios were overlaid on the five-year forecast to assess how the Group's liquidity would be affected.

The scenarios assume an appropriate management response to the specific event which could be undertaken and also consider specific activities to improve liquidity such as raising additional funds, reducing expenditure and divesting parts of our business.

Reverse stress testing has also been performed to assess the severity of scenarios that would have to occur to exceed liquidity headroom, the assumptions used in these stress tests were not considered plausible.

On the basis described above, the Board confirms that it has a reasonable expectation that the Company will be able to continue in operation and meet its liabilities as they fall due over the next five years. In making this statement, the Directors have made the following key assumptions:

- the Group is able to refinance maturing debt facilities and drawdown existing available facilities as required. Debt maturities over the assessment period are as follows:
  - The £1,000m Bank Loan Facility maturing 2024
  - The €550m Bond maturing in 2024
  - The £2,500m Revolving Credit Facility maturing in 2025
  - The $1,000m Bond maturing in 2025
  - The £2,000m UKEF loan (currently drawn) maturing in 2025
  - The £1,000m UKEF loan (currently undrawn) maturing in 2026
  - The €750m Bond maturing in 2026
  - The £375m Bond maturing in 2026
- the Group has access to global debt markets and expects to be able to refinance these debt facilities on commercially acceptable terms;
- the Group's medium and long-term financing plans are designed to allow for periods of adverse conditions in world capital markets but not a prolonged period (e.g. 12 months) where debt markets were effectively closed to the Group;
- that implausible scenarios do not occur. Implausible scenarios include either multiple risks impacting at the same time or where management actions do not mitigate an individual risk to the degree assumed, and;
- that in the event of one or more risks occurring (which has a particularly severe effect on the Group) all potential actions (such as but not limited to restricting capital and other expenditure to only committed and essential levels, reducing or eliminating discretionary spend, reinstating pay deferrals, raising additional funds through debt or equity raises, executing disposals and undertaking further restructuring) would be taken on a timely basis.

The Group believes it has the early warning mechanisms to identify the need for such actions and, as demonstrated by our decisive actions over the course of the pandemic, has the ability to implement them on a timely basis if necessary.

SECTION 172 AND STAKEHOLDER ENGAGEMENT

All of our Directors are briefed on their Companies Act 2006 duties during their induction. Our section 172 (s172) statement below sets out how the Directors have discharged their s172 duty. The Board recognises the responsibility to all our different but interrelated stakeholder groups and wider society. We recognise that effective engagement with a broad range of our stakeholders is essential for the long-term success of the business and we aim to create value for our stakeholders every day by maintaining levels of business conduct that are aligned to our values and our purpose. This section should be read in conjunction with the Board's focus which contains information on the principal decisions made by the Board over the year, see pages 77 and 78.

The likely consequences of any decision in the long term

During the year the Directors considered the Group's strategic direction, which is set out on page 12, to enable the Group to lead the transition to net zero. This in turn creates long-term value for shareholders, recognising that the long-term success of our business depends on the effects of our business activities on wider society. See our SMR case study on page 63.

The interests of the Company's employees

The Directors recognise that the success of our business depends on attracting, retaining and motivating talented people. The Directors consider and assess the implications of decisions on our people, where relevant and feasible. The Directors seek to ensure that the Company remains a responsible employer, including with respect to pay and benefits, health and safety issues and the workplace environment. More information on our initiatives can be found on pages 46 to 50.

The need to foster the Company's business relationships with suppliers, customers and others

Delivering our strategy requires a strong, mutual and beneficial relationship with suppliers, customers, governments and joint venture partners. The Directors receive updates on engagement across the Group at Board meetings. An example of supplier engagement can be found in the case study on page 64.

The impact of the Company's operations on the community and the environment

This aspect is inherent in our strategic priorities. The Board receives information through reports from the Chief Executive and Group-level reviews on various topics to help it make decisions relating to net zero ambitions and proposals to divest or invest, such as the SMR programme. Further information on the divestments made during the year to meet our 2020 commitments, can be found on page 180.

The desirability of the Company maintaining a reputation for high standards of business conduct

The Board periodically reviews and approves our ethics and compliance frameworks. Our Code of Conduct, supplier code and modern slavery statements ensure high standards are approved. This, in conjunction with the Board being informed and monitoring compliance with governance standards, helps to ensure that Board level decisions and the actions of our subsidiaries promote high standards of business conduct.

The need to act fairly between members of the Company

After weighing up all relevant factors, the Directors consider which course of action best enables delivery of our strategy through the long term, taking into consideration the effect on the Group's stakeholders.

EXAMPLES OF ENGAGEMENT WITH OUR KEY STAKEHOLDER GROUPS

PEOPLE

The Board recognises that it is through our people that we fulfil our potential, achieve our vision and execute our strategy.

Board engagement
Our Employee Champions, Irene Dorner, Beverly Goulet (for our North American colleagues) and Lee Hsien Yang (for our Asia-Pacific colleagues), ensure the voice of our people is heard in the boardroom. The Employee Champions, supported by an employee stakeholder engagement group, provide regular feedback to the Board on topics of interest and/or concern. This provides a valuable link between our people and the Directors. We believe that these methods of engagement with our people are effective in building and maintaining trust and communication whilst providing our people with a forum to influence change in relation to matters that affect them.

During 2021, Irene visited, virtually, the Solihull Control Systems site, which provided an insight into activities undertaken throughout COVID-19. Irene was also able to meet a diverse group of employees through an open discussion/listening session. D&I was a theme throughout the year with two virtual meetings taking place and all three Champions involved to bring together employees to discuss topics they had identified they would like to raise with the Employee Champions. On International Women's Day, Irene opened a week of activities via an online event, where she also answered employee questions. In September, Irene discussed issues with the Board regarding the flexible working arrangements in Derby and returning to work that had been raised by employees with her.

In May, two Meet the Board virtual events took place, led by Beverly, on the topic of sustainability. Employees were able to ask their questions of Board members. This was filmed and shared with all employees on the internal intranet. In September, Board members met in person with representatives from the UK employee resource groups (ERGs) to discuss issues of importance to them and their members. Also in September, the Board participated in several engagement activities in both Derby and Bristol, including meetings with the business leadership teams, tours of the manufacturing and service operations and discussions on product safety. In November, Beverly participated in a meeting of the finance continuing education committee, chaired by the Group's tax director.

Many of our people are also our shareholders and we encourage their participation in a variety of share plans.

CUSTOMERS

The Board recognises that the quality of the Group's customer relationships is based on mutual trust as well as our engineering expertise. We recognise that as we recover from the impact of the COVID-19 pandemic, we must retain and strengthen our focus on playing a leading role in the transition to a net zero carbon global economy by creating the sustainable power that our customers require.

Board engagement
The Board regularly receives operational updates, including customer metrics and feedback, from each of the businesses and was kept updated on the Group's plans for COP26 in Glasgow. The Business Presidents present their updates to the Board. This greatly influences the Board's deliberations and its support for the Executive Team when considering our strategy.

Case study:
Small modular reactor programme (SMR)

During the year, the Board was regularly updated on the status of the SMR programme. The Board's decision making to support the SMR programme is strongly aligned with our net zero ambition and strategy. See page 77 for further information on the Board's focus during 2021 and page 12 for further information on our strategy.

Key events

2021
- Equity raise process ongoing across the financial community

September 2021:
- Grant funding negotiations completed successfully with UK Government

November 2021:
- Board approval on the final deal terms relating to the SMR business
- Signing of Grant Funding Award with UK Government and incoming joint venture shareholders – special purpose vehicle (SPV) established

People
- Transferred 160 employees through the TUPE process to the SPV, Rolls-Royce SMR
- Colleagues provided with regular SMR CEO briefings, town halls and video messages to give progress updates on the establishment of the SPV
- People and places working group was established to understand colleague needs through the transition process

Governing bodies and regulators
- Global government engagement to promote the SMR business and better understand the developing policy landscape at a civil service level and through ministerial engagement
- Entry into the UK Generic Design Assessment regulatory process

Customers
- Rolls-Royce and Rolls-Royce SMR management engaged with overseas governments, embassies and across UK Government to highlight the benefits of the SMR programme
- Entry into a detailed pre-feasibility study with a host government that led to follow-up meetings between government ministries and Rolls-Royce leadership
- Engaged with signed MOUs or submitted RFIs to potential customers globally
- Science & Technology Committee provided with an update on management engagement with overseas governments

Investors
- Successfully established an SPV by securing third-party investment alongside Rolls-Royce and UK Government grant funding. This process was enabled and supported by the Executive Team
- Rolls-Royce SMR is now engaged with capital markets on fleet deployment, building on the recognition of the need for deployable SMR nuclear, following COP26 and the need to meet global net zero challenges

SUPPLIERS AND PARTNERS

The Group's global supply chain is a vital contribution to its performance, with significant investment in resources to ensure the complex global supply chain is resilient and efficient.

Board engagement

The interests of both our suppliers and partners are considered as part of the Board's discussions on manufacturing strategy and when reviewing specific projects. The Board supports our Executive Team who work collaboratively with our suppliers and partners to continue to improve operational performance through various means.

Case study:
Civil Aerospace supply chain engagement

An estimated 75% of components that go into making a Civil Aerospace widebody aircraft engine come from an external supply chain made up of 700 live suppliers with an annual spend of £1.6bn during 2021 (2020: £1.9bn). As such, the Board and Executive Team clearly recognise the importance of our supply chain to the successful delivery of engines to our customers, and that the success of our business is intertwined with that of our suppliers. As a result, they have made engagement with our suppliers a priority in 2021, with some examples outlined below.

'Zero defects' supplier expo

Rolls-Royce hosted two supplier expos built around our drive for zero defects, highlighting how quality remains of critical importance across the supply chain.

February 2021 – two-day broadcast

- 3,000 attendees including key customers, senior leaders and Rolls-Royce people
- Broadcast to the global supply chain which focused on our collective drive to zero escapes, the target of zero concessions by 2024 and how we can rebuild from the COVID-19 pandemic whilst enhancing the focus on quality

September 2021 – Chief Executive talk and live Q&A

- Our Chief Executive addressed the whole supply chain regarding business performance and priorities. In addition, the Chief Executive shared his personal perspective on why quality and sustainability are critical to the Group's future
- Leading suppliers shared examples of their zero defects journey and best practices to inspire further advancements across the supply chain

High Performing Supplier Group (HPSG)

- HPSG contains 24 globally diverse suppliers across the value chain that lead the way in delivering consistently high performance
- HPSG was established to increase collaboration and engagement with these suppliers to explore opportunities for growth and to work together on potential strategic initiatives
- In 2021, we awarded £2.2bn of business to members of the HPSG
- In October 2021, we held a discussion with our Chief Executive and Chief Financial Officer to give visibility and insight into our business performance and strategic direction and address supplier questions

Strategic supplier engagement – Schaeffler

- One of our HPSG members, Schaeffler, a German bearings manufacturer, was awarded the Supplier Best Practice award in 2021 as recognition for leading the way with its zero defects programme, which underpins high-quality performance
- Our relationship with Schaeffler strengthens through Chief Executive to chief executive engagement, which has been key in aligning senior-level engagement as we developed a new strategic partnership and collaborations around technology and innovative high performance manufacturing methods that reduce production lead times, tackle product cost challenges, and reduce supply chain risk
- Collaborative efforts also led to the advancement of repair and refurbishment capabilities for bearings that reduce the demand for spare parts by around 90%. This supports our sustainability goals through increasing the circular economy of bearings within aero-engines and reducing the need to utilise virgin material to be used to make spare parts

COMMUNITIES

The Board recognises the importance of our communities and understands that everything we do can have an impact on our local and global communities.

Board engagement
The Safety, Ethics & Sustainability Committee received updates during 2021 on the status of the STEM education programmes, with new technologies supporting the transition to net carbon zero. The ACCEL programme, accelerating the electrification of flight, provides engaging material for STEM events and programmes, and we are exploring options to develop more educational materials around sustainable transport and energy including SMRs. Global charitable contributions totalled £6.1m in 2021, including £2m raised by reclaiming and selling the shares of gone-away shareholders which are shareholders the Company has been unable to trace for a period of 12 years. These charitable contributions and social sponsorships support our community investment and education outreach programmes globally (see page 49).

GOVERNING BODIES AND REGULATORS

The Board recognises the importance of governments and regulators as stakeholders. Not only are governments across the world customers but they also support the Group's investment in infrastructure and technology.

Board engagement
The Board is updated on the Group's engagement with the tax authorities and the related regulatory landscape is discussed by both the Board and the Audit Committee. In addition, meetings with ministers and senior officials are held as relevant throughout the year. The General Counsel provides regular updates to the Board on compliance with regulators and the Safety, Ethics & Sustainability Committee reviews how the business engages with airworthiness regulators as well as receiving updates on the continuing dialogue and co-operation with prosecutors, regulators and government agencies.

The Board also received an update from the Chief Executive following the UK Prime Minister and Secretary of State for Defence visiting our Defence Bristol site, UK, in October, during which they engaged with several of our people.

INVESTORS

The investor relations team is the key interface between the investment community and the Board, providing frequent dialogue and feedback.

Board engagement
The Chair and members of the Board make themselves available to meet with institutional investors and seek to understand and prioritise the issues that matter most. The Board looks forward to meeting shareholders in person again at the 2022 Annual General Meeting.

Company and Executive Team engagement
In addition, the Chief Executive and Chief Financial Officer, supported by members of the Executive Team and investor relations, interact regularly with investors, most notably after our financial results, capital markets events and site visits and at conferences as well as at key points throughout the year.

Our Chair met with major shareholders as part of her induction programme (see page 74). For further information on engagement the Chair of the Remuneration Committee had with shareholders when setting the remuneration policy please see pages 87 and 89 of the Remuneration Report.

Case study:
Net zero and COP26

During 2021, the Board regularly received updates on the status of the Group's net zero report. The Board was kept updated on the Group's plans for COP26 in Glasgow, UK which formed part of the demonstration of the Group's commitment to a net zero strategy and the creation of a policy environment for our climate change technologies.

Global consistency and collaboration in climate policy are critical to our ability to deliver our decarbonisation strategy. Therefore, engagement and collaboration across all parts of our value chain, and in particular with national governments, policy makers and trade associations, is a crucial part of our pathway to net zero.

As an important milestone on the global journey to net zero, COP26 was a strategic opportunity to engage with these stakeholders and encourage a technology-led approach to setting ambitious national climate commitments.

Key events 2021

June 2021:
- Publication of the Rolls-Royce net zero report

September 2021:
- Net zero and future technologies showcase in London joined by UK Government officials and representatives along with members of the Board

October/November 2021:
- Rolls-Royce stand in the green zone at COP26 and summit-wide profile of Rolls-Royce's net zero objectives alongside UK Government stakeholders, including the announcement of the Rolls-Royce / Qatar Foundation Climate Tech partnership. These generated international attention for the Group's net zero ambition

Governing bodies and industry groups
- Direct engagement with UK Government on our net zero strategy through a range of briefing activities and events, including site visits to see our developing technology and investments, for example the Spirit of Innovation all-electric aircraft
- Broad policy engagement through speaking opportunities at net zero events at COP26 that had a global reach through online streaming and social media
- Consultation with UK Government on content and materials for use in the official UN facing 'Blue Zone' at COP26
- Advocating at COP26 events organised by the UK Department for International Trade, the European Commission, We Mean Business Coalition and UN High Level Climate Champions through the Marrakesh partnership
- Engagement with industry groups to collaborate on sector wide solutions to achieving net zero including: the UK Government organised jet zero council; the international coalition for aviation, air transport action group; the international civil aviation organisation; and the European mechanical engineering industry association, VDMA

People and Communities
- Employee engagement through a series of COP26 related internal communications including a 'live at COP26' interview with the senior leadership team including the Chief Executive and Chief Technology Officer
- Public outreach through our stand in the public facing 'Green Zone' at COP26 focused on showcasing the Group's net zero technology portfolio
- Engagement with 16 to 35-year olds as a partner for the Global Youth Engineering Climate Conference

Customers and Investors
- Signed up to a strategic partnership with Qatar Foundation to invest, develop and scale up global hub for climate technology in the UK and Qatar generating high-skilled jobs
- Announced the establishment of Rolls-Royce SMR

Strategic Report
signed on behalf of the Board

Warren East
Chief Executive

24 February 2022

GOVERNANCE REPORT

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COMPLIANCE WITH THE CODE

COMPLIANCE WITH THE UK CORPORATE GOVERNANCE CODE 2018

The Company is subject to the principles and provisions of the UK Corporate Governance Code 2018 (the Code), a copy of which is available at frc.org.uk.

For the year ended 31 December 2021, the Board considers that it has complied in full with the principles and provisions of the Code.

BOARD LEADERSHIP AND COMPANY PURPOSE

The Board has delivered a heightened degree of oversight and scrutiny throughout 2021 to ensure the long-term sustainable success of the Company in light of the impacts of COVID-19 on our business.

•

Anita Frew was appointed Chair of the Board in October 2021. Our Governance Report provides examples of our leadership and our Strategic Report sets out how we have engaged with our stakeholders (see pages 61 to 66).

•

During the year the Board carried out a review of our governance structures to support the Group's sustainability and climate change agenda (see page 38).

DIVISION OF RESPONSIBILITIES

We clearly define the roles of the Chair and the Chief Executive and fully support the separation of the two roles.

•

The Board believes it operates effectively with the appropriate balance of independent Non-Executive Directors and Executive Directors (see pages 71 to 73).

•

The Board regularly considers the time commitments of our Directors. Prior Board approval is required for Directors' external appointments to ensure there is no compromise on their time (see page 80).

•

The quality of information and resources available to the Board has enabled us to operate effectively and efficiently throughout the year.

COMPOSITION, SUCCESSION AND EVALUATION

The appointment process for our new Non-Executive Chair was led by the Senior Independent Director. Further information on the appointment process can be found on page 80.

•

Our Board comprises a combination of broad skills, experience and knowledge (see pages 71 to 73 and 75).

•

We have a clear process when considering appointments to the Board and operate effective succession planning (see pages 80 to 82).

•

In 2021, we carried out an internal evaluation of the Board, supported by Lintstock (see page 79).

AUDIT, RISK AND INTERNAL CONTROL

We recognise the importance and benefits of ensuring the internal audit function and the external auditors remain independent (see pages 85 and 86).

•

The Board presents a fair, balanced and understandable (FBU) assessment of the Company's position and its prospects (see page 84).

•

Our risk and control environment is reviewed by the Audit Committee. The Board considered both emerging and principal risks during the year (see pages 52 and 53).

REMUNERATION

The Remuneration Committee, comprising only NEDs, is responsible for developing the policy and determining executive and senior management remuneration (see page 87).

•

At our AGM in May 2021, shareholders approved our new Remuneration Policy, see pages 90 to 94 for a summary, a full copy can be found at rolls-royce.com

•

No Director is involved when deciding their own remuneration outcome.

CHAIR'S INTRODUCTION

Having joined the Board as Chair designate on 1 July, I had the chance to get to know the Company before taking over as Chair on 1 October, undertaking a comprehensive induction process which is detailed on page 74. I joined at a time when the Board was refining its strategic narrative after a challenging year in 2020 and we focused on ensuring we met our commitments to investors at the time of the rights issue.

Leadership

There were a number of changes on the Board this year. Sir Ian Davis stepped down as Chairman on 30 September having served almost nine years on the Board, almost all of that time as Chairman. Lewis Booth, Sir Frank Chapman and Jasmin Staiblin all stepped down from the Board in May, Lewis and Sir Frank having served slightly extended terms to support us during the COVID-19 pandemic (as explained in last year's annual report) and Jasmin having reached her nine-year term.

Paul Adams and Mike Manley joined the Board during the year. Nick Luff became Chair of the Audit Committee immediately after the announcement of our 2020 results in March and Dame Angela Strank took over as Chair of the Safety, Ethics & Sustainability Committee immediately after the AGM in May. Panos Kakoullis also joined the Board as Chief Financial Officer in May.

Shortly after I took over as Chair, we carried out a Board skills review at the Nominations & Governance Committee and considered Board succession over the next few years. I was delighted to appoint Wendy Mars as a Non-Executive Director and she joined the Board in December.

We have recently announced a number of changes to the Board. As I reported in my Chair's Statement (see page 5), Warren East has informed the Board of his intention to step down as Chief Executive at the end of 2022, after nine years on the Board and almost eight years as Chief Executive.

Irene Dorner has also indicated her intention to step down as a Non-Executive Director, Chair of the Remuneration Committee and an Employee Champion and will not be standing for re-election at the AGM.

I am delighted that Jitesh Gadhia will be joining the Board as a Non-Executive Director from April 2022 and as Chair of our Remuneration Committee from May.

Sir Kevin Smith, now in his seventh year on the Board, has indicated his wish to relinquish his roles, both as Senior Independent Director and as Chair of the Science & Technology Committee. With effect from the conclusion of this year's AGM, George Culmer will be appointed Senior Independent Director and Paul Adams will be appointed Chair of the Science & Technology Committee.

There is a full discussion of these leadership changes in the Nominations & Governance Report on page 80.

Effectiveness

The Board and Committee evaluation for 2021 showed good progress had been made with implementing the outcomes from the 2020 evaluation in relation to Board succession, delivering on the commitments made to investors in 2020 and remaining agile as the commercial aviation sector started to recover in the year. However, there is more to do and we are forming an action plan for 2022. Further details on our 2021 effectiveness review are on page 79.

Culture

The work of our Employee Champions continued this year as they found more opportunities to connect with our people both virtually and in person. I was delighted to find that we have three Directors who take up this role so that we are able to cover the Group comprehensively.

Diversity and inclusion remains an important area of focus for the Group, and I was particularly pleased to see the appointments of Grazia Vittadini as Chief Technology Officer and Sarah Armstrong as Chief People Officer, both of whom joined our Executive Team. With other changes to the Executive Team, this changes the dynamic and brings the gender diversity to 9% (2020: 0%). I am delighted to say that with the Board appointments during the year, our Board gender diversity has also increased and is now 38% (2020: 33%) (see more on our overall diversity on page 50).

You can read more about the work we have overseen on the new ways of working in People and Culture on page 47. This is vital for the delivery of our future ambitions with a lower cost base, so we can be more agile to meet the changing needs of our stakeholders.

Governance

During the year we carried out a review of the governance structures to support our sustainability and climate change agenda and, as a result, recommended some changes to the executive level environment & sustainability committee. We also made changes to the focus of the Safety, Ethics & Sustainability Committee. In 2022 we will carry out a review of the scope of all our Board committees, with a view to ensuring the focus of those committees is closely aligned to the strategic imperatives for the Group.

Annual General Meeting

I look forward to engaging with shareholders at the Annual General Meeting on 12 May 2022 which we are planning to hold in the most flexible way possible. I look forward to my first opportunity to meet many of you and to answer any questions that shareholders may have.

Looking forward

As a Board we recognise the value of having strategic debate in the room, taking tough decisions on priorities and working together to achieve objectives. We have identified a number of top priorities for the Board to focus on over the coming year and I look forward to working with my colleagues on the Board and the Executive Team to execute the strategy and seek excellence in business performance. We will also be focusing on identifying a suitable successor for Warren and ensuring a smooth transition. I know that Warren will continue to lead Rolls-Royce with all the dedication he has shown throughout his tenure.

Anita Frew
Chair

CORPORATE GOVERNANCE

THE BOARD

THE ROLE OF THE BOARD

The Board is ultimately responsible to shareholders for the direction, management, performance and long-term sustainable success of the Company. It sets the Group's strategy and objectives and oversees and monitors internal controls, risk management, principal risks, governance and viability of the Company. In doing so, the Directors comply with their duties under section 172 of the Companies Act 2006 (see pages 61 to 66).

The Board has established certain principal committees to assist it in fulfilling its oversight responsibilities, providing dedicated focus on particular areas, as set out below. The chair of each committee reports to the Board on the committee's activities after each meeting.

In addition to the Board's principal committees, it has established a sub-committee of Directors who each hold an appropriate level of UK national security clearance for the purpose of receiving and considering, on behalf of the Board, any UK classified information relating to the Group's programmes and activities.

Beverly Goulet, a US national and independent Non-Executive Director, also sits on the board of Rolls-Royce North America Holdings, Inc. to create a link between the Board and the Group's North American governance structure.

KEY MATTERS RESERVED FOR THE BOARD

- The Group's long-term objectives, strategy and risk appetite
- The Group's organisation and capability
- Stakeholder engagement
- Overall corporate governance arrangements including Board and committee composition, committee terms of reference, Directors' independence and conflicts of interest
- Internal controls, governance and risk management frameworks
- Changes to the corporate or capital structure of the Company
- Annual Report and financial and regulatory announcements
- Significant changes in accounting policies or practices
- Annual budgets and financial expenditure and commitments above levels set by the Board
- Overview of speak-up programme and cases reported through the Ethics Line

THE BOARD COMMITTEES

NOMINATIONS & GOVERNANCE COMMITTEE — See page 80

AUDIT COMMITTEE — See page 83

REMUNERATION COMMITTEE — See page 87

SAFETY, ETHICS & SUSTAINABILITY COMMITTEE — See page 105

SCIENCE & TECHNOLOGY COMMITTEE — See page 106

Roles and responsibilities

The roles of the Chair and Chief Executive are clearly defined and the Board supports the separation of the two roles. The Chair is responsible for the leadership and effectiveness of the Board. The Chief Executive is responsible for the running of the Group's business and leads the Executive Team which comes together to communicate, review and agree on issues and actions of Group-wide significance.

Non-Executive Directors support the Chair and provide objective and constructive challenge to management. The Senior Independent Director (SID) provides a sounding board for the Chair and serves as an intermediary for the Chief Executive, other Directors and shareholders when required.

The Chief Governance Officer makes sure that appropriate and timely information is provided to the Board and its committees and is responsible for advising and supporting the Chair and Board on all governance matters. All Directors have access to the Chief Governance Officer and may take independent professional advice at the Company's expense in conducting their duties.

Directors' independence

We continue to monitor and note potential conflicts of interest that each Director may have and recommend to the Board whether these should be authorised and if any conditions should be attached to such authorisations. The Directors are regularly reminded of their continuing obligations in relation to conflicts and are required to review and confirm their external interests at least annually. This helps us to consider whether each of them continues to be independent.

Following due consideration, the Board determined that all Non-Executive Directors continued to be independent in both character and judgement. Furthermore, it was determined that the Chair was independent on her appointment.

BOARD OF DIRECTORS

	Position	Board skills and competencies	Key external appointments
	ANITA FREW **Chair of the Board** Chair, Nominations & Governance Committee Appointed to the Board on 1 July 2021 and as Chair on 1 October 2021	Anita brings a wealth of extensive leadership and global experience from two decades of board appointments in industrial manufacturing and financial services companies, both in the UK and internationally. Together with her skills and reputation with investors and government institutions, her broad knowledge of strategic management across a range of sectors is invaluable to the Board and the Group as a whole.	**Current** — Croda International plc, chair — Prime Minister's Business Council, member **Past** — BHP Group plc, non-executive director (2015 to 2021)
	WARREN EAST CBE **Chief Executive** Appointed to the Board on 1 January 2014 and as Chief Executive on 3 July 2015	Warren is a chartered engineer and has an outstanding record as a chief executive. He has a deep understanding of technology and developing long-term partnerships. He has proven strategic and leadership skills in a global business and a strong record of value creation. Warren harnesses the Company's world-class engineering skills and its proud record of innovation and delivery.	**Current** — ASML Holdings N.V., member of the supervisory board **Past** — ARM Holdings plc, chief executive (2001 to 2013)
	PANOS KAKOULLIS **Chief Financial Officer** Appointed to the Board on 3 May 2021	Panos has over 30 years' experience working with a wide range of significant multinational corporations in a wide range of sectors, leading audits and advising on M&A transactions and turnarounds. Delivering significant transformation programmes throughout his career at Deloitte, he brings strong leadership and an appetite for innovation, collaboration and simplification.	**Past** — Deloitte LLP, various partner and leadership roles (1989 to 2019)
	PAUL ADAMS **Independent Non-Executive Director** Appointed to the Board on 11 March 2021	Paul has extensive industry experience, specifically in engine manufacturing. He has a passion for engineering and has broad, sector-specific operational and safety experience. His industry focus is undoubtedly a great asset to both our Safety, Ethics & Sustainability Committee and our Science & Technology Committee.	**Current** — Aclara Resources, Inc., board member — OC Oerlikon Corporation AG, Pfäffikon, board member **Past** — Aerion Corporation, board member (2018 to 2021) — Precision Castparts, chief operating officer (2016 to 2018) — Pratt & Whitney, various executive roles (1999 to 2016)
	GEORGE CULMER **Independent Non-Executive Director** Appointed to the Board on 2 January 2020	George has a strong track record as a senior finance professional with significant experience gained in large, international, highly regulated groups and has proven business leadership credentials. With this experience, together with his strengths in change leadership and transformation gained from within complex groups, George makes a significant contribution to the Board.	**Current** — Aviva plc, chairman **Past** — Lloyds Banking Group plc, chief financial officer (2012 to 2019) — RSA Insurance Group plc, group financial officer (2004 to 2012)
	IRENE DORNER **Independent Non-Executive Director** Chair, Remuneration Committee Employee Champion Appointed to the Board on 27 July 2015	Irene draws on considerable risk management and human resources experience as Chair of the Remuneration Committee. As a passionate advocate of diversity and inclusion, Irene has embraced the role of Employee Champion and ensures the views of the workforce are properly reflected in the Board's discussions.	**Current** — Taylor Wimpey plc, chair — Control Risks Group, chair **Past** — AXA SA, director (2016 to 2021) — HSBC, various executive roles (1999 to 2014)

	Position	Board skills and competencies	Key external appointments
	LORD JITESH GADHIA **Independent Non-Executive Director** To be appointed to the Board and a member of the Nominations & Governance and Remuneration Committees on 1 April 2022 To be appointed Chair of the Remuneration Committee on 12 May 2022	Jitesh brings a wealth of complex advisory and transactional experience to the Board, having spent nearly 25 years in the banking and private equity sector. He has extensive remuneration experience, earned from both listed companies and UK Government Investments and UK Financial Investments, where he played a key role in compensation discussions about the Government's investments in some of the UK's biggest companies. This, together with his broad industry experience, will be an asset to the Board and the Remuneration Committee.	**Current** — Taylor Wimpey plc, non-executive director — Compare the Market Limited, non-executive director — Accord Healthcare Limited, non-executive director **Past** — UK Government Investments, non-executive director (2014 to 2022) — Blackstone Group, senior managing director (2010 to 2015)
	BEVERLY GOULET **Independent Non-Executive Director** Rolls-Royce North America Holdings, Inc., board member Employee Champion, North America Appointed to the Board on 3 July 2017	Having spent a considerable amount of her career in the airline industry, Bev brings valuable knowledge and operational experience to the Board. She has significant expertise in finance, treasury, strategy, legal and governance matters. She has the expertise and experience to be able to confidently contribute to decision-making and actively take part in developing and strengthening our businesses.	**Current** — Atlas Air Worldwide Holdings, Inc., non-executive director — Xenia Hotels & Resorts, Inc., non-executive director **Past** — American Airlines, Inc., various executive roles (1993 to 2017)
	LEE HSIEN YANG **Independent Non-Executive Director** Employee Champion, Asia Appointed to the Board on 1 January 2014	A Singaporean national, Hsien Yang combines a strong background in engineering with extensive international business and management experience in our most important growth markets. Throughout his varied career history, Hsien Yang has gained significant industrial and financial skills which have proved invaluable in his current committee memberships.	**Current** — Kacific Broadband Satellite Ltd, non-executive board director — INSEAD South East Asia Council, president **Past** — Civil Aviation Authority of Singapore, chairman (2009 to 2018)
	NICK LUFF **Independent Non-Executive Director** Chair, Audit Committee Appointed to the Board on 3 May 2018	Nick is an experienced finance executive having been chief financial officer of a number of listed companies across a variety of industries. He has broad financial skills and a track record of driving business performance. His extensive non-executive and audit committee experience, together with both financial and accounting expertise and a passion for engineering, is crucial in his role as Chair of the Audit Committee and is invaluable to the Board.	**Current** — RELX plc, chief financial officer **Past** — Lloyds Banking Group plc, non-executive director (2013 to 2017) — QuinetiQ Group plc, non-executive director (2004 to 2010)
	MIKE MANLEY **Independent Non-Executive Director** Appointed to the Board on 1 July 2021	Mike has extensive international experience having led businesses in Europe, Asia and the US. Moreover, his expertise from the automobile industry and insights into electrification and power management will serve as an asset to the Board and the Science & Technology Committee.	**Current** — AutoNation, Inc., chief executive officer and director **Past** — Stellantis N.V., head of Americas (2021) — DaimlerChrysler, various executive roles (2000 to 2021)
	WENDY MARS **Independent Non-Executive Director** Appointed to the Board on 8 December 2021	Wendy brings insight across hardware, software and services with technological transformation of complex global organisations at her core. Wendy remains connected to both the need to foster innovation in a technology company as well as the implementation challenges. Technology can play a significant role in helping businesses to achieve their sustainability objectives; Wendy will bring this experience to the Board.	**Current** — Cisco Systems, Inc., president Europe, Middle East, Africa & Russia region (EMEAR) **Past** — ThruPoint, Inc., various executive roles (1996 to 2007)

Full biographies of our Directors can be found at rolls-royce.com

	Position	Board skills and competencies	Key external appointments
	SIR KEVIN SMITH **Senior Independent Director** Chair, Science & Technology Committee Appointed to the Board on 1 November 2015	Sir Kevin has extensive industrial leadership experience and a deep knowledge of global engineering and manufacturing businesses, as well as the aerospace industry. As Chair of the Science & Technology Committee, Sir Kevin has been able to draw on his extensive experience and make a significant contribution to development and growth of key strategies.	**Current** — L.E.K. Consulting LLC, European advisory board member **Past** — Unitas Capital PTE LTD, partner & chairman (2012 to 2015) — GKN plc, group chief executive (2003 to 2011)
	DAME ANGELA STRANK **Independent Non-Executive Director** Chair, Safety, Ethics & Sustainability Committee Appointed to the Board on 1 May 2020	Dame Angela brings a wealth of corporate experience to the Board as well as a passion for sustainability and corporate ethics, having actively worked in climate research and pioneering women in STEM careers. As Chair of the Safety, Ethics & Sustainability Committee, Dame Angela draws on her experience as a member of three other listed companies' sustainability committees which is invaluable to the Group as it develops its sustainability strategy.	**Current** — Mondi plc, non-executive director — SSE plc, non-executive director — Severn Trent plc, non-executive director **Past** — BP p.l.c., various executive roles (1982 to 2020)
	PAMELA COLES **Chief Governance Officer** Appointed on 1 October 2014	Pamela is an expert in corporate governance and company law with a pragmatic approach to how the governance team supports the business. Pamela is instrumental in supporting the Chair and the Non-Executive Directors to build strong relationships with the Executive Team and has been able to offer advice and guidance on a wide range of topics.	**Current** — E-Act, non-executive director

Board committee membership (at 24 February 2022)

	Nominations & Governance	Audit	Remuneration	Safety, Ethics & Sustainability	Science & Technology
Anita Frew	■				
Paul Adams	▫			▫	▫
George Culmer	▫	▫	▫		
Irene Dorner	▫		■	▫	
Beverly Goulet	▫	▫	▫		
Lee Hsien Yang	▫	▫		▫	
Nick Luff	▫	■			
Mike Manley	▫				▫
Wendy Mars	▫				
Sir Kevin Smith	▫		▫		■
Dame Angela Strank	▫			■	▫

■ indicates that the Director is Chair of the Board or Committee.
▫ indicates that the Director is a member of the Committee.
☐ indicates that the Director is not a member of the Committee.

Board induction and development

The Chair and Chief Governance Officer arrange a comprehensive, tailored induction programme for newly-appointed Non-Executive Directors, which includes dedicated time with the Executive Team and senior management and scheduled trips to business operations. The programme is tailored based on experience and background of the individual and the requirements of the role.

All Directors visit the Group's main operating sites as part of their induction and are encouraged to make at least one visit to other sites every year. During 2021, several Directors visited Civil Aerospace in Derby, UK and Defence in Bristol, UK. Site visits are an important part of the induction process as well as for continuing education. They help Directors understand the Group's activities through the direct experience of seeing our facilities and operations and by having discussions with a diverse group of our people.

Anita Frew was appointed to the Board in July 2021 and appointed Chair on 1 October 2021. Since her appointment, she has visited Civil Aerospace and Submarines in Derby, UK, Power Systems and the *mtu* business in Friedrichshafen, Germany, and Defence in Bristol, UK. Anita has also met with institutional investors and key stakeholders. Her induction programme is outlined below.

It is important that the Directors continue to develop and refresh their understanding of the Group's activities. The Board's engagement with its stakeholders is set out on pages 61 to 66. It is also important that the Directors regularly refresh and update their skills and knowledge and receive relevant training when necessary. During 2021, the Directors received tailored training on climate reporting and further training on climate-related matters is planned for 2022. In addition, a number of deep dives on specific topics are scheduled throughout the year, see page 76. Members of the Board also attend relevant seminars, conferences and training events to keep up-to-date on developments in key areas.

BOARD INDUCTION PROGRAMME FOR ANITA FREW

Our Board including the Chairman

Regular sessions with the retiring Chairman provided Anita with a good understanding of the Board and its operations prior to her assuming the role of Chair in October 2021.

Anita met with each Director individually and also attended Board and committee meetings, prior to becoming Chair. These interactions enabled Anita to gain an understanding of the dynamics and role of the Board. She continues to meet with the Directors individually on a regular basis.

Chief Executive, Chief Financial Officer and Chief Governance Officer

Regular sessions with the Chief Executive continue to be held to discuss strategic priorities, key opportunities and risks and any current issues.

Anita meets regularly with the Chief Financial Officer to discuss the Group's financial performance and other finance-related matters.

Meetings with the Chief Governance Officer are continuing on a regular basis to enable Anita to keep up-to-date on corporate governance matters, including the Rolls-Royce framework. These sessions also facilitate discussion on Board arrangements.

Key stakeholders

During Anita's induction she met with various key stakeholders including our house brokers and key UK Government contacts, including the permanent secretary of the Ministry of Defence; the permanent secretary for the Department for Business, Energy and Industrial Strategy; the CEO of UKGI; and the chief of staff to the UK Prime Minister.

Anita also met with our external auditors and audit partner to discuss the audit report and findings, key financial and non-financial controls, and accounting judgements.

Our Committees

Sessions were scheduled with each of the committee chairs to provide Anita with an overview of each committee along with an understanding of the current issues for the year and future work plan.

Our people

Individual one-to-one meetings were held with members of the Executive Team and these will continue in 2022. These sessions provide Anita with an overview of each area of responsibility and current priorities, including: markets and competition; operational and financial performance; functional leadership; employee engagement; culture and diversity; and sustainability.

In addition to meeting with the Executive Team, meetings were held with senior management from a wide variety of functions, particularly those who present to the Board and its Committees. This included: the director of HSE, the government relations team, chief of staff to the Chief Executive and the director of risk & internal audit.

Tour of our facilities

Within the first three months of Anita's appointment, she received a tour of our key sites including:

- Civil Aerospace facilities including an overview of the new Test Bed 80 and engine assembly site;
- Defence in Bristol, UK, which included a briefing by the Defence team on the sustainability investments and proposed route to net zero;
- Submarines business; and
- Power Systems/*mtu* business in Friedrichshafen.

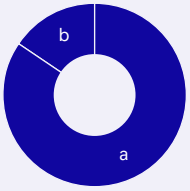
As COVID-19 travel restrictions are lifted, Anita will continue to visit our global sites during 2022, accompanied by other Directors.

BOARD COMPOSITION

The Board brings a wide range of experience, skills and backgrounds which complement the Group's strategy.

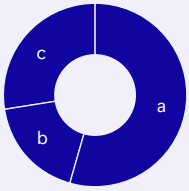
COMPOSITION OF THE BOARD AS AT 24 FEBRUARY 2022

BALANCE OF THE BOARD



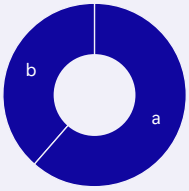
a. Non-Executive Directors 11
b. Executive Directors 2

NON-EXECUTIVE DIRECTORS' TENURE



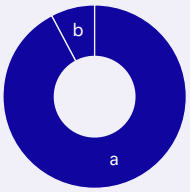
a. 0–3 years 6
b. 3–6 years 2
c. 6–9 years 3

BOARD MEMBERS BY GENDER



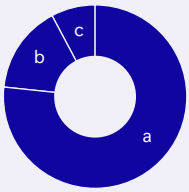
a. Male 8
b. Female 5

BOARD MEMBERS BY ETHNICITY



a. White 12
b. Asian 1

BOARD MEMBERS BY NATIONALITY *



a. British 10
b. American 2
c. Singaporean 1

* According to the Company's Articles, at least 50% of our Directors must be British citizens.

Non-Executive Directors' skills and experience

	Business experience										Global experience		
Non-Executive Director	Health & Safety	Climate Change & Sustainability	Engineering, Science & Technology	Company Leadership	Finance	Audit & Risk Management	Remuneration	Transformation	Legal & Regulation	Sector Specific	Europe	USA	Asia & Middle East
Anita Frew	▪	▪	▪	▪	▪	▪	▪	▪	▪				
Paul Adams	▪	▪	▪	▪						▪	▪	▪	▪
George Culmer				▪	▪	▪	▪	▪	▪		▪		
Irene Dorner		▪		▪	▪	▪	▪	▪	▪		▪	▪	▪
Beverly Goulet					▪	▪	▪	▪	▪	▪		▪	
Lee Hsien Yang			▪	▪	▪					▪			▪
Nick Luff		▪		▪	▪	▪		▪	▪		▪	▪	
Mike Manley	▪		▪	▪				▪			▪	▪	▪
Wendy Mars		▪	▪					▪			▪		▪
Sir Kevin Smith	▪	▪	▪	▪				▪		▪	▪	▪	▪
Dame Angela Strank	▪	▪	▪				▪	▪			▪	▪	▪

Board and Committee attendance in 2021

	Board 8 scheduled (6 additional)	Nominations & Governance 5 scheduled (1 additional)	Audit 10 scheduled (2 additional)	Remuneration 6 scheduled (3 additional)	Safety, Ethics & Sustainability 3 scheduled (1 additional)	Science & Technology 3 scheduled (1 additional)
Anita Frew (appointed 1 July 2021)[1]	3/4 (1/1)	2/3 (0/0)				
Warren East	8/8 (6/6)					
Panos Kakoullis (appointed 3 May 2021)	5/5 (5/5)					
Paul Adams (appointed 11 March 2021)[2]	5/5 (5/5)	4/4 (0/0)			2/2 (1/1)	2/2 (1/1)
George Culmer[3]	8/8 (5/6)	5/5 (1/1)	10/10 (2/2)	4/4 (2/2)	1/1 (0/0)	
Irene Dorner	5/8 (4/6)	4/5 (1/1)		6/6 (3/3)	2/3 (0/1)	
Beverly Goulet	7/8 (6/6)	5/5 (1/1)	10/10 (2/2)	6/6 (3/3)		
Lee Hsien Yang	8/8 (6/6)	5/5 (1/1)	10/10 (2/2)		3/3 (1/1)	
Nick Luff[4]	8/8 (6/6)	5/5 (1/1)	10/10 (2/2)			
Mike Manley (appointed 1 July 2021)[5]	4/4 (1/1)	3/3 (0/0)				1/1 (1/1)
Wendy Mars (appointed 8 Dec 2021)[6]	1/1 (0/0)	0/0 (0/0)				
Sir Kevin Smith	8/8 (6/6)	5/5 (1/1)		5/6 (3/3)		3/3 (1/1)
Dame Angela Strank[7]	8/8 (5/6)	5/5 (1/1)			3/3 (1/1)	3/3 (1/1)
Past Directors						
Sir Ian Davis[8]	6/6 (6/6)	3/3 (1/1)				
Stephen Daintith[8]	3/3 (0/0)					
Lewis Booth[8]	4/4 (2/2)	2/2 (1/1)	6/6 (0/0)	2/2 (1/1)		
Sir Frank Chapman[8]	4/4 (2/2)	1/2 (1/1)			1/1 (0/0)	2/2 (0/0)
Jasmin Staiblin[8]	4/4 (2/2)	1/2 (1/1)				2/2 (0/0)

Figures in brackets indicate attendance at an additional meeting.

[1] Anita Frew, appointed to the Board and the Nominations & Governance Committee in July, appointed Chair of both in October.
[2] Paul Adams, appointed to the Board and the Nominations & Governance, Safety, Ethics & Sustainability and Science & Technology Committees in March.
[3] George Culmer, appointed to the Remuneration Committee and stepped down from the Safety, Ethics & Sustainability Committee in March.
[4] Nick Luff, resumed Chair of the Audit Committee in March.
[5] Mike Manley, appointed to the Board and the Nominations & Governance and Science & Technology Committees in July.
[6] Wendy Mars, appointed to the Board and the Nominations & Governance Committee in December.
[7] Dame Angela Strank, appointed Chair of the Safety, Ethics & Sustainability Committee in May.
[8] Sir Ian Davis and Stephen Daintith stepped down from the Board on 30 September 2021 and 19 March 2021 respectively. Lewis Booth, Sir Frank Chapman and Jasmin Staiblin stepped down from the Board on 13 May 2021.

The table above sets out the Directors' attendance at Board and committee meetings throughout 2021, both scheduled and additional. Most scheduled meetings end with a private discussion of the Non-Executive Directors led by the Chair of the Board or Committee, without the Executive Directors or members of the Executive Team or management present.

During 2021, we made changes to the committees' memberships. These changes are detailed in the individual committee reports which form part of this Governance Report.

Additional meetings and sub-committee meetings

The Board held six additional meetings in 2021, for the approval of appointments to the Board and to consider further the strategic narrative and the Executive Team's recommendations for revised capital allocation plans. The Nominations & Governance Committee held one extra meeting to consider and recommend to the Board the appointment of Panos Kakoullis as Chief Financial Officer. The Audit Committee held two additional meetings in July as part of its preparations for the interim results. Three extra meetings of the Remuneration Committee were held during the year to consider incentive targets and ranges for 2021 and long-term metrics for 2022 to 2023. One additional meeting of the Safety, Ethics & Sustainability Committee was held to ensure there was sufficient agenda time for sustainability and climate-related issues. The Science & Technology Committee also held one extra additional meeting during the year to review the Group's engineering capabilities, skills and deployment to ensure alignment with the strategic narrative.

In addition to the meetings set out above, the Board delegated certain matters relating to the UK Export Finance facility to a sub-committee. In addition, a sub-committee of the Board has been convened to explore specific strategic matters. This sub-committee reports regularly to the Board on its activities.

In support of the committees' work, where there is a requirement for greater, in-depth discussion, we hold deep dives into specific areas of focus outside the meeting schedule. In February 2021, the Audit Committee reviewed in detail the Civil Aerospace balance sheet. The Safety, Ethics & Sustainability Committee held two deep dives related to product safety while the Science & Technology Committee held three deep dives to focus specifically on developing technologies including the SMR programme.

Non-attendance

Board members' attendance was once again high in 2021. However, Directors are sometimes unable to participate in certain Board and Committee meetings due to other business commitments. In this situation, they communicate their responses to the matters for consideration via the Chair of the Board and the committees' chairs, where relevant.

BOARD FOCUS THROUGH 2021

AREA OF FOCUS	KEY MATTERS CONSIDERED	OUTCOME
Strategy	Leading the transition to net zero	Our purpose, vision and mission provide an overall framework within which sits the Group's strategic focus for the next several years. The framework contains six priorities: to secure a sustainable future, customers, efficiency, people, finances and strategy. Our overall theme for 2022 is to secure a sustainable future for our business, not just in terms of making progress on our continued journey towards net zero but making significant strides towards meeting our mid-term ambition of creating a better quality and more balanced business. Further information can be found on page 12.
	Review of the business	In light of the impact of the COVID-19 pandemic on the Group during 2020 and 2021, the Board regularly discussed the appropriateness of the Group's strategy. The Board held meetings with the Executive Team, focused on Civil Aerospace and strategy and the transition to technologies that support our decarbonisation strategy. Our ongoing focus remains on areas within our control – cost reduction, liquidity and operational improvement. We reported in our half-year results that we delivered a significant improvement in first half profit and cash flow while continuing to invest in new products, including new low carbon technology and solutions to decarbonise our end-markets. Both our fundamental restructuring programme and our disposal programme have been largely completed.
	Investments and disposals	During 2021, the Board discussed and agreed the following disposals in line with our 2020 commitments: the sale of ITP Aero to Bain Capital Private Equity; the disposal of a minority stake in Airtanker Holdings to Equitix Investment Management; the disposal of Civil Nuclear Instrumentation & Control to Framatome; and the sale of Bergen Engines to Langley Holdings (see pages 180 and 181). In 2021, we invested in the SMR programme, recognising its importance as a key enabler of meeting our strategic objectives (see page 63).
Group purpose	Corporate narrative	During the year, the Board reviewed and discussed the Group's strategic direction to ensure the Group maximises the full benefit of the Civil Aerospace restructure, together with the value from the installed product base and existing assets. Focus remained on tilting the balance of capital and resource allocation, broadening the scope beyond Civil Aerospace to enable the Group to play a leading role in the transition to net zero.
Culture	New ways of working	During the year, new ways of working were introduced to support our people during and beyond the COVID-19 pandemic. Our Employee Champions discussed the new ways of working with the Board, having received feedback from employees. The Board was also updated by the Employee Champions on their activities during 2021 and on their plans for 2022.
	Board visit to Bristol and Derby	During September, as well as meeting with the employee resource groups, Board members participated in several engagement activities in both Derby and Bristol UK, engaging with small groups of high potential employees. They also met with the business leadership teams and toured our manufacturing and service operations. These site visits provide the Board with an opportunity to monitor and assess the culture across the organisation. Further information on the Board's visit to Derby and Bristol UK can be found on page 62 of our s172 statement.
	Ethics and training	Our people and culture are vital to our long-term success and during 2021 the Nominations & Governance Committee approved a refresh of the Group Policy Manual which supports Our Code of Conduct. This provides the structure for our annual mandatory training programme which supports our employees' understanding of our core policies and principles and is now well embedded into the ways of working at Rolls-Royce. The Safety, Ethics & Sustainability Committee received an update on the 2021 programme.
	Speak up programme	During the year, the Board received regular updates on the speak up programme with statistics by business relating to the total population of formal speak up cases received through the Ethics Line (the Company's externally provided speak up channel), the local ethics advisers and the ethics and compliance team. The Board also received reviews of the red flag speak up cases the Group received during 2021.
Risk	Review of risk appetite and principal risks	During the year, the Board completed a review of the principal risks and how we manage them. The principal risks are set out on pages 52 to 57. In addition, the Board reviewed and approved the effectiveness of the Group's risk management system, following an update from the Audit Committee. For more information on our approach to emerging risks (see page 53). The Board considered principal risks in relation to the base case and downside case over a five-year period. Further information on our financial and risk reporting against the TCFD requirements and to quantify our scenarios around climate change risk can be found on pages 36 to 43.

AREA OF FOCUS	KEY MATTERS CONSIDERED	OUTCOME
Operational performance/ challenges	Civil Aerospace, Defence, Power Systems and New Markets	Executive reports are received covering all businesses at each meeting, which include targets against key operational metrics. During 2021, the Board also focused on the developments in its New Markets, including the SMR programme and Rolls-Royce Electrical. For further information on the performance of each business, see pages 26 to 33.
Financial performance	Balance sheet review	In line with our 2020 commitment to rebuild our balance sheet, we have announced several disposals to generate around £2bn of proceeds and retained cash that will be used to strengthen our financial position. We remain focused on reducing our net debt and aim to return to an investment grade credit profile in the medium term.
	Payments to shareholders	As previously reported, some of our loan facilities place restrictions and conditions on payments to shareholders. In 2021, as a result of these restrictions, the Board was not able to recommend shareholder payments. However, the Board may recommend shareholder payments from 2023, subject to satisfaction of the conditions and our consideration of progress made to strengthen the balance sheet. We aim to be able to recommend shareholder payments in the medium term.
	Capital allocation	The Board continued to review the primary capital allocation priority, to strengthen the Group's balance sheet. The Board recognises the importance of a strong balance sheet due to the Group's long-term customer relationships and the cyclical nature of civil aviation and remains committed to its ambition of an investment grade credit profile in the medium term and a return to a net cash position. Over the past two years, and even prior to COVID-19, we have been on a continuous journey to optimise and rebalance our capital allocation further away from Civil Aerospace and to fund new opportunities in Power Systems, Defence and New Markets. During the year, the Board reviewed the capital re-allocation and determined the rate and scale of the shift of capital allocation from Civil Aerospace to Power Systems and our New Markets businesses to deliver the Group's strategic objectives.
	Annual target setting	During the year, the Board approved the budget for 2022 and considered the five-year plan and climate-related targets.
Governance	Stakeholder engagement and governance	Details on the Board and Executive Team's engagement with stakeholders can be found within the section 172 statement on pages 61 to 66. The Board also reviewed investor commentary following our full and half-year financial results. In addition, the Board received feedback from the Employee Champions, reports from the Ethics Line, payment practices for the Group's subsidiaries, gender pay gap reporting and the Group's modern slavery statement.
	Non-financial controls	The Board considered the framework and concluded it remained appropriate. This articulates our freedom within a framework culture.
Succession and leadership	Succession planning	During the course of the year, the Board considered the principal risk relating to talent and capability and reviewed succession at the most senior levels of the business (see page 80). Sir Ian Davis stepped down as Chairman on 30 September having served almost nine years on the Board, almost all of that time as Chairman. A sub-committee of the Nominations & Governance Committee led by the SID was charged with identifying and appointing a successor. The Board appointed our new Chair, Anita Frew, during 2021. Further information on Anita's appointment can be found on page 80 and Anita's induction programme can be found on page 74.
	Effectiveness of the Board	The Board carried out a questionnaire-based internal review of the Board's effectiveness, supported by Lintstock. Having undertaken three externally facilitated board effectiveness reviews in 2018, 2019 and 2020 the Board decided, with Anita in place as the new Chair with effect from 1 October, that it would be appropriate to carry out an internal review to set a new baseline. The internal review continued to focus on the themes highlighted in previous reviews: Board composition and dynamics, the Board's role; and, the Board at work, with particular focus on those areas highlighted in the 2020 review. Further information can be found on page 79.

BOARD EFFECTIVENESS

Review of Board and Committees

This year we decided to carry out an internal review of our Board's effectiveness, supported by Lintstock which provided the platform and some input for the basis of our questionnaire-based approach. Having undertaken three externally facilitated board effectiveness reviews in 2018, 2019 and 2020 we decided, with Anita in place as the new Chair with effect from 1 October, that it would be appropriate to carry out an internal review to set a new baseline. We continued to focus on the themes highlighted in our previous reviews: Board composition and dynamics; the Board's role; and the Board at work, with specific focus on those areas highlighted in the 2020 review. We particularly asked the Board to take a forward-looking view to assist the Chair in her first full year. The effectiveness of each of the Board's committees was taken into account as part of the evaluation and the output will assist the Nominations & Governance Committee in its thinking as it develops and re-shapes the Board Committees in early 2022.

Two providers were approached and Lintstock was selected following discussions with the governance team. We have not worked with Lintstock before and they have no other connection with the Company or its Directors.

The review took the form of an online questionnaire, designed with assistance from Lintstock, with input from the Chair and the governance team. Lintstock provided an anonymised report and the Chair and Chief Governance Officer, in discussion with the Board, have agreed an action plan for 2022.

In addition to this review, during a private meeting of the Non-Executive Directors, the Senior Independent Director led an initial review of the Chair's performance without the Chair present, recognising that she had only been in role for a short time. They also discussed and agreed her objectives for 2022. The Nominations & Governance Committee also met without any management present to discuss the performance of the Chief Executive. Constructive feedback was shared with Warren by the Chair following that meeting.

As part of Anita's induction as Chair, she met each of the Directors individually and her assessment of their skills and their overall effectiveness was brought into the discussions of the Nominations & Governance Committee as part of the succession discussions (see page 80). Each Committee chair considers feedback for the Committees for which they are responsible. This year Nick Luff and Dame Angela Strank assumed responsibility for the Audit and Safety, Ethics & Sustainability Committees respectively. Each reviewed the effectiveness and processes to support their Committees and introduced a number of changes for how those Committees operate (see pages 83 and 105).

AREA OF FOCUS	2021 FOCUS IDENTIFIED IN 2020	PROGRESS IN 2021	FOCUS FOR 2022
Board composition and dynamics	Board succession was important as a number of Directors and the Chairman reached or will reach their nine-year terms in 2021 and 2022.	Three new Non-Executive Directors and the Chair were appointed during the year and three long-serving members of the Board stepped down. Board skills and succession planning reviews were held by the new Chair.	Review of the remit and membership of the Committees. Continued focus on succession planning, including the diversity, of the Board and Executive Team.
The Board's role	To ensure delivery on the commitments made to investors as part of the rights issue in 2020.	A number of commitments were met including headcount reductions and £2bn of disposals.	Execution of strategy, prioritising investments and the oversight of cost management.
The Board at work	To remain agile to ensure the Group remains appropriately sized, resourced and placed to take advantage of the recovery in the commercial aviation sector.	Regular updates were received as the sectors in which the Group operates recovered during the course of 2021.	Strengthening relationships with our stakeholders, conscious of the external environment.

STAGES OF THE BOARD EFFECTIVENESS REVIEW

OCTOBER 2021
Anita Frew appointed as Chair

NOVEMBER 2021
Decision reached to undertake an internal Board effectiveness review and providers approached to support the process

DECEMBER 2021
Questionnaire drafted and Chair's input sought

JANUARY 2022
Questionnaire issued, responses received. Report reviewed by Chair and Chief Governance Officer and draft action plan for 2022 prepared

FEBRUARY 2022
Board reviewed the report and approved the action plan for 2022

NOMINATIONS & GOVERNANCE

Key areas of focus in 2021
- Chair appointment
- Executive Team succession planning
- Chief Financial Officer appointment
- Culture and behaviour
- Talent & leadership
- Diversity & inclusion

Key areas of focus for 2022
- Culture and behaviour
- Diversity & inclusion
- Executive Team diversity and succession planning

Activities and overview of 2021

Board and committees' composition

The Committee is responsible for keeping the structure, size and composition of the Board and its committees under review.

Prior to making any new appointments to the Board, the Committee considers the skills and attributes required and agrees a profile. The Committee also provides input into a shortlist of candidates and is involved in the interview process for all appointments. The Committee recommends the appointments to the Board for approval. All Non-Executive Directors are appointed to the Nominations & Governance Committee and to other Board committees, depending on the skills they bring. See page 73 for our current Board committee membership.

The Chief Governance Officer ensures that new Directors have a thorough and appropriate induction programme. More detail about inductions and continuing development can be found on page 74.

Furthermore, during the year, the Committee considered the re-appointment terms for the Non-Executive Directors and concluded that in future all Non-Executive Directors would be appointed annually once they have reached their third term.

During the year, the SID led the selection process on behalf of the Committee. I was appointed as Chair designate in July, becoming Chair on 1 October 2021. The process for my appointment was led by a sub-committee of the Nominations & Governance Committee comprising Sir Kevin Smith as SID, Irene Dorner and Nick Luff, supported by the Chief Governance Officer. Three candidates were shortlisted and met with the sub-committee as well as the Chief Executive. MWM Consulting were formally appointed to carry out the search. They have signed up to the voluntary code of conduct for executive search firms and had no other connection to the Company or its Directors during the year.

As I reported in my Chair's Statement (see page 5), Warren East has informed the Board of his intention to step down as Chief Executive at the end of 2022, after nine years on the Board and almost eight years as Chief Executive. As a result, the Committee will now launch a thorough and extensive search for his successor.

The Committee has also considered the following changes to the Board and its committees during 2021 and up to the date of this report.

Paul Adams was appointed to the Board as a Non-Executive Director in March 2021. He brings many years of sector experience, specifically in engine manufacturing, and a real passion for engineering, having spent much of his career at Pratt & Whitney. On appointment, Paul joined the Safety, Ethics & Sustainability and Science & Technology Committees.

In March, following the release of our 2020 results, Nick Luff assumed the role of Chair of the Audit Committee. As reported previously, Lewis Booth had remained as Chair of the Audit Committee to support the Group in light of the COVID-19 pandemic.

Lewis Booth, Sir Frank Chapman and Jasmin Staiblin all stepped down from the Board at the AGM in May. Lewis and Sir Frank had served slightly extended terms to support us during the pandemic and Jasmin had reached her nine-year term. On behalf of my colleagues, I would like to thank all of them for their dedication and tremendous support.

Panos Kakoullis joined the Board as Chief Financial Officer in May, just prior to the AGM. Panos spent his career at Deloitte where he delivered significant transformational change, streamlining and simplifying the business. The Committee considered his expertise and this experience of real benefit as the Group delivered on its fundamental reorganisation and secures a sustainable future. His arrival followed the departure of Stephen Daintith in mid-March and, on behalf of the Board, I would like to thank Ben Fidler for his support, who stepped up as Interim Chief Financial Officer.

Also in May, Dame Angela Strank became Chair of the Safety, Ethics & Sustainability Committee when Sir Frank Chapman stepped down from the Board. Dame Angela took the opportunity to review the focus of the Committee and is dedicating additional agenda time to sustainability and climate-related issues.

In July 2021, Mike Manley joined the Board as a Non-Executive Director. Mike is highly international in both his experience and approach. He has led digitally focused transformation programmes and has good knowledge of electrification and power management. He joined the Science & Technology Committee on appointment.

Wendy Mars joined the Board in December as a Non-Executive Director. She is an experienced global engineering and technology leader who brings expertise in transformation, automation and data from a broad range of businesses. Wendy recognises that technology can play a significant role in helping businesses achieve their sustainability objectives and brings this dimension into our boardroom discussions.

In November 2021, the Committee considered the re-appointment of Sir Kevin for a further year and recommended this to the Board. Sir Kevin was first appointed to the Board on 1 November 2015 for three years and re-appointed for a second three-year term on 1 November 2018. Sir Kevin currently serves as Senior Independent Director and Chair of the Science & Technology Committee, in addition to bringing valuable engineering expertise. Now in his seventh year on the Board, Sir Kevin has indicated his wish to relinquish both his Senior Independent Director and Committee Chair responsibilities.

With effect from the conclusion of this year's AGM, George Culmer will be appointed Senior Independent Director and Paul Adams will be appointed Chair of the Science & Technology Committee. George is an experienced senior independent director and chair with strong links with institutional investors and other stakeholders. Paul brings to the Science & Technology Committee his extensive aerospace and engineering expertise.

As I mentioned in my introduction to the Governance Report (see page 69), Irene Dorner has indicated her intention to step down as a Non-Executive Director and will not be standing for re-election at the AGM. Irene is also Chair of the Remuneration Committee and our Employee Champion.

Jitesh Gadhia will be joining the Board as a Non-Executive Director from April 2022 and will become Chair of the Remuneration Committee at the conclusion of our AGM in May. He is currently a non-executive director and member of the remuneration committee at Taylor Wimpey plc, a non-executive director and chair of the remuneration committee at Compare the Market Limited and a non-executive director at Accord Healthcare Limited. He has extensive remuneration experience, earned from both listed companies and UK Government Investments and UK Financial Investments and a wealth of complex advisory and transactional experience gained from a wide range of industries and partnership structures.

Summary biographies for the Directors can be found on pages 71 to 73. You can read our full biographies at rolls-royce.com.

Directors' conflicts of interest

As required under the Code, any additional external appointments taken up by Directors during the year are considered by the Committee and approved by the Board prior to the Directors accepting such appointments. The Committee considers any conflicts that may arise as a result of any external appointments taken up by the Directors and the Board monitors the extent of those interests and the time commitment required to fulfil them to ensure that effectiveness is not compromised. As part of the Committee's discussions, external appointments are considered against the parameters set by ISS. The Committee has found this to be a useful gauge when discussing whether there is potentially any impact on Directors' time commitments when taking on additional external appointments.

In 2021, the Directors demonstrated a strong commitment to the Company, as shown by their near total attendance at all our meetings, whether scheduled or additional (see page 76). During the year, the Board considered, amongst others, the external appointments of Beverly Goulet to Atlas Air Worldwide Holdings, Inc. as a board member, Dame Angela Strank to Mondi plc as a non-executive director, Mike Manley as chief executive of AutoNation, Inc., and Paul Adams to Aclara Resources Inc, as a board member. The Board concluded that none of the external appointments were considered significant.

Succession planning

As part of our succession planning, the Committee considers the current skills, experience and tenure of the Directors and assesses future needs against the longer-term strategy of the Group.

The Committee regularly reviews succession planning at Board, Executive Team and senior management levels. The Board considered the principal risk relating to talent and capability. Sharpening our talent management strategy and process has been a priority since 2018 and we have improved succession planning by implementing systematic talent reviews, consistently assessing potential and closely monitoring the successors' development plans and proactively looking at external talent to improve the quality and diversity of our succession plans.

In November, the Committee carried out a Board skills review, facilitated by the Chief Governance Officer, to identify the Board's requirements as the strategy of the Group evolves and as part of general Board planning. The review was carried out prior to confirming further Non-Executive Director appointments to the Board.

The Committee plays a vital role in promoting effective Board and leadership succession, making sure it is fully aligned to the Group's strategy. Following the announcement in 2021 that Sir Ian Davis would step down as Chairman, the Committee was regularly appraised by the SID on progress to identify and appoint a successor. In June 2021, the Committee recommended my appointment to the Board.

Diversity & inclusion

In 2021, the Committee continued to oversee the development of a diverse pipeline for succession. D&I continues to be an area of focus for the Board and for the Group as a whole. We support and monitor Group activities to increase the percentage of senior management roles held by women and other under-represented groups across the organisation.

The Committee revised the Board diversity policy and intends to maintain a balance so that, as a minimum, 40% of the Directors are women. It is the Board's longer-term ambition to reach gender parity. The Board's intention is that at least one Senior Board member will be a woman and that at least one Board member will be from a non-white ethnic minority background. The policy is available at rolls-royce.com. We have always recognised that there may be changes to the Board where we may fall short of our stated aim for periods of time while the Board is refreshed.

As at the date of this report, 38% of the Directors are women and that includes Anita Frew as Chair. The Parker Review, first published in 2017, made a series of recommendations aimed at improving ethnic diversity on FTSE 100 boards. Our Board currently has one person of colour and we are therefore compliant with the Parker Review recommendations as well as our own policy. The Committee will continue its work to maintain a balance on the Board of individuals representing a wide cross-section of experience, cultural backgrounds and specialisms.

We fully recognise that diversity in our Executive Team needs to be improved and there is a continued focus on improving this through succession planning. Our progress was evidenced in 2021 with the appointments in 2021 of Grazia Vittadini as Chief Technology Officer and Sarah Armstrong as Chief People Officer. The Committee continued to support and monitor Group activities to increase the percentage of women and other under-represented groups in the senior management population (see page 49).

Improving D&I remains a priority and we continue to track progress. We are particularly pleased to note that we have been able to increase female representation globally and the number of females in the ELG has increased year-on-year (see People and Culture on page 46).

More on our progress against our diversity & inclusion targets can be found on page 50.

Principal risk review

The principal risk of talent and capability was considered throughout 2021. The Board met in full to review talent and capability as development of our leaders is critical to ensuring the right culture and behaviours are embedded across the Group and to ensure we maintain the right skills and capability for future growth.

Corporate governance

We strive to take an innovative approach in all that we do and that includes our approach to governance. We have always promoted good governance at Board level and, as we continued to address the challenges presented by the COVID-19 pandemic, we found that our governance was indeed appropriate at a time of crisis and needed no further change. Throughout 2021 we have continued to keep up-to-date through ensuring agendas were reflective of the current issues and information provided to the Board was always current and timely. It was encouraging that our approach to governance, when tested, was able to evolve and adapt as we remained flexible in a changing and uncertain external environment.

We have kept under review the enhancements put in place in 2018 to ensure we meet both the regulation and the spirit of the revised Code and are following with great interest the proposals put forward in the UK BEIS consultation on restoring trust in audit and corporate governance. The extracts from the Group's governance framework, which is also applied to our subsidiary companies and is our response to the Wates principles, are available at rolls-royce.com.

Climate change

In September, the Committee reviewed the Group's governance of ESG, including published targets. In December, the Committee also received a briefing on the Directors' responsibilities for climate risks and regulation and further training is planned for 2022.

Engagement with shareholders

As part of my induction, I have met with various stakeholders. For further information on my induction, see page 74 and for information on how the Board has engaged with stakeholders during the year, see page 61.

Role of the Committee

The Committee ensures that the composition of the Board is appropriate and relevant so that the Board is in the best position to oversee operational performance and to drive the Group's strategy. The Committee also keeps the Group's corporate governance arrangements under review.

The Committee's responsibilities are outlined in its terms of reference, available at rolls-royce.com. We review these annually and refer them to the Board for approval. During 2021, we updated our terms of reference to broaden our remit to include our responsibility to review and consider climate change topics and risk, as appropriate to the overall remit of the Committee as delegated by the Board.

Membership of the Committee

All members of the Committee are independent Non-Executive Directors. Our biographies are on pages 71 to 73 and meeting attendance is on page 76. No Director attends discussions relating to their own appointment. In addition to the members of the Committee, the Chief Executive and Chief Financial Officer attend when it is considered appropriate.

Anita Frew
Chair of the Nominations & Governance Committee

AUDIT

Key areas of focus in 2021
- Continuing impact of COVID-19 on accounting assumptions and judgements
- Risk management and internal control environment, specifically in relation to the impacts of COVID-19 and agile working
- Developments with the audit reforms in the UK
- Changes to the internal control framework influenced by the UK BEIS consultation on audit and governance reform
- Impact of climate change on accounting assumptions and consideration of TCFD recommendations

Key areas of focus for 2022
- Approach to TCFD framework and impact of climate change on accounting assumptions and reporting
- Business transformation programme, including simplification and progress on internal controls
- Oversight of effectiveness of risk mitigation in routine processes and decision making

I am pleased to present the 2021 report of the Audit Committee which describes how the Committee has carried out its responsibilities during the year. I assumed the role as Chair of the Audit Committee from March 2021 when Lewis Booth stepped down. On behalf of the Committee, I would like to thank Lewis for many years of excellent stewardship of the Audit Committee. The Committee has played an active role in supporting Panos Kakoullis in his new role as Chief Financial Officer, having joined the Group in May 2021.

Although it was not possible for us to meet with our shareholders in person at our 2021 AGM, we were able to answer questions during the live stream of the meeting. We are hopeful that we will be able to meet in person at our 2022 AGM, where we will be able to answer any questions regarding this report.

This report sets out the work of the Committee in 2021. It has been another busy year for the Committee as we continued to focus on the issues relevant to the Group's financial reporting, considering key accounting judgements and ensuring ongoing quality of the related disclosures. We have ensured, as the commitments the Group made in 2020 are delivered, that the appropriate judgements and assessments are made, particularly in relation to the disposal programme. In our meetings, we have robust conversations to ensure management are challenged to satisfy ourselves that the judgements taken and the disclosures made are appropriate for the Group.

We have supported the Board in its considerations of climate change risk and opportunity and, together with the Safety, Ethics & Sustainability Committee, we have overseen the reporting against the TCFD recommendations. We also reviewed the impact of the Group's climate strategy on the 2021 financial statements including the assumptions used in the forecasts for the assessment of going concern and viability, long-term contract accounting, impairment testing and deferred tax asset recognition.

The Committee undertook deep dives of the principal risks it oversees, particularly in terms of embedding the lessons learned from COVID-19 in relation to business continuity. The Committee continued to receive regular reports from internal audit and approved the 2022 plan, challenging management to ensure there was sufficient focus to support the business transformation programme.

The Committee received a briefing on the UK BEIS consultation on 'restoring trust in audit and corporate governance' from the Chief Governance Officer and reviewed the Company's response. We have continued to regularly monitor the Group's internal control framework and its effectiveness across the business throughout 2021 with the appropriate lens so that any final recommendations by BEIS are incorporated in our processes.

During the year, the Committee received individual business presentations focused primarily on business governance, including risk management and internal control systems. Each business has its own risk and audit committee and members of the Committee are invited to attend their meetings to both observe and challenge management.

Membership of the Committee

In addition to myself, members of the Committee during 2021 were George Culmer, Beverly Goulet and Lee Hsien Yang, all Independent Non-Executive Directors. Lewis Booth was also a member of the Committee until he stepped down from the Board at the AGM in May 2021. For the purposes of the Code and DTR 7.1, George Culmer, Beverly Goulet and I have recent and relevant financial experience. The Board has confirmed that it believes that the Committee as a whole has competence relevant to the Company's sector. Our biographies are on pages 71 to 73 and our meeting attendance is shown on page 76. In addition to the members of the Committee, the Chair, Chief Executive, Chief Financial Officer and all Non-Executive Directors may attend meetings at my invitation. The Committee is supported by the General Counsel, the corporate governance director, the group financial controller, the director of risk and internal audit and the external auditors.

Role of the Committee

The Committee is responsible for recommending to the Board the financial reporting, focusing on accounting policies, judgements and estimates; disclosures; compliance with regulations; and whether the Annual Report is fair, balanced and understandable.

We monitor the effectiveness of the risk management and internal control environment and review concerns of financial fraud. The Business Continuity and Financial Shock principal risks are considered by the Committee while the Cyber principal risk is reviewed by our data security committee.

In addition, the Committee provides oversight in respect of the scope, resources, results and effectiveness of internal audit. We are responsible for the relationship with, and the effectiveness of, the external auditor as well as approving their terms of engagement and fees.

The Committee's responsibilities are outlined in its terms of reference, available at rolls-royce.com. We review these annually and refer them to the Board for approval. Changes have been introduced in 2021 to reflect the Committee's role in overseeing the Group's climate change reporting.

Financial reporting

The Group has complex long-term contract accounting and every year the Committee spends much of its time reviewing the accounting policies and judgements implicit in the Group's financial results. In 2021, in addition to our scheduled workload, we have continued to focus on the assumptions in respect of the recovery of civil aviation from the impacts of COVID-19, in particular the implications of changes in Civil Aerospace engine flying hours (EFHs), and all areas impacted by this. We have also reviewed the accounting judgements associated with the targeted disposals being made to meet the Group's stated commitments. In addition, during 2021, the Committee considered the impact of the Group's climate strategy on the assumptions and scenarios used by management.

We have ensured that the disclosures in respect of all key areas of judgement are appropriate and balanced. We have continued to provide additional information with regard to the sensitivity of the estimates to changes in key assumptions which are summarised in note 1 of the Consolidated Financial Statements on page 117.

Significant issues relating to the 2021 financial statements:

A summary of the principal matters we considered in respect of the 2021 Consolidated Financial Statements is set out below.

AREA OF FOCUS	CONSIDERATIONS
Alternative Performance Measures (APMs)	Consistent with previous years, the Committee reviewed the clarity of the definitions and the reconciliation of each APM to its statutory equivalent. The Committee concluded that there was no undue prominence of the APMs in the Annual Report. See page 215 for a reconciliation of APMs to their statutory equivalents.
Long-term contract accounting	The Committee considered the assessment of estimates of future revenue and costs on the Group's complex, long-term contractual arrangements. This has continued to be a particular focus for the Committee due to the impact of COVID-19, in particular on our Civil Aerospace business. As part of our considerations, we reviewed onerous contracts and the carrying value and recoverability of tangible and intangible assets. We reviewed the disclosures and concluded these, together with the assessments, were appropriate. See note 1 in the Consolidated Financial Statements.
Deferred tax assets	The Committee considered the basis for the recognition of the UK deferred tax assets and considered the judgements and estimates necessary to assess the recoverability of the UK deferred tax assets. We confirmed the approach, which remained consistent with that taken in 2020, together with the disclosures set out in note 1 to the Consolidated Financial Statements.
Impact of climate change	The approach taken by management to assess the impact of climate change, the conclusions reached and the disclosures presented have been reviewed by the Committee, including considering the related TCFD recommendations. This included understanding and challenging the assumptions in the climate scenarios used by management to sensitise forecasts in respect of going concern, viability, long-term contract accounting, impairment assessments and deferred tax asset recognition. See note 1 in the Consolidated Financial Statements.
Sales of spare engines	Throughout the year, the Committee kept under review the assessment of whether the sales of spare engines to related entities was at fair value. The Committee challenged management on the approach, the accounting and the reporting of these transactions. In addition, the Committee asked the external auditors to specifically include within their audit scope a review of the sale of spare engines to related entities. The auditors reported back to the Committee and confirmed that the approach was appropriate. See disclosure set out in note 1 of the Consolidated Financial Statements.
ITP Aero disposal	The Committee reviewed the assessment of ITP Aero to be classified as held for sale and a discontinued operation based on the expected timeline and likelihood of sale (see note 1 to the Consolidated Financial Statements). The Committee also confirmed the judgements taken to conclude that ITP Aero should no longer be reported as an operating segment in the 2021 Annual Report (see note 2 to the Consolidated Financial Statements). As part of its review, the Committee considered the arrangements between ITP Aero and Civil Aerospace to ensure that these were presented correctly.

Fair, balanced and understandable

As part of its review of the 2021 Annual Report, the Committee considered whether the report, taken as a whole, was fair, balanced and understandable and that it provided the information necessary for shareholders to assess the Company's position, performance, business model and strategy. In so doing, the Committee considers the processes and controls involved in preparing the report. There is a robust governance framework to ensure the report is critically reviewed and signed off by key business and function teams. The Committee was satisfied that the process was effective and confirmed to the Board that, when taken as a whole, the Annual Report is fair, balanced and understandable.

Risk management and the internal control environment

Our risk management and internal control framework is described on page 52. During the year, we focused on the effectiveness of risk mitigation, understanding our appetite for taking many of the risks as described on page 52, including in respect of business continuity activities following consideration of the lessons learned through COVID-19. We will continue to focus on risk mitigation effectiveness and appetite in 2022, embedding these more firmly as part of our routine processes and decision making, including in relation to strategic planning.

We also satisfied ourselves that the processes for identifying and managing risks are appropriate and that all principal risks and mitigating actions had been subject, during the year, to a detailed review by the Board or an appropriate Board Committee. Based on this and on our other activities, including consideration of the work of internal and external audit and attendance at the Committee by business and functional risk owners, we reported to the Board that a robust assessment of the principal risks facing the Group had been undertaken. Details of our principal risks are set out on pages 54 to 57. The Board allocated certain principal risks to the Committee and we considered these in detail throughout the year, as described below. From our discussions, we are satisfied that the principal risks that we oversee have received appropriate management attention during the year:

- Business Continuity: the Committee received updates on the status of the continuity risk management of each business, including the impact of COVID-19 on both our supply chain and operations.
- Cyber: at each meeting of our data security committee, risks as a result of COVID-19 were considered together with lessons learnt from incidents and assessment of risk management effectiveness. The cyber security strategy was kept under review.
- Financial Shock: the Committee has reviewed the Group's policies, procedures and controls for identifying, managing and mitigating financial shock in relation to, for example, financial scenario planning, financial forecasting, hedging of foreign exchange and interest rate exposures and the impacts of COVID-19 on such matters.

Internal financial control

The Committee specifically reviews the Group's internal financial controls (see page 52). During 2021, we reviewed the results of self-attestation and testing performed by the internal control and internal audit teams to confirm the effective operation of key financial controls across the Group. We monitored progress against the 2021 financial controls programme to strengthen the financial reporting and compliance controls, with a particular focus on foreign exchange reporting and IT access. We confirmed completion of key activities identified as a result. We also considered the external auditor's observations on the financial control environment.

Effectiveness of risk management and internal control systems

We have conducted a review of the effectiveness of the Group's risk management and internal control systems, including those relating to the financial reporting process. Where opportunities for improvement were identified, action plans have been put in place and progress is monitored by the Committee. We consider that our review of the risk management and internal control systems, in place throughout 2021 and up to the date of this report, satisfies the requirements of the Code, the DTR and the FRC's guidance on risk management.

Going concern and viability statements

Having regard to the net liabilities of £4,636m on the Group's 2021 balance sheet, we paid particular attention to these assessments. We reviewed the processes and assumptions underlying the statements set out on pages 58 to 60, considering in particular:

- the Group's forecast funding position over the next five years;
- the forecasts for material subsidiaries making up this position;
- an analysis of impacts of severe but plausible risk scenarios, ensuring that these included relevant principal risks;
- the impact of multiple risks occurring simultaneously;
- additional mitigating actions that could be taken in extreme circumstances; and
- the current borrowing facilities in place and the availability of future facilities.

As a result, we are satisfied that the going concern and viability statements have been prepared on an appropriate basis.

Internal audit

The director of risk and internal audit regularly attends and reports to the Committee on risk and internal audit matters including:

- identifying key trends and headline findings from internal audit reports issued in the period;
- details of any specific significant findings raised by internal audit that warrant the Committee's attention;
- status of agreed actions arising from internal audit work;
- the plan of internal audit work for the following year; and
- progress against the current year's internal audit plan and any changes to the plan.

I meet the director of risk and internal audit regularly throughout the year, as do other members of the Committee, to discuss risk matters and the nature of internal audit findings in more depth. We continue to focus on the nature of issues raised by internal audit and the timescales to complete the related actions. The future work plan is risk-based, including risks to both short and longer-term objectives and balancing focus on principal risk areas and on business-as-usual transactional activity where controls are understood to be mature and established. Internal audit also provides assurance to our restructuring activities and incorporates the activities of our second line assurance functions in their approach. We considered and reviewed the effectiveness of the Group's internal audit function, including resources, plans and performance as well as the function's interaction with management. Based on the reports and discussion, we are satisfied that the scope, extent and effectiveness of internal audit work are appropriate for the Group and that there is an appropriate plan in place to sustain this.

External audit

PwC were appointed as the Group's external auditor for the financial year commencing on 1 January 2018 following a formal tender process in 2016. The external audit contract will be put out to tender at least every ten years. Ian Chambers is the lead audit partner and has been in post since PwC were appointed; he will be required to rotate after five years. Other key audit partners will also be required to rotate every five years. Any future audit tenders will be carried out in line with the FRC's practice aid for audit committees.

Other than the services detailed below, PwC have no other connection with the Company or its Directors.

2021 audit

The Committee reviewed the quality of the external audit throughout the year and considered the performance of PwC. This year, to support this, the Committee members and senior finance personnel have undertaken an internal evaluation, focusing on a range of factors we consider relevant to audit quality. The findings from this evaluation and agreed actions will be reviewed and approved by the Committee in May 2022. Feedback was also received from the auditors on their performance against their own objectives.

Based on these reviews, the Committee concluded that there had been appropriate focus and challenge by PwC on the primary areas of the audit and that they had applied robust challenge and scepticism throughout the audit. Consequently, the Committee has recommended to the Board that they be reappointed at the 2022 AGM.

In November, PwC presented its formal audit plan, which identified its assessment of the key audit risks and the proposed scope of audit work. Reflecting on findings from the half-year review and the developments in the Group, we agreed the approach and scope to be undertaken. Key risks and the audit approach to these risks are discussed in the Independent Auditor's Report (pages 197 to 210), which also highlights the other risks that PwC drew to our attention.

As part of the reporting of the half-year and full-year results, in August 2021 and February 2022, PwC reported to the Committee on its assessment of the Group's judgements and estimates in respect of these risks and the adequacy of the reporting. Where effective to do so, PwC also reported on its assessment of the Group's controls.

I meet with the lead partner regularly throughout the year and the whole Committee has a private meeting with PwC at least once a year.

Non-audit services

In order to safeguard the auditor's independence and objectivity, and in accordance with the FRC's ethical standard, we do not engage PwC for any non-audit services except where it is work that they must, or are clearly best-suited to, perform. Accordingly, our policy for the engagement of the auditor to undertake non-audit services broadly limit these to audit-related services such as reporting to lenders and grant providers, where there is a requirement by law or regulation to perform the work. All other non-audit services are considered on a case-by-case basis in light of the requirements of the ethical standards and in compliance with our own policy.

Fees paid to PwC are set out in note 7 to the Consolidated Financial Statements on page 146. All proposed services must be pre-approved in accordance with the policy which is reviewed and approved annually. Above defined levels, my approval is also required before PwC is engaged. We also review the non-audit fees charged by PwC on a quarterly basis.

Non-audit related fees paid to the auditor during the year were £1.9m (2020: £2.7m), representing 16% (2020: 26%) of the audit fee. This included £0.7m (2020: £1.0m) relating to the review of the half-year results. Our annual review of the external auditor takes into account the nature and level of all services provided.

During the year, the lead audit partner brought it to our attention that PwC had been involved in a prohibited service, the details of which are set out in the Independent Auditor's Report on pages 197 to 210. The Committee agreed that this activity did not impact the independence of PwC for the purposes of the audit.

Based on our review of the services provided by PwC and discussion with the lead audit partner, we concluded that neither the nature nor the scale of the non-audit services gave any concerns regarding the objectivity or independence of PwC.

Compliance

During 2021, the Company complied with the relevant provisions of The Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014, as disclosed within the external audit section.

Nick Luff
Chair of the Audit Committee

REMUNERATION

Key areas of focus in 2021
- Implementation of new policy
- Appointment of new remuneration advisers
- Review of base salaries

Areas of focus for 2022
- Continue to review and carefully monitor the incentive measures and targets to ensure that they remain aligned with performance and strategy, including ongoing consideration of sustainability measures
- Gain further insights into the remuneration of the workforce to further inform decisions on senior management reward

As Chair of the Remuneration Committee, I am pleased to present the Directors' remuneration report for 2021.

This introductory letter outlines the key remuneration decisions made by the Committee in respect of 2021 and the planned implementation of the remuneration policy for 2022. In addition, I have set out the business and key stakeholder context to these decisions.

Business context for 2021

For 2021 the Group's priority was to restore financial stability in the wake of the pandemic. Our goals were shared with investors in 2020 during the balance sheet recapitalisation and the shareholder consultation on the new executive remuneration policy and included the following financial commitments:

- generate at least £2bn from disposal proceeds to strengthen our financial position;
- return to an investment grade credit profile in the medium-term;
- drive medium-term growth and maximise value from existing capabilities;
- position the business to play a crucial role in the transition towards a net zero carbon economy; and
- restructure our business with reduced headcount globally and a reduction in footprint targeting at least £1.3bn annualised restructuring benefits.

2021 continued to be full of uncertainty given the ongoing and unpredictable impact of the pandemic, however, the management team made significant progress against the key promises made to shareholders. They focused on the elements under their control: returning the company to profit and delivering a restructuring programme ahead of schedule to generate sustainable savings of more than £1.3bn this year; and achieving a net cash inflow in the third quarter and minimising the cash outflow in 2021, which was ahead of previous guidance. There has also been excellent progress with four disposals agreed that together will raise proceeds of around £2bn to strengthen our balance sheet.

Despite the difficult trading conditions and ongoing uncertainty, we have also continued to focus on our journey to net zero, generating funding for our SMR programme and making significant strides in electrical flight and power systems as well as testing our engines in Civil Aerospace and Defence to run on 100% sustainable aviation fuel (SAF). We introduced a sustainability target in our incentive metrics for 2023 based on the sustainability of our products and we are committed to go further in this area as we set targets for future incentives, with increased focus on science-based targets.

The Committee is encouraged by the achievements in 2021 and feels that the remuneration policy has supported this journey and rewarded the leadership and wider workforce for their enduring commitment to deliver strong results despite the ongoing challenges.

Remuneration decisions related to 2021

Implementation of the new policy

As noted in last year's report, as part of the implementation of the new remuneration policy, from 1 June 2021, 30% of Warren's salary and 20% of Panos' salary is deferred into shares for two years. Warren also agreed to a reduction in his pension contributions from 23% to 12% from 1 January 2021, in line with the wider workforce level. Panos also has a pension contribution of 12%.

The new policy comprises a single incentive plan designed to reward the key drivers for success, with deferred share awards made at the end of the performance period. In line with the 2021 policy, no LTIP grants were made in 2021 and there will be no cash bonuses for the Executive Directors at any time between 2021 and 2023. As part of the policy review and recognising the wider stakeholder agenda, the 2021 policy has a reduced maximum incentive plan opportunity.

Key elements of the policy were also cascaded to the wider workforce to ensure alignment across the Group.

I was delighted that we had such strong support (97%) for the new policy at our 2021 AGM and we appreciated the engagement and constructive feedback received from many of our shareholders.

As approved by investors, for 2021 the annual incentive metrics were all annual targets focused on restoring our financial stability. This was discussed in depth with our shareholders as part of the policy consultation and strongly supported by them. Longer-term cumulative measures will form part of the incentive structure in 2022 and 2023.

Incentive outturn in respect of 2021

The new Rolls-Royce incentive plan was specifically designed to focus on the key challenges in 2021 with the targets all agreed by the Committee at the start of the year.

The Executive Team has delivered on its commitments with improved financial performance, including achievement of a major restructuring of the Civil Aerospace business ahead of schedule. Operating profit for 2021 was above the remuneration target set by the Committee for the year. Free cash flow for 2021 was also above target.

Cost discipline and delivery of the restructuring programme were key to restoring our financial stability and delivered more than £1.3bn of run-rate cost savings by the end of 2021. Achievement of the operating cost metrics was therefore also above the target.

I was pleased to see that on our people score we had a record number of employees take part in our annual Gallup12 survey and saw an

improvement in overall engagement despite the significant disruption and uncertainty. This score was just below the target for the year.

Clearly, these results have been delivered against a difficult employee and stakeholder environment. Our fundamental restructuring has been largely completed with over 9,000 roles from continuing operations being removed; however, the majority of employees who left the business either retired or took voluntary redundancy, minimising compulsory redundancies. For 2021, there will be no shareholder payment; some of our loan facilities place restrictions and conditions on payments to shareholders. From 2023, the Board may recommend shareholder payments, subject to satisfaction of the conditions and our consideration of progress made to strengthen the balance sheet. We aim to be able to recommend shareholder payments in the medium term. We have seen a 20% increase in our share price during 2021 and delivered on the promises that we made to our shareholders.

The Committee gave consideration to the experience of the Group's stakeholders in 2021 when considering the 2021 incentive outturns.

The Committee was mindful of the receipt of UK Government support in the form of furlough (Coronavirus job retention scheme) in the UK and from similar schemes in other countries (such as kurzarbeit in Germany and CIGO in Italy), as well as other UK Government support in terms of loans and guarantees. We noted that the Covid Corporate Financing Facility had been repaid and that the new remuneration policy supported by shareholders in May 2021 is fully aligned with executive pay restraint commitments entered into as part of the UK Government-backed loan facility. These commitments preclude any cash bonuses from being paid to the Executive Directors.

During our shareholder consultation, we promised to apply discretion to the formulaic outturns to adjust for items which did not reflect management actions. The 2021 outturns have been adjusted to remove any foreign exchange benefits from contract revaluations, deferral of concession payments driven by customer decisions, and the unbudgeted benefit of government support.

This resulted in an incentive outturn of 139.5% of target for Warren and Panos (79.7% of recently reduced maximum) all of which will be delivered in deferred shares, with 40% to be held for three years and 60% for four years.

The Committee considers that this is a fair outcome, which reflected the good progress made by the management team in 2021 to improve financial stability and the delivery against the challenging commitments made to shareholders. The performance is all the more impressive as the incentive targets were set in early 2021 based on available forecasts at that time. The external environment deteriorated against these assumptions in terms of engine flying hours and more broadly due to the impact of Omicrom and global supply issues. The Committee also took into account the fact that the incentive will be delivered fully in shares with long holding periods aligns with the interests of our shareholders. Incentive payments will also be made to all eligible employees across the Group, recognising the significant collective achievements in 2021.

The 2019 LTIP awards, due to vest in March 2022, will lapse as the performance conditions for that plan have not been met.

Appointment of new Chief Financial Officer

Panos Kakoullis was appointed Chief Financial Officer and joined the Board in May 2021. His reward package was set in line with the new remuneration policy, including 20% of his salary being deferred into shares for two years. His pension allowance is aligned with the wider workforce rate. His base salary was set at the same level as his predecessor, reflecting the experience that he brings to the role.

Stephen Daintith resigned as Chief Financial Officer so all outstanding deferred shares and unvested LTIP awards (other than those in a holding period) lapsed.

Incentive targets for the three-year period to 2024

Whilst the Rolls-Royce incentive plan design has been agreed with shareholders for the three-year period of the current policy, the Committee considers it prudent to set three-year targets for the period from 1 January 2022 to 31 December 2024 to ensure that there are long-term incentive targets in place as we move to the next policy period. Consultation with our shareholders will take place before any future policy decisions are determined.

Implementation of the remuneration policy in 2022

Salary review

The Committee has reviewed the salary levels of the Executive Directors and has concluded to make an award of 2.5% for the Executive Directors from 1 March 2022. This is in line with the annual base pay merit increase that the majority of UK management population will receive in 2022 and reflects the recent progress made in our financial and strategic objectives by the Executive Team. This will be the first increase that Warren has received since September 2017 and his second since being appointed as Chief Executive on 1 January 2016.

Incentive plan operation

The targets set in respect of the single incentive plan for the three-year policy period are all set out in the remuneration report. There are no changes proposed to the operation of the single incentive plan for 2022.

Remuneration Committee advisers

During the year, the Committee undertook a competitive tender of its advisers, following which Willis Towers Watson (WTW) was appointed to replace Deloitte LLP. The process involved submission of written proposals, followed by shortlisted candidates being interviewed by members of the Committee. The Committee selected and appointed WTW with effect from September 2021. The Committee noted that WTW also provide human capital and benefits services. The Committee is comfortable that these activities do not represent a conflict of interest and that objective and independent advice will be received by the Committee from the dedicated team servicing it at WTW. WTW is a member of the Remuneration Consulting Group and, as such, voluntarily operates under the code of conduct in relation to executive remuneration consulting in the UK.

Total fees for advice provided to the Committee during the year by Deloitte were £47,800 (2020: £110,200) and by WTW were £26,200. Fees are based on a time and materials basis. Deloitte also advised the Company on tax, corporate compliance, employee global mobility, assurance, corporate finance and Deloitte MCS Limited provided consulting services. Deloitte also provided personal tax advice to Irene Dorner, Lee Hsien Yang and our former Chairman Sir Ian Davis; they are the auditor for Severn Trent plc and remuneration

consultants to Mondi plc, where Dame Angela Strank serves as a non-executive director; Panos Kakoullis was previously employed by Deloitte; and Stephen Daintith's son is employed by Deloitte. No Directors have a connection to WTW.

Membership and operation of the Committee

In addition to myself, members of the Committee during 2021 were Lewis Booth, George Culmer, Beverly Goulet and Sir Kevin Smith. George was appointed a member of the Committee and Lewis Booth stepped down as a member at the 2021 AGM. All Committee members are independent Non-Executive Directors. Our biographies are on pages 71 to 73 and our meeting attendance is on page 76. In addition to the members of the Committee, the Chair, Chief Executive, Chief Financial Officer and any of the Non-Executive Directors may attend one or more meetings at the invitation of the Committee Chair. The Committee is supported by the Chief Governance Officer, the Chief People Officer and the people director, performance and reward.

No Executive Director or Executive Team member was present during discussion of his or her own remuneration package and they were not involved in the final approval of the new remuneration policy design.

The Committee's responsibilities are outlined in its terms of reference, available at rolls-royce.com. We review these annually and refer them to the Board for approval. In 2021, we updated the terms of reference to ensure that the remuneration policy promotes the long-term sustainable success of the Company.

Summary

As recently announced, I shall be stepping down from the Board and as Chair of the Remuneration Committee in May and am delighted to hand over to Jitesh Gadhia, who will be joining the Board as a Non-Executive Director on 1 April (see page 80).

The new remuneration policy is working well for us in terms of driving the right performance and behaviours and enabling us to attract and retain talent. I am confident that it will continue to support what we need to achieve over the next few years, and I appreciate the continued encouragement and support of our shareholders.

Irene Dorner
Chair of the Remuneration Committee

Principal responsibilities

- Determine the remuneration policy for the Executive Directors and set the remuneration for the Chair, the Executive Directors, the Executive Team and the Chief Governance Officer;
- review workforce remuneration and related policies and the alignment of incentives and rewards with our culture;
- determine the design, conditions and coverage of incentives for senior executives and approve total and individual payments under the plans;
- determine targets for any performance-related pay plans;
- determine the issue and terms of all-employee share plans; and
- oversee any major changes in remuneration.

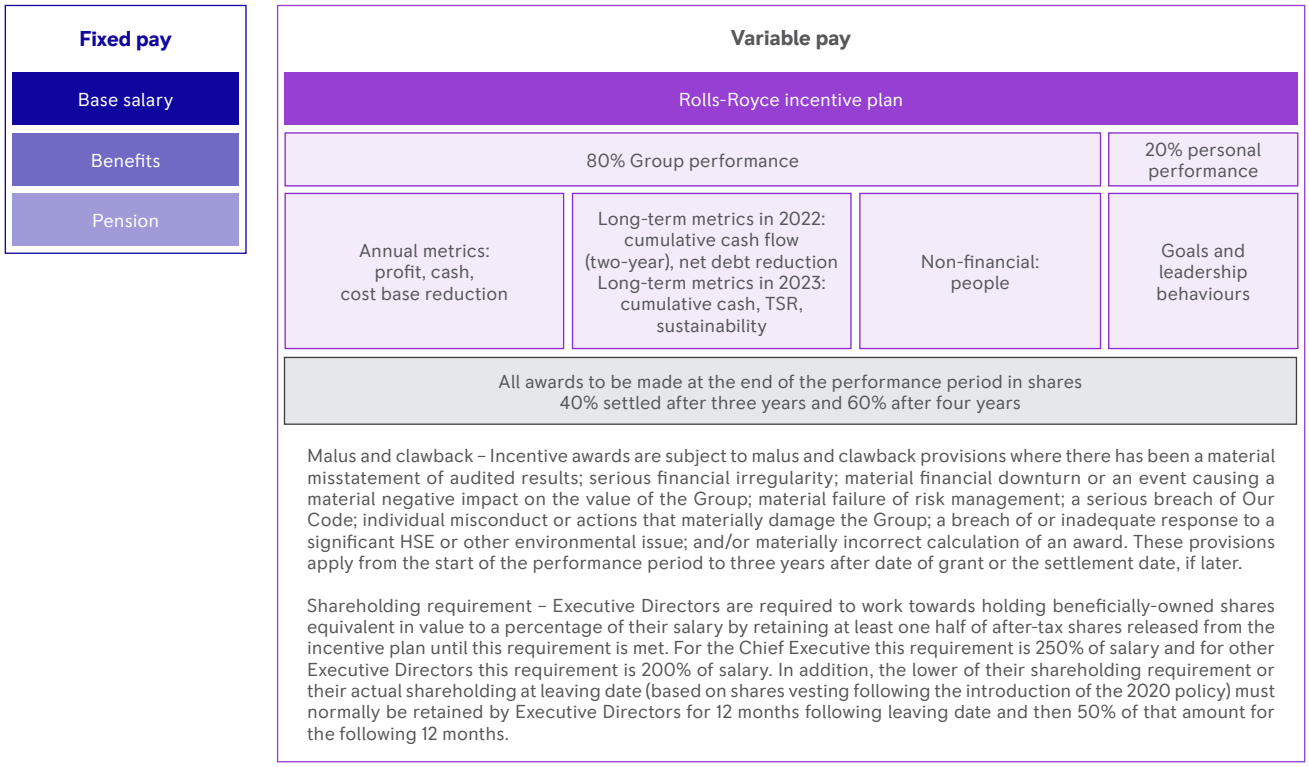
REMUNERATION COMMITTEE FOCUS DURING 2021

AREA OF FOCUS	MATTERS CONSIDERED	OUTCOME
Policy implementation	Final consultation with shareholders on proposed policy changes and implementation of policy approved at the 2021 AGM.	Following strong support from shareholders at the AGM, the Committee implemented the policy changes for 2021. In summary: – introducing a new incentive plan designed to reward the key drivers for success across our businesses, with focus on shorter-term metrics in 2021, with additional longer-term metrics in 2022 and 2023; – a reduction in the maximum incentive level from 200% of target to 175%; – a deferral of salary into shares (30% for the Chief Executive, 20% for the Chief Financial Officer); and – an immediate reduction in pension contributions to 12% of salary to align with the wider workforce. In implementing the policy, the Committee also created alignment with the remuneration of the wider workforce through a cascade of key elements of the policy down through the organisation.
Base salaries	Review of base salaries in accordance with the remuneration policy and the broader employee and external context.	The Committee reviewed the salaries of the Executive Directors in the context of increases for the wider workforce and concluded for 2022 to increase salaries by 2.5% in line with the wider workforce. They implemented the salary deferral under the new policy – 30% of the Chief Executive's salary and 20% of the Chief Financial Officer's salary is deferred into shares for two years.
Rolls-Royce incentive plan	2021 incentives – review of performance against the 2021 targets. 2022 incentives – Setting targets and ranges for the in-year metrics for the 2022 incentive plan and the long term metrics for the plan from 2022–2024.	The Committee implemented the new incentive plan which replaced the previous annual bonus and LTIP with a blend of short and long-term metrics. The Committee set targets and range for 2021, together with the long-term metrics for 2022 to 2024. The Committee reviewed the formulaic outturn of the 2021 incentive plan and after exercise of discretion and consideration of the broader stakeholder environment, confirmed a Group outturn of 144.4% of target.

REMUNERATION AT A GLANCE

This section provides a summary of the remuneration policy (and its implementation) that was approved by a binding shareholder vote at the 2021 AGM (see page 104). The policy is designed to attract, retain and incentivise our leaders within a framework that is aligned to our strategy and the interests of our stakeholders. The full policy can be found at rolls-royce.com.

Summary of our remuneration policy



Malus and clawback – Incentive awards are subject to malus and clawback provisions where there has been a material misstatement of audited results; serious financial irregularity; material financial downturn or an event causing a material negative impact on the value of the Group; material failure of risk management; a serious breach of Our Code; individual misconduct or actions that materially damage the Group; a breach of or inadequate response to a significant HSE or other environmental issue; and/or materially incorrect calculation of an award. These provisions apply from the start of the performance period to three years after date of grant or the settlement date, if later.

Shareholding requirement – Executive Directors are required to work towards holding beneficially-owned shares equivalent in value to a percentage of their salary by retaining at least one half of after-tax shares released from the incentive plan until this requirement is met. For the Chief Executive this requirement is 250% of salary and for other Executive Directors this requirement is 200% of salary. In addition, the lower of their shareholding requirement or their actual shareholding at leaving date (based on shares vesting following the introduction of the 2020 policy) must normally be retained by Executive Directors for 12 months following leaving date and then 50% of that amount for the following 12 months.

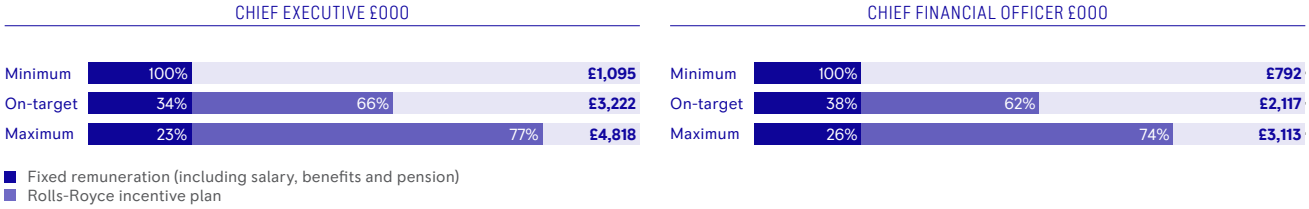
Executive Directors summary policy and implementation table

Base salary	
Purpose and link to strategy	To attract and retain individuals of the right calibre to develop and execute the business strategy.
Key features	Salaries are reviewed, but not necessarily increased, annually. Decisions on salary are informed but not led by reference to companies of a similar size, complexity and international reach. 30% of salary for the Chief Executive and 20% for the Chief Financial Officer is delivered in deferred shares.
Implementation in 2021	No salary increase in line with the wider workforce. From 1 June 2021, 30% of salary for the Chief Executive and 20% for the Chief Financial Officer is deferred into shares for two years.
Planned implementation in 2022	Salary increases of 2.5% for the Chief Executive and Chief Financial Officer are proposed with effect from 1 March 2022 in line with the wider workforce.
Benefits	
Purpose and link to strategy	To attract and retain individuals of the right calibre to develop and execute the business strategy.
Key features	Benefits may include car or car allowance and related costs, financial planning assistance, private medical insurance, life assurance and other appropriate benefits at the discretion of the Committee.
Implementation in 2021	No changes to benefits.
Planned implementation in 2022	No changes to benefits.

Executive Directors summary policy and implementation table (continued)

Pension	
Purpose and link to strategy	To attract and retain individuals of the right calibre to develop and execute the business strategy.
Key features	Executive Directors are offered membership of a defined contribution plan. A cash allowance may be payable in lieu of pension contributions. The maximum contribution is 12% of base salary only, in line with the rate offered to the wider UK workforce.
Implementation in 2021	Pension contribution/allowance reduced to 12% in line with the rate for the wider UK workforce.
Planned implementation in 2022	No changes to pension contribution/allowance of 12%.
Rolls-Royce incentive plan	
Purpose and link to strategy	To incentivise the execution of the business strategy, delivery of financial targets and the achievement of personal objectives.
Key features	Maximum opportunity is 385% (220% target) for the Chief Executive and 333% (190% target) for the Chief Financial Officer. Targets are set based on Group financial performance and individual performance and may include both annual and long-term metrics. Non-financial metrics may also be included. All of the incentive is deferred into shares, 40% for three years and 60% for four years. The Committee may apply discretion to any formulaic outturn. The incentive plan is subject to malus and clawback.
Implementation in 2021	An outturn of 139.5% of target for the Chief Executive and the Chief Financial Officer. All deferred into shares, 40% held for three years and 60% for four years.
Planned implementation in 2022	80% of incentive based on Group metrics. For 2022 these are 60% annual targets: – cash 20%; – profit 20%; – cost base reduction 10%; and – people 10%. 40% long-term metrics (targets set in early 2021): – cumulative cash 20% (two-year); and – net debt reduction. 20% of incentive based on personal performance. For 2023, the long-term metrics will include sustainability and TSR.
Shareholding requirement	
Purpose and link to strategy	To ensure alignment between the interests of Executive Directors and shareholders.
Key features	Shareholding requirement of: Chief Executive – 250% Chief Financial Officer – 200%
Implementation in 2021	Shareholdings as a % of salary: Chief Executive – 255% Chief Financial Officer – 15%

Remuneration policy – performance scenarios for 2022



Minimum – fixed remuneration (salary including salary deferred into shares, pension, benefits), no incentive award.
On-target – fixed remuneration, 57% of maximum incentive award.
Maximum – fixed remuneration, 100% of maximum incentive award.
There is no share price impact as incentive awards are granted following the end of the performance period.

Alignment with strategy and business performance

Executive Directors' remuneration is strongly linked to strategic performance and in particular the commitments made to shareholders as part of the recapitalisation. The key strategic performance measures that are linked to remuneration are shown below, together with their impact on 2021 incentive outturns.

Underlying profit/(loss) *	Free cash flow *	Operating costs *
£295m	£(1,666m)	£(5,333m)
150% of target incentive	175% of target incentive	126% of target incentive

* Adjusted underlying numbers (see page 96).

In addition we also measure our people score as part of the incentive which delivered 92% of target incentive (see page 96 for further details).

The overall Group outturn of 144.4% (of target) was after discretion was applied by the Committee (see page 96).

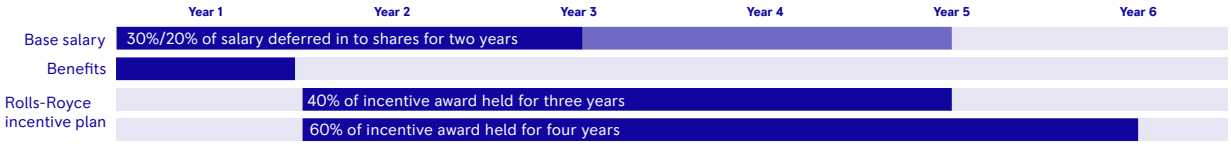
For 2022, we will also be including net debt reduction and cumulative cash flow (two-year) as part of the metrics, based on targets set in early 2021.

Alignment with shareholders

The policy has been designed to ensure alignment with shareholders through a significant part of the overall reward package being delivered in shares with long holding periods:

— 30% of salary for the Chief Executive and 20% for the Chief Financial Officer is deferred into shares for two years; and

— all incentive awards are delivered in shares, 40% held for three years and 60% for four years. No cash incentive has been awarded for 2021 and this will continue for the life of the policy.



Alignment with the wider workforce

The Remuneration Committee considers a range of factors when deciding upon the remuneration for Executive Directors, one of which is the alignment with reward practices across the wider workforce. In implementing the new policy, the Committee took the opportunity to ensure a cascade of the policy down the organisation, in particular the incentive design and metrics and the alignment of UK pension contribution rates.

	Base salary	Benefits	Pension	Rolls-Royce incentive plan
Executive Directors	Base salary is typically set with reference to the market and wider workforce considerations. Annual increases are typically in line with or less than the wider employee population.	Benefits are set according to local market practice in country. In many countries voluntary benefits are also offered to all employees.	Pension contributions (or equivalent cash allowances) are set at 12% across the UK workforce.	Incentive Plan linked 80% to business performance and 20% to individual performance. Deferral of all or part of the incentive awards into deferred shares. All incentive awards are delivered in deferred shares for Executive Directors. Longer-term metrics in addition to annual metrics in the plan from 2022 onwards.
Executive Team				
Enterprise Leadership Group				
Management				Incentive Plan linked to both business and personal performance (weighting varies by level). Same annual metrics as per executive plan. Some groups may also receive a long-term incentive grant for market or retention purposes.
Wider workforce	In some jurisdictions, base salary levels are subject to negotiation with recognised trade unions and/or are set in line with market requirements. Annual increases are also subject to negotiation.			The majority of employees globally participate in an annual incentive plan, for which the Executive plan metrics and targets are usually applied.

The Company engaged with its workforce on the changes to the Executive Directors' policy in 2021 and provided opportunities to give feedback via existing communication channels.

Provision 40, section 41 disclosures

When developing the remuneration policy and considering its implementation for 2021, the Committee was mindful of the Code and considers that the executive remuneration framework appropriately addresses the following factors:

Clarity	We provide open and transparent disclosures regarding our executive remuneration arrangements. We have explained the changes to our proposed remuneration policy in a way that highlights their alignment to both our vision and strategy as well as the provisions of the Code.
Simplicity	Remuneration arrangements for our Senior Leadership and our wider workforce are simple in nature and well understood by both participants and shareholders.
Predictability	Our remuneration policy contains details of maximum opportunity levels for each component of pay, with actual incentive outcomes varying depending on the level of performance achieved against specific measures.
Proportionality, risk, and alignment to culture	The metrics used to measure performance for incentive awards drive behaviours that are closely aligned to our vision and strategy. In particular our variable pay arrangements continue to focus on delivering an unprecedented level of transformation. The Committee considers that our variable pay structure does not encourage inappropriate risk-taking. The incentive structure introduced in 2021 reduces the maximum award and does not include any LTIP grants. All awards are ultimately determined by the Committee after the end of the performance period and this therefore removes the risk of windfall gains. The incentives are subject to the achievement of stretching performance targets, and the Committee's holistic assessment of performance that can result in the application of discretion. The use of holding periods, the payment of fixed salary in shares with holding periods, and our shareholding requirements (including after leaving employment with Rolls-Royce) provide a clear link to the ongoing performance of the business and therefore alignment with shareholders. Malus and clawback provisions also apply to the Rolls-Royce incentive plan.

REMUNERATION REPORT FOR 2021

Executive Directors' remuneration

The following pages show how we have applied our remuneration policy during 2021 and disclose all elements of remuneration received by our Executive Directors. Details of remuneration received by our Non-Executive Directors during 2021 can be found on page 103.

Executive Directors' single figure of remuneration (audited)

	Salary (a) £000		Benefits (b) £000		Incentive plan (c) £000		Long-term incentives (d) £000		Pension (e) £000		Total remuneration £000		Total fixed remuneration £000		Total variable remuneration £000	
	2021	2020	2021	2020	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Executive Directors																
Warren East	**925**	873	**16**	16	**2,896**	–	**–**	–	**113**	220	**3,950**	1,110	**1,054**	1,109	**2,896**	–
Panos Kakoullis	**453**	–	**11**	–	**1,200**	–	**–**	–	**54**	–	**1,718**	–	**518**	–	**1,200**	–
Stephen Daintith (left 19 March 2021)	**157**	629	**4**	22	**–**	–	**–**	–	**18**	144	**179**	795	**179**	795	**–**	–

a) Salary

The Company provides suitable competitive salaries to attract and retain individuals of the right calibre to develop and execute the business strategy. A 10% reduction in salary and a further 10% deferral was applied from April to December 2020, with the deferral being repaid in December 2020. In 2021, Warren East took five days' unpaid leave, in line with employees in Head Office. Upon resignation, Stephen Daintith received payment for outstanding annual leave. As part of the policy implementation, from June 2021, 30% of Warren East's salary (2021: £165,100) and 20% of Panos Kakoullis' salary (2021: £79,300) is deferred into shares for two years.

The Committee reviewed the salary of Warren East and Panos Kakoullis and agreed to increase salaries by 2.5% which is in line with the wider UK workforce.

Executive Directors	Base salary as at 1 March 2022	Base salary as at 1 March 2021
Warren East	**£967,088**	£943,500
Panos Kakoullis	**£697,000**	£680,000

b) Benefits (audited)

Benefits are provided to ensure that remuneration packages remain sufficiently competitive to attract and retain individuals of the right calibre to develop and execute the business strategy and to enable them to devote themselves fully to their roles. The taxable value of all benefits paid to Executive Directors shown below.

	Car or car allowance inc. fuel allowance £000		Medical insurance £000		Travel and subsistence £000		Total £000	
Executive Directors	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Warren East	**15**	15	**1**	1	**–**	–	**16**	16
Panos Kakoullis	**10**	–	**1**	–	**–**	–	**11**	–
Stephen Daintith (left 19 March 2021)	**4**	17	**–**	2	**–**	3	**4**	22

c) Rolls-Royce incentive performance outturn (audited)

The Rolls-Royce incentive plan is designed to incentivise the execution of the business strategy, delivery of financial targets, and the achievement of personal objectives. Incentive Awards are made in March following the performance period. All of the incentive is deferred into shares - 40% deferred for three years and 60% for four years - and include the right to receive an amount equal in value to the C Shares issued during the deferral period. The annual maximum for the Chief Executive is 385% of salary and 333% for the other Executive Director(s):

- 80% of the award is based on Group performance; and
- 20% of the award is based on individual performance.

The incentive award for the Chief Financial Officer has been pro-rated from his date of appointment.

The 2020 comparator is the award made under the former annual bonus scheme.

The Committee reviewed the 2021 outturn against the performance measures.

Rolls-Royce incentive plan performance outturn table

	Profit	Cash	Operating cost	People	Total
Weighting	37.5%	37.5%	15.0%	10.0%	100.0%
Base (50%)	£27m	£(2,272)m	£(5,666)m	3.68	
Target (100%)	£227m	£(1,972)m	£(5,466)m	3.74	
Maximum (175%)	£427m	£(1,672)m	£(5,266)m	3.81	
2021 performance pre discretion	£439m	£(1,442)m	£(5,081)m	3.73	
2021 performance post discretion *	£295m	£(1,666)m	£(5,333)m	3.73	
% of target	126%	175%	150%	92%	144%
% of reduced maximum	86%	100%	72%	52%	83%

* The underlying numbers were adjusted to exclude ITP Aero, Other businesses, FX and exceptional items.

The Committee applied discretion to adjust the formulaic outturn for a number of items which they felt were not reflective of underlying business performance, including removing the cash benefit of concession slippages, adjusting for the foreign exchange impact of asset and liability revaluations, removing the benefit of a US pension credit and excluding the unbudgeted benefit from government support schemes. As a result of these adjustments, the overall Group outturn is 144% of target, 83% of the reduced maximum.

Definitions used for performance measures:

Profit – adjusted underlying operating profit before tax for 2021.

Cash – free cash flow which is cash flow before acquisitions and disposals, shareholder payments and foreign exchange.

Operating cost – Group operating costs (which exclude direct procurement of parts and components and depreciation).

People – measured through our annual Gallup12 survey. 76% of employees completed the survey and we achieved a Group score of 3.73. This showed a strong year-on-year improvement despite the very challenging environment for our people and significant restructuring activity.

Individual performance

Subject to achievement of a minimum financial threshold, the Executive Directors have 20% of their bonus based on achievement of their personal objectives. The financial threshold for 2021 was to ensure that Group operating costs did not exceed the base level. Personal performance objectives are set at the beginning of the year and are aligned with the Group's internal strategic priorities.

For Executive Directors, these have included:

- deliver on commitments made to shareholders:
  - break even cash during the second half of 2021;
  - completion of £2bn of divestments in 2022; and
  - reduction of £1.3bn of operating costs by the end of 2022;
- deliver a significant restructuring programme in Civil Aerospace;
- determine the corporate portfolio and asset allocation including the strategy for Rolls-Royce Electrical and Rolls-Royce SMR;
- develop the roadmap for sustainability;
- provide increased clarity to internal and external stakeholders on risks and opportunities; and
- strengthen and refresh Senior Leadership.

The Committee assesses performance against the objectives. The overall assessed percentage is based on the Committee's judgement and may include other factors and achievements in the year. The following provides a summary of the key achievements in the year.

Both Executive Directors have delivered on the commitments that were made in order to secure the funding for the Group in 2020. All of these commitments were challenging requiring bold and decisive action:

- The restructuring programme launched in 2020 was largely completed, exceeding the £1.3bn run-rate savings target 12 months ahead of schedule.
- Excellent progress was made against the commitment to raise around £2bn of proceeds from disposals, with four agreements announced including three that have already completed.

Warren set out a technology pathway to net zero including commitments to ensuring our new products will be compatible with net zero operation by 2030, and all our products compatible by 2050.

— Significant milestones were achieved in Rolls-Royce Electrical including pre-orders announced for a key urban air mobility customer and a new platform partner.

— Rolls-Royce SMR was fully established with UK Government funding and external capital and is now progressing through the regulatory process for approvals.

Since joining in May, Panos had an immediate and positive impact on the Finance function and established clear near-term priorities including simplifying our external reporting and delivering growth and sustainable value.

2021 Rolls-Royce incentive plan performance outturn

	Group performance (% of maximum)	Individual performance (% of maximum)	Total incentive (% of maximum)	Total incentive (% of salary)
Warren East	83	68.6	79.7	306.9
Panos Kakoullis *	83	68.6	53.1	176.4

* Panos Kakoullis' incentive award was pro-rated from date of appointment

The maximum incentive was reduced from 200% to 175% of target.

All of the incentive outturn was delivered in deferred shares - 40% deferred for three years and 60% for four years.

d) Long-term incentives (audited)
Conditional share awards were made prior to 2021 to Executive Directors under the LTIP to reward the execution and development of the business strategy over a three-year performance period. The conditional shares are then subject to a further two-year holding period.

2019 LTIP awards

The following sets out details in respect of the March 2019 LTIP award for which the final year of performance was the 2021 financial year. The performance conditions were assessed to the end of 2021 and were not met, meaning the award will lapse in March 2022.

	Weighting	Threshold (20% vesting)	Mid (50% vesting)	Maximum (100% vesting)	Performance achieved	Vesting as a % of maximum
CPS [1]	60%	112p	150p	187p	(72)p	0%
EPS [2]	20%	81p	95p	108p	(60)p	0%
Relative TSR v FTSE 100 constituents	10%	Median		Upper quartile	Below median	0%
Relative TSR v constituents of the S&P Global Industrials index	10%	Median		Upper quartile	Below median	0%
						Total vesting of 0%

e) Pension entitlement
Executive Directors are offered membership of a defined contribution plan. A cash allowance may be payable in lieu of pension contributions. From 1 January 2021, all Executive Directors are offered a maximum employer contribution of 12% of salary into the defined contribution pension plan (or cash allowance of equivalent value). This aligns to the average rate for the UK workforce.

Other (audited)

Payments to past directors

An agreement was put in place between the Company and Colin Smith in 2017 for Colin to represent the Company in an ambassadorial capacity. The agreement was for up to 21.5 days for the latter part of 2017, 35 days for 2018 and 2019 and up to 20 days for 2020 and 2021. This agreement has not been renewed for 2022. Total payments of £210,180 have been made under this agreement, of which £16,800 was paid in 2021.

Jasmin Staiblin stepped down as a Non-Executive Director from the Board on 13 May 2021. She was appointed chair of the supervisory board of Rolls-Royce Power Systems AG on 11 June 2021. Payments of £109,300 have been made to Jasmin in 2021 in relation to this appointment.

Payments for loss of office

Stephen Daintith left the Group on 19 March 2021, following his resignation. No further payments were made to him after his leave date and all unvested deferred shares and LTIP awards lapsed, other than those in a holding period.

Implementation of remuneration policy for 2022

Base salary

Base salaries are: Warren East – £967,088; Panos Kakoullis – £697,000.
30% of Warren East's salary and 20% of Panos Kakoullis' salary is deferred into shares for two years.

Benefits

There will be no change to our approach to benefits in 2022, which includes car allowance, financial planning assistance, insurances and other benefits.

Pensions

The pension cash allowance for Warren East and Panos Kakoullis is 12% of salary, in line with the rate applied to the wider UK workforce.

Rolls-Royce incentive plan

For 2021, the Rolls-Royce incentive plan has been implemented in place of the previous bonus and LTIPs in operation over the last policy period. Any awards will be made based on 80% Group performance and 20% individual performance.

For 2021, the Group measures and weightings: profit before tax (37.5%); free cash flow (37.5%); cost base reduction (15%); and people (10%). Where targets are set with a one-year performance period, these are considered to be commercially sensitive and will be disclosed following the end of the performance period. The 2022 and 2023 awards include longer term multi-year performance metrics as illustrated below. Performance against targets and the details and context for the assessment of performance will be disclosed at the end of the relevant performance period. The Committee can disclose the following:

2022

Metrics	Weighting	Targets
Annual targets (60%)		
Cash	20%	Performance targets will be disclosed following the end of the performance period
Profit	20%	
Operating cost	10%	
People	10%	
Long-term targets (40%)		
Cumulative cash (two-year) *	20%	£(1,215)m
Net Debt *	20%	£(1,490)m

2023

Metrics	Weighting	Targets
Annual targets (50%)		
To be confirmed in 2023		
Long-term targets (50%)		
Cumulative cash (three-year) *	20%	Target £(483)m
Relative TSR (50% versus the FTSE 100 constituents and 50% versus the S&P global industrials index constituents	25%	Median triggers threshold vesting and upper quartile maximum
Sustainability	5%	An average of the individual business targets which are based in the main in product compatibility with sustainable fuels

* The targets were set in early 2021 based on the business forecasts at that time.

The Committee may make appropriate adjustments and use judgement in assessing performance outcomes. It retains its overriding ability to use discretion to adjust any formulaic outcome to ensure that the final outcome is fair and justified in the context of the overall performance of the business.

The incentive plan opportunities and time horizons will operate as per the remuneration policy.

Other information Executive Directors' share interests (audited)

The Directors and their connected persons hold the following interests in the ordinary shares of the Company:

	Ordinary shares		Unconditional deferred shares (salary deferral)	Conditional shares not subject to performance conditions (deferred share bonus)	Conditional shares subject to performance conditions (LTIP)	Options over shares subject to savings contract (ShareSave)
	31 December 2021	24 February 2022	31 December 2021	31 December 2021	31 December 2021	31 December 2021
Warren East	1,003,771	1,003,771	137,969	210,230	2,610,003	–
Panos Kakoullis	–	-	65,900	–	–	–

Executive Directors' interests in vested and unvested share awards (audited)

Warren East	31 December 2020	Granted during the year	Vested awards	Lapsed awards	31 December 2021	Market price at date of award (p)	Date of grant	Vesting date/ lapse date	Market price at vesting (p)
Salary deferral [1]	–	137,969	–	–	137,969	–	–	–	–
LTIP 2017	435,426	–	–	–	435,426	820.17	05/05/17	05/05/22	–
LTIP 2018 [2]	801,536	–	–	801,536	–	857.47	08/03/18	10/03/21	–
LTIP 2019	770,793	–	–	–	770,793	891.67	15/03/19	15/03/24	–
LTIP 2020 [3]	1,403,784	–	–	–	1,403,784	489.60	16/03/20	16/03/25	–
Total	3,411,539	137,969	–	801,536	2,747,972				
Deferred share bonus 2018 [4]	132,216	1,988	134,204	–	–	891.67	15/03/19	15/03/21	–
Deferred share bonus 2019	210,230	–	–	–	210,230	489.60	16/03/20	16/03/22	–
Total	342,446	1,988	134,204	–	210,230				
ShareSave 2015 five-year (options) [5]	3,683	–	–	3,683	–	211.68	12/10/15	01/02/21	–

Panos Kakoullis	31 December 2020	Granted during the year	Vested awards	Lapsed awards	31 December 2021	Market price at date of award (p)	Date of grant	Vesting date/ lapse date	Market price at vesting (p)
Salary deferral [1]	–	65,900	–	–	65,900	–	–	–	–

Stephen Daintith [6]	31 December 2020	Granted during the period	Vested awards	Lapsed awards	19 March 2021	Market price at date of award (p)	Date of grant	Vesting date/ lapse date	Market price at vesting (p)
LTIP 2017	288,087	–	–	–	288,087	820.17	05/05/17	05/05/22	–
LTIP 2018 [2]	519,915	–	–	519,915	–	857.47	08/03/18	10/03/21	–
LTIP 2019	499,976	–	–	499,976	–	891.67	15/03/19	19/03/21	–
LTIP 2020 [3]	910,562	–	–	910,562	–	489.60	16/03/20	19/03/21	–
Total	2,218,540	–	–	1,930,453	288,087				
Deferred share bonus 2018 [3]	79,409	–	79,409	–	–	891.67	15/03/19	15/03/21	–
Deferred share bonus 2019 [5]	126,266	–	–	126,266	–	489.60	16/03/20	19/03/21	
Total	205,675	–	79,409	126,266	–				
ShareSave 2017 three-year (options) [5]	2,695	–	–	2,695	-	260.28	13/10/17	01/02/21	–
ShareSave 2019 three-year (options)	850	–	–	850	-	232.17	16/10/19	19/03/21	–

[1] 30% of Warren East's salary and 20% of Panos Kakoullis' salary is deferred into shares for two years. The shares are deferred and will vest on a monthly basis with no further performance conditions.
[2] LTIP awards are subject to performance adjustment at the end of a three year performance period. The 2018 LTIP award lapsed as the performance conditions were not met.
[3] The performance conditions for the 2020 LTIP award can be found on page 94 of the 2020 Annual Report.
[4] The 2018 deferred share bonus award attracted a dividend equivalent award of shares upon vesting. The shares were granted on 31 March 2021 and vested immediately.
[5] The ShareSave options that matured in 2021 were cancelled and the savings were returned because the option price was higher than the prevailing market price.
[6] Stephen Daintith's 2017 LTIP award will vest in May 2022. All other outstanding awards and options lapsed on 19 March 2021 when he left the Company.

Shareholding requirement (audited)

Executive Directors are required to work towards holding beneficially-owned shares equivalent in value to a percentage of their salary by retaining at least one half of after-tax shares released from the incentive plans until this requirement is met. For the Chief Executive this requirement is 250% of salary and for other Executive Directors this requirement is 200% of salary. The current shareholdings, as a percentage of salary, for Warren East and Panos Kakoullis are 255% and 15% respectively.*

In addition, Executive Directors are required to retain the lower of their shareholding requirement and their actual shareholding at the date of leaving for one year after leaving and 50% of this level for a second year, subject to the terms of the policy. The requirement was assessed when Stephen Daintith left the Company and it was determined that no post-cessation shareholding was required by him under the terms of the policy, other than LTIP shares in the holding period. The Committee is comfortable that the appropriate safeguards are in place to manage the policy for leavers.

* The percentage of the requirement was calculated by reference to the average share price, over the three months to 31 December 2021 and salary as at the date of the last grant on 31 March 2021. LTIP awards subject to the two-year holding period following the performance period are included in this calculation. LTIP awards that have not been subject to the performance adjustment and ShareSave options are not included in this calculation.

Pay across the organisation

This section of the report enables our remuneration arrangements to be seen in context by providing:

- a comparison of the percentage change in our Directors' remuneration with the change in our UK employees average remuneration over two years;
- a ten-year history of our Chief Executive's remuneration;
- our TSR performance over the same period;
- an indication of the ratio between our Chief Executive's remuneration and the remuneration of employees; and
- a year-on-year comparison of the total amount spent on employment costs across the Group and shareholder payments.

Percentage change in Directors' remuneration

The following table compares the percentage change in each of the Director's salary/fees, benefits, and incentive to the average percentage change in salary, benefits, and incentive for all UK employees for the past two years.

Change in remuneration

	2020–2021			2019–2020		
	Salary/fees %	Benefits %	Incentive plan [1] %	Salary/fees %	Benefits %	Incentive plan [1] %
Anita Frew [2]	n/a	n/a	n/a	n/a	n/a	n/a
Warren East	5.96	–	∞ [4]	(7.5)	(8.03)	(100)
Panos Kakoullis [2]	n/a	n/a	n/a	n/a	n/a	n/a
Paul Adams [2]	n/a	n/a	n/a	n/a	n/a	n/a
George Culmer [2]	n/a	n/a	n/a	n/a	n/a	n/a
Irene Dorner	8.25	–	n/a	14.26	(92.41)	n/a
Beverly Goulet	7.69	–	n/a	(7.5)	(72.27)	n/a
Lee Hsien Yang	7.69	(14.29)	n/a	(7.5)	(82.56)	n/a
Nick Luff [3]	38.46	–	n/a	(7.5)	–	n/a
Mike Manley [2]	n/a	n/a	n/a	n/a	n/a	n/a
Wendy Mars [2]	n/a	n/a	n/a	n/a	n/a	n/a
Sir Kevin Smith	8.25	∞ [4]	n/a	(7.5)	(79.32)	n/a
Dame Angela Strank [2]	n/a	n/a	n/a	n/a	n/a	n/a
UK employees average [5,6]	1.03	(9.13)	1,435	1.96	2.23	(89.94)

[1] The comparator for 2020 and 2019 is the award made under the former annual bonus scheme. The maximum outturn reduced from 200% of target to 175% in 2021.
[2] Appointed during 2021 or 2020 and therefore unable to provide percentage change for a full year's remuneration.
[3] Nick Luff was appointed Chair of the Audit Committee on 13 May 2021 and received an increase in fees.
[4] Unable to show percentage change as the increase was from zero.
[5] UK employees were chosen as a comparator group in order to avoid the impact of exchange rate movements over the year. UK employees including apprentices, graduates and interns, make up 45% of the total employee population and are employed by Rolls-Royce plc or its relevant subsidiaries. Rolls-Royce Holdings plc has no employees.
[6] There was an incentive award for only a very small population in 2020, hence the significant increase in 2021.

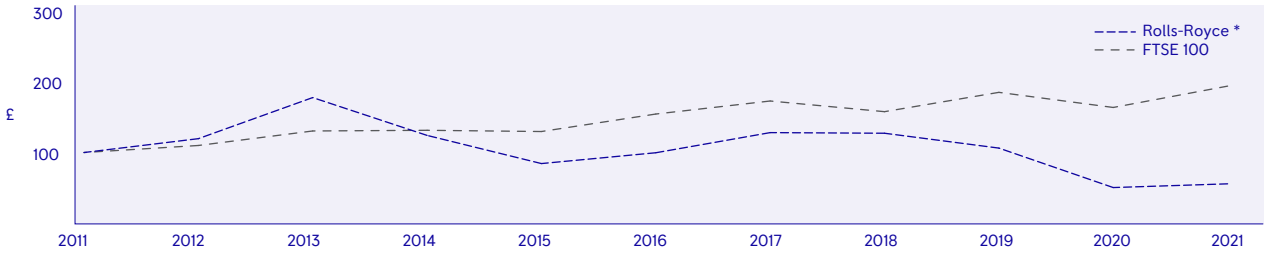
Chief Executive pay

Year	Chief Executive	Single figure of total remuneration £000	Incentive plan [1] as a % of maximum	LTIP as a % of maximum
2021	Warren East	3,950	79.7	–
2020	Warren East	1,110	–	–
2019	Warren East	2,528	52	53
2018	Warren East	4,075	60	100
2017	Warren East	2,331	68	–
2016	Warren East	2,089	55	–
2015 [2]	Warren East	543	–	–
	John Rishton	754	–	–
2014	John Rishton	2,596	–	45
2013	John Rishton	6,228	55	100
2012	John Rishton	4,577	85	–

[1] The comparator for 2012 to 2020 is the award made under the former annual bonus plan. The maximum reduced from 200% of target to 175% in 2021.
[2] John Rishton retired on 2 July 2015 and Warren East was appointed as Chief Executive on 3 July 2015.

TSR performance

The Company's TSR performance over the previous ten years compared to a broad equity market index is shown in the graph below. The FTSE 100 has been chosen as the comparator because it contains a broad range of other UK-listed companies. The graph shows the growth in value of a hypothetical £100 holding in the Company's ordinary shares over ten years, relative to the FTSE 100 index.



* Prior years have been adjusted for the rights issue.

Chief Executive pay ratio

The Committee is mindful of the relationship between the remuneration of the Chief Executive and the wider employee population. This is the fourth year that we have published our Chief Executive pay ratio and we have continued to use method A, as we believe that this is the most accurate and robust methodology. We have used the full time equivalent total remuneration of all UK employees at 31 December 2021.

Year	Method	25th percentile	Median	75th percentile
2021	Option A	88.1	76.1	63.1
2020	Option A	26:1	22:1	19:1
2019	Option A	66:1	56:1	48:1
2018	Option A	92:1	77.1	66:1

For 2021, the salary and total remuneration for the three employees identified at the 25th, median and 75th percentiles are as follows:

Year	25th percentile	Median	75th percentile
Salary	£37.4k	£45.0k	£54.1k
Total Remuneration	£44.8k	£52.0k	£63.1k

The pay ratio has increased this year as a result of the deferred share award to Warren East for 2021.

The Chief Executive has a larger proportion of his total pay based on variable elements linked to performance than other UK employees. As outlined on page 93, the Committee has considered the wider workforce context in terms of alignment of total reward for the Executive Directors. The majority of employees participate in an incentive plan, with a good degree of alignment of financial measures with the Executive Directors' incentive plan. We also encourage all eligible employees to join our ShareSave plan. For our most recent launch in 2021 approximately 50% of our global population joined the plan, sharing in approximately 57 million shares and stock appreciation rights.

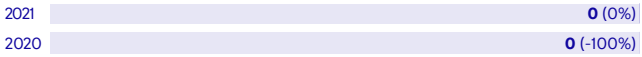
The Remuneration Committee believes that the median pay ratio for 2021 is consistent with the pay and progression policies for the Group's UK employees as a whole.

Relative importance of spend on pay

The following chart sets out the percentage change in payments to shareholders and overall expenditure on pay across the Group.

PAYMENT TO SHAREHOLDERS (£M) *

(Consolidated cash flow statement)



GROUP EMPLOYMENT COSTS (£M)

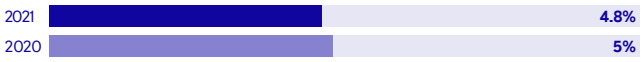
(Note 8, employee information - see page 147)

* Value of C Shares issued during the year.

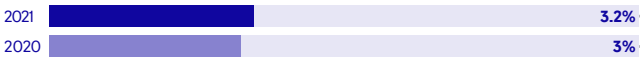
Gender pay reporting

The Company is committed to creating a diverse and inclusive place to work where our people can be themselves and be at their best. More information about this can be found on pages 46 to 50. We published our UK gender pay gap in March 2021, which showed:

MEDIAN GENDER PAY GAP ACROSS ALL ROLLS-ROYCE EMPLOYEES IN THE UK



MEAN GENDER PAY GAP ACROSS ALL ROLLS-ROYCE EMPLOYEES IN THE UK



Overall women represented 17% of our workforce at 5 April 2021. However, we continue to make progress with recruiting more women into senior positions. See pages 46 to 50 for further information on what we are doing to address diversity across the organisation.

Contractual arrangements

Each Executive Director has a service agreement that sets out the contract between that Executive Director and the Company.

Executive Directors' service contracts

	Date of contract	Notice period from Company	Notice period from individual
Warren East	21 April 2015	12 months	6 months
Panos Kakoullis	15 February 2021	12 months	12 months

Payments received for serving on external boards

Executive Directors retain payments received from serving on the boards of external companies, the details of which are given below:

	Directorships held	Payments received and retained (£000)
Warren East	ASML Holding NV	76
Stephen Daintith *	3i Group plc	14

* Stephen Daintith's payments from 3i Group plc during the period he was our Chief Financial Officer.

Non-Executive Directors' remuneration

Single figure of remuneration (audited)

	Fees [1] (£000)		Benefits (£000)		Total remuneration (£000)	
Chair and Non-Executive Directors	**2021**	2020	**2021**	2020	**2021**	2020
Anita Frew [2]	**140**	–	**3**	–	**143**	
Paul Adams [3]	**56**	–	**3**	–	**59**	–
George Culmer [4]	**70**	65	**2**	1	**72**	66
Irene Dorner	**105**	97	**–**	–	**105**	97
Beverly Goulet	**70**	65	**3**	3	**73**	68
Lee Hsien Yang	**70**	65	**6**	7	**76**	72
Nick Luff [5]	**90**	65	**–**	–	**90**	65
Mike Manley [6]	**35**	–	**–**	–	**35**	–
Wendy Mars [7]	**5**	–	**–**	–	**5**	–
Sir Kevin Smith	**105**	97	**2**	–	**107**	97
Dame Angela Strank [8]	**83**	42	**1**	–	**84**	42
Sir Ian Davis [9]	**319**	393	**–**	–	**319**	393
Lewis Booth [10]	**31**	88	**–**	11	**31**	99
Sir Frank Chapman [10]	**33**	83	**–**	1	**33**	84
Jasmin Staiblin [10]	**26**	65	**1**	4	**27**	69
Total	**1,238**	1,125	**21**	27	**1,259**	1,152

[1] In line with Senior Leadership, a 10% reduction in fees and a further 10% deferral was applied from April to December 2020, with the deferral being repaid in December 2020.
[2] Anita Frew was appointed as a Non-Executive Director on 1 July 2021 and as Chair on 1 October 2021.
[3] Paul Adams was appointed on 11 March 2021.
[4] George Culmer was appointed on 2 January 2020.
[5] Nick Luff was appointed Chair of the Audit Committee on 13 May 2021.
[6] Mike Manley was appointed on 1 July 2021.
[7] Wendy Mars was appointed on 8 December 2021.
[8] Dame Angela Strank was appointed on 1 May 2020 and as Chair of the Safety, Ethics & Sustainability Committee on 13 May 2021.
[9] Sir Ian Davis stepped down on 30 September 2021.
[10] Lewis Booth, Sir Frank Chapman and Jasmin Staiblin stepped down on 13 May 2021.

Non-Executive Directors' fees

The Chair's fee is reviewed by the Board as a whole on the recommendation of the Committee. The review of the other Non-Executive Directors' base fees is reserved to the Executive Directors, who consider recommendations from the Chair. No individual may be involved in setting his or her own fee. The Chair and the Non-Executive Directors are not eligible to participate in any of the Group's share schemes, incentive arrangements or pension schemes. A facility is in place which enables Non-Executive Directors (who reside in a permitted dealing territory) to use some or all of their fees, after the appropriate statutory deductions, to make market purchases of shares in the Company on a monthly basis. Sir Ian Davis and Lee Hsien Yang used this facility.

Non-Executive Directors' fees

	2021 £000	2020 £000
Chair *	**490**	425
Other Non-Executive Directors base fee	**70**	70
Chair of the Audit Committee	**25**	25
Chair of the Remuneration Committee	**20**	20
Chair of the Safety, Ethics & Sustainability Committee	**20**	20
Chair of the Science & Technology Committee	**20**	20
Senior Independent Director	**15**	15
Employee Champion	**15**	15

* Increase approved following exercise by MWM Consulting, benchmarking comparable industrial businesses in the FTSE 100, both by revenue and market capitalisation.

Non-Executive Directors' benefits (audited)

The benefits for Non-Executive Directors relate predominantly to travel, hotel and subsistence incurred in attending meetings. For Non-Executive Directors based outside the UK, the Company may also pay towards tax advice and the cost of making tax filings.

Non-Executive Directors' share interests (audited)

The Non-Executive Directors and their connected persons hold the following interests in the ordinary shares of the Company:

Chair and Non-Executive Directors	31 December 2021	24 February 2022
Anita Frew	200,000	200,000
Paul Adams *	10,000	10,000
George Culmer	37,960	37,960
Irene Dorner	54,578	54,578
Beverly Goulet	40,972	40,972
Lee Hsien Yang	62,795	63,645
Nick Luff	43,333	43,333
Mike Manley	–	–
Wendy Mars	–	–
Sir Kevin Smith	116,540	116,540
Dame Angela Strank	13,780	13,780

* Share interests held as American Depository Receipts.

Non-Executive Directors' letters of appointment

Our Non-Executive Directors serve three, three-year terms (nine years in total).

Chair and Non-Executive Directors	Original appointment date	Current letter of appointment end date
Anita Frew	1 July 2021	30 June 2024
Paul Adams	11 March 2021	10 March 2024
George Culmer	2 January 2020	1 January 2023
Irene Dorner	27 July 2015	26 July 2024
Beverly Goulet	3 July 2017	2 July 2023
Lee Hsien Yang	1 January 2014	31 December 2022
Nick Luff	3 May 2018	2 May 2024
Mike Manley	1 July 2021	30 June 2024
Wendy Mars	8 December 2021	7 December 2024
Sir Kevin Smith	1 November 2015	31 October 2022
Dame Angela Strank	1 May 2020	30 April 2023

Shareholder voting

The remuneration policy and report were last approved by shareholders at our 2021 AGM held on 13 May 2021. Details of voting are shown in the table below.

	For	% For	Against	% Against	Withheld*
Approval of the Directors' remuneration policy	5,662,106,630	97.04	1,724,946,155	2.96	14,886,550
Approval of the Directors' remuneration report	5,780,964,445	99.06	54,904,622	0.94	13,624,930

* Withheld votes are not counted towards the total percentage of votes cast.

Statutory requirements

The Committee's composition, responsibilities and operation comply with the principles of good governance, as set out in the Code, the Listing Rules (of the Financial Conduct Authority) and the Companies Act 2006. The Directors' remuneration report has been prepared on the basis prescribed in the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013.

SAFETY, ETHICS & SUSTAINABILITY

Activities and overview of 2021

Product safety

- we reviewed the Rolls-Royce safety management system in light of investigations, reports, and learnings from the Boeing 737 MAX accidents;
- we conducted a thorough assessment of the process of resolving raised safety concerns;
- we carried out detailed reviews of in-service product safety issues;
- we scrutinised the management of product safety and the associated risks on a business-by-business basis; and
- we analysed product safety policies, processes, performance metrics, and training and scrutinised improvements.

HSE

- we regularly reviewed the HSE performance and balanced scorecard, total reportable injury rate and safety index performance;
- we monitored HSE programmes including safety cases, electrical safety, contractor management and employee wellbeing;
- we discussed COVID-19 HSE impacts and mitigations; and
- the Committee shared learning from major and high-potential incidents, and regularly tracked progress against HSE and environmental targets and risks.

Ethics and compliance

- we discussed regulatory and prosecutorial matters;
- the Committee assessed and reported to the Board on concerns raised through the Ethics Line and reviewed detailed reports of significant issues;
- we assessed the Group's export control risk; and
- we monitored progress of the Group's ethics and compliance programme.

Sustainability

- the Committee reviewed the decarbonisation strategy and net zero road map ahead of the publication of the net zero report in June 2021;
- we discussed progress against 2030 sustainability targets;
- we monitored the preparation and impact of our participation at COP26; and
- we assessed climate change risks and the Group's approach to TCFD requirements.

Principal risks

- we undertook a review of the product safety, people safety, compliance and climate change principal risks.

Role of the Committee

The Committee monitors the operation of the Group's product safety governance frameworks, scrutinising the development and implementation of changes in process and practice, as well as supporting performance delivery. We review the Group's HSE performance and culture, support improvement programmes, monitor incidents and investigate remedial actions. The Committee monitors the Group's compliance with legislative, regulatory and ethical standards whilst supporting management to embed a strong ethics and compliance culture and behaviours. We review, challenge, and support the Group's sustainability strategy, track progress towards sustainability targets and review the environmental impacts of products and operations. We continuously review the product safety, people safety, compliance and climate change principal risks.

The Committee's responsibilities are outlined in its terms of reference, available at rolls-royce.com. We review these annually and refer them to the Board for approval. During 2021, we updated our terms of reference to include the responsibility to review progress and delivery against agreed climate change metrics, targets and objectives whilst managing climate change as a principal risk in the delivery of the Group's strategy.

During the year, given the increased focus on sustainability, we increased the membership requirement from a minimum of two to three independent Non-Executive Directors. We also increased the number of meetings from three to four to ensure we had sufficient time to address our climate-related agenda.

Membership of the Committee

In addition to myself, members of the Committee during 2021 were Paul Adams, Sir Frank Chapman, George Culmer, Irene Dorner and Lee Hsien Yang. Paul joined the Committee in March and George stepped down at the same time. Sir Frank stepped down in May, at which point I succeeded Sir Frank as the Committee Chair. All Committee members are independent Non-Executive Directors. Our biographies are on pages 71 to 73 and our meeting attendance is on page 76. In addition to the members of the Committee, the Chair, Chief Executive, General Counsel, Chief People Officer and Chief Technology Officer attend most meetings, along with business leadership as befits the agenda. The Committee is supported by the Chief Governance Officer.

Areas of focus for 2022

Alongside monitoring the management of product safety, HSE, ethics and compliance and sustainability, we oversee the development of the Group's climate transition plan to net zero. We will also oversee progress as we look to achieve science-based targets initiative (SBTi) accreditation and mature our TCFD reporting.

Dame Angela Strank
Chair of the Safety, Ethics & Sustainability Committee

SCIENCE & TECHNOLOGY

Activities and overview of 2021

Technology strategy

- we reviewed the strategic direction of the Group's research technology and development activities, with consideration to their environmental impact amongst other matters, and to ensure investment is appropriately allocated;
- the key technology programmes including SMRs, UltraFan and hybrid-electric regional aviation were kept under review throughout the year;
- we received deep dives on several areas of the business, including Rolls-Royce Electrical to ensure appropriate focus on product strategy;
- we assisted the Board in its oversight of major R&D investment and provided assurance on its competitiveness and the adequacy of technology investment, with thorough consideration of the environmental impact of both new products and technology;
- we received updates from the businesses including Rolls-Royce Electrical and Power Systems on the roadmap to net zero;
- we reviewed digital, electrical and hybrid-electric technologies and developments in alternative fuels including hydrogen and sustainable aviation fuels;
- we visited the Bristol, UK site to review various programmes and key technologies; and
- we maintained a strong focus on low carbon technologies which underpin the Group's sustainability strategy and leverage our advanced manufacturing and nuclear power design expertise.

Cross-sector technology

We continued to provide oversight of the effectiveness of key engineering and technology processes and operations, including the delivery of major product development and technology programmes.

Technology capabilities and skills

We discussed the processes for ensuring there was effective resourcing and development of required technological capability and skills. We received updates from Group engineering to ensure the Group continued to drive efficiency through the organisation and to better understand how productivity drivers are used to drive efficiency throughout the organisation.

Technology trends and risks

We provided assurance on the identification and management of key technological risks and reviewed and considered other topics or risks appropriate to the overall remit of the Committee as delegated by the Board.

Principal risk

We continued to monitor disruptive technologies as part of the competitive environment principal risk.

Role of the Committee

In 2021, the Committee continued to provide dedicated focus to the research and technology part of the Group's R&D investment. This enables the Group to conceive, design and deliver world-class technology that meets our customers' current and future needs. We provide directional input and oversight of the Group's scientific and technological strategy, processes and related investments. In doing this, we place importance on ensuring active dialogue with engineering and technology leaders and experts, inviting relevant employees to Committee meetings, meeting with employees during site visits and developing future leaders through the Board apprentice programme.

The Committee's responsibilities are outlined in its terms of reference, available at rolls-royce.com. We review these annually and refer them to the Board for approval. During 2021, we updated our terms of reference to include our responsibility for reviewing progress and delivery against agreed climate change metrics, targets and objectives whilst managing climate change as a principal risk in the delivery of the Group's strategy.

Membership of the Committee

In addition to myself, the members of the Committee during 2021 were Dame Angela Strank, Paul Adams and Mike Manley. Paul and Mike joined the Committee in March and July respectively. Sir Frank Chapman and Jasmin Staiblin were members of the Committee until they stepped down from the Board in May 2021. All members are independent Non-Executive Directors. Our biographies are on pages 71 to 73 and our meeting attendance is on page 76. In addition to the members of the Committee, the Chair, Chief Executive, Chief Financial Officer, any of the Non-Executive Directors and chairman of the Rolls-Royce science advisory council may attend one or more meetings at my invitation. The Committee is supported by the Chief Technology Officer and the corporate governance manager.

Areas of focus for 2022

During 2022 we will continue to oversee the Group's key technology programmes, in particular, providing support to technologies emerging from the net zero strategy. This will enable us to focus on reviewing the development of the Group's engineering capability in line with our future technology needs. We will also continue to visit our global sites to enable us to engage with our people and to assist with our review of key programmes.

I would like to pay tribute to the work of our technology community and the flexibility, resilience and commitment of our people during these challenging times. I thank them on behalf of the Board for their significant contribution which has enabled us to meet major technology milestones in the year that will be critical to the future of our Company.

Sir Kevin Smith
Chair of the Science & Technology Committee

RESPONSIBILITY STATEMENTS

Statement of Directors' responsibilities in respect of the Financial Statements

The Directors are responsible for preparing the Annual Report and the Financial Statements in accordance with applicable law and regulation.

Company law requires the Directors to prepare financial statements for each financial year. Under that law, the Directors have prepared the Group Financial Statements in accordance with UK-adopted international accounting standards and the Company Financial Statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 Reduced Disclosure Framework, and applicable law).

Under company law, Directors must not approve the Financial Statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of the profit or loss of the Group for that period. In preparing the Financial Statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- state whether applicable UK-adopted international accounting standards have been followed for the Group Financial Statements and United Kingdom Accounting Standards, comprising FRS 101 have been followed for the Company Financial Statements, subject to any material departures disclosed and explained in the Financial Statements;
- make judgements and accounting estimates that are reasonable and prudent; and
- prepare the Financial Statements on the going concern basis unless it is inappropriate to presume that the Group and Company will continue in business.

The Directors are responsible for safeguarding the assets of the Group and Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are also responsible for keeping adequate accounting records that are sufficient to show and explain the Group's and Company's transactions and disclose with reasonable accuracy at any time the financial position of the Group and Company and enable them to ensure that the Financial Statements and the Directors' Remuneration Report comply with the Companies Act 2006.

The Directors are responsible for the maintenance and integrity of the Company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Directors' confirmations

The Directors consider that the Annual Report and Accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's and Company's position and performance, business model and strategy.

Each of the Directors, whose names and functions are listed in the Directors' Report confirm that, to the best of their knowledge:

- the Group Financial Statements, which have been prepared in accordance with UK-adopted international accounting standards, give a true and fair view of the assets, liabilities, financial position and profit of the Group;
- the Company Financial Statements, which have been prepared in accordance with United Kingdom Accounting Standards, comprising FRS 101, give a true and fair view of the assets, liabilities and financial position of the Company; and
- the Strategic Report includes a fair review of the development and performance of the business and the position of the Group and Company, together with a description of the principal risks and uncertainties that it faces.

In the case of each Director in office at the date the Directors' Report is approved:

- so far as the Director is aware, there is no relevant audit information of which the Group's and Company's auditors are unaware; and
- they have taken all the steps that they ought to have taken as a Director in order to make themselves aware of any relevant audit information and to establish that the Group's and Company's auditors are aware of that information.

By order of the Board
Pamela Coles
Chief Governance Officer
24 February 2022

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CONSOLIDATED INCOME STATEMENT

Year ended 31 December 2021

	Notes	2021 £m	Restated [1] 2020 £m
Continuing operations			
Revenue	2	**11,218**	11,491
Cost of sales [2]		**(9,082)**	(11,678)
Gross profit/(loss)	2	**2,136**	(187)
Commercial and administrative costs	2	**(890)**	(771)
Research and development costs	2, 3	**(778)**	(1,204)
Share of results of joint ventures and associates	12	**45**	190
Operating profit/(loss)		**513**	(1,972)
Gain/(loss) arising on acquisition and disposal of businesses	27	**56**	(14)
Profit/(loss) before financing and taxation		**569**	(1,986)
Financing income	4	**229**	61
Financing costs [3]	4	**(1,092)**	(874)
Net financing costs		**(863)**	(813)
Loss before taxation		**(294)**	(2,799)
Taxation	5	**418**	(302)
Profit/(loss) for the year from continuing operations		**124**	(3,101)
Discontinued operations			
Profit/(loss) for the year from ordinary activities	27	**36**	(68)
Costs of disposal of discontinued operations	27	**(39)**	–
Loss for the year from discontinued operations		**(3)**	(68)
Profit/(loss) for the year		**121**	(3,169)
Attributable to:			
Ordinary shareholders		**120**	(3,170)
Non-controlling interests (NCI)		**1**	1
Profit/(loss) for the year		**121**	(3,169)
Other comprehensive income/(expense)		**41**	(265)
Total comprehensive income/(expense) for the year		**162**	(3,434)
Earnings/(loss) per ordinary share attributable to ordinary shareholders:	6		
From continuing operations			
Basic		**1.48p**	(51.81)p
Diluted		**1.47p**	(51.81)p
From continuing and discontinued operations			
Basic		**1.44p**	(52.95)p
Diluted		**1.43p**	(52.95)p

[1] The comparative figures have been restated to reflect ITP Aero being classified as a discontinued operation. The respective notes to the financial statements have also been restated on this basis. Further detail can be found in note 27.
[2] Cost of sales includes a charge for expected credit losses of £124m (2020: £119m). Further detail can be found in note 14.
[3] Included within financing costs are fair value changes on derivative contracts. Further details can be found in notes 2, 4 and 20.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Year ended 31 December 2021

	Notes	2021 £m	2020 £m
Profit/(loss) for the year		**121**	(3,169)
Other comprehensive income/(expense) (OCI)			
Actuarial movements on post-retirement schemes	22	**254**	(590)
Revaluation to fair value of other investments	12	**(2)**	–
Share of OCI of joint ventures and associates	12	**1**	(1)
Related tax movements	5	**(79)**	195
Items that will not be reclassified to profit or loss		**174**	(396)
Foreign exchange translation differences on foreign operations		**(178)**	121
Foreign exchange translation differences reclassified to income statement on disposal of businesses	27	**(1)**	6
Movement on fair values debited to cash flow hedge reserve		**(32)**	(16)
Reclassified to income statement from cash flow hedge reserve		**39**	26
Share of OCI of joint ventures and associates	12	**44**	(4)
Related tax movements	5	**(5)**	(2)
Items that will be reclassified to profit or loss		**(133)**	131
Total other comprehensive income/(expense)		**41**	(265)
Total comprehensive income/(expense) for the year		**162**	(3,434)
Attributable to:			
Ordinary shareholders		**161**	(3,435)
Non-controlling interests (NCI)		**1**	1
Total comprehensive income/(expense) for the year		**162**	(3,434)
Total comprehensive income/(expense) for the year attributable to ordinary shareholders arises from:			
Continuing operations		**278**	(3,457)
Discontinued operations		**(117)**	22
Total comprehensive income/(expense) for the year		**161**	(3,435)

CONSOLIDATED BALANCE SHEET

At 31 December 2021

	Notes	2021 £m	2020 £m
ASSETS			
Intangible assets	9	4,041	5,145
Property, plant and equipment	10	3,917	4,515
Right-of-use assets	11	1,203	1,405
Investments – joint ventures and associates	12	404	394
Investments – other	12	36	19
Other financial assets	20	361	687
Deferred tax assets	5	2,249	1,826
Post-retirement scheme surpluses	22	1,148	907
Non-current assets		13,359	14,898
Inventories	13	3,666	3,690
Trade receivables and other assets	14	5,383	5,455
Contract assets	15	1,473	1,510
Taxation recoverable		90	117
Other financial assets	20	46	107
Short-term investments	20	8	–
Cash and cash equivalents	16	2,621	3,452
Current assets		13,287	14,331
Assets held for sale	27	2,028	288
TOTAL ASSETS		28,674	29,517
LIABILITIES			
Borrowings and lease liabilities	17	(279)	(1,272)
Other financial liabilities	20	(689)	(608)
Trade payables and other liabilities	19	(6,016)	(6,653)
Contract liabilities	15	(3,599)	(4,187)
Current tax liabilities		(101)	(154)
Provisions for liabilities and charges	21	(475)	(826)
Current liabilities		(11,159)	(13,700)
Borrowings and lease liabilities	17	(7,497)	(6,058)
Other financial liabilities	20	(2,715)	(3,046)
Trade payables and other liabilities	19	(1,575)	(1,922)
Contract liabilities	15	(6,710)	(6,245)
Deferred tax liabilities	5	(451)	(494)
Provisions for liabilities and charges	21	(1,107)	(1,119)
Post-retirement scheme deficits	22	(1,373)	(1,580)
Non-current liabilities		(21,428)	(20,464)
Liabilities associated with assets held for sale	27	(723)	(228)
TOTAL LIABILITIES		(33,310)	(34,392)
NET LIABILITIES		(4,636)	(4,875)
EQUITY			
Called-up share capital	23	1,674	1,674
Share premium		1,012	1,012
Capital redemption reserve		165	162
Cash flow hedging reserve		(45)	(94)
Merger reserve		650	650
Translation reserve		342	524
Accumulated losses		(8,460)	(8,825)
Equity attributable to ordinary shareholders		(4,662)	(4,897)
Non-controlling interests (NCI)		26	22
TOTAL EQUITY		(4,636)	(4,875)

The Financial Statements on pages 109 to 183 were approved by the Board on 24 February 2022 and signed on its behalf by:

Warren East
Chief Executive

Panos Kakoullis
Chief Financial Officer

CONSOLIDATED CASH FLOW STATEMENT

Year ended 31 December 2021

	Notes	2021 £m	2020 £m
Operating profit/(loss) from continuing operations		513	(1,972)
Operating loss from discontinued operations	27	(43)	(109)
Operating profit/(loss) [1]		470	(2,081)
Loss on disposal of property, plant and equipment		9	37
Share of results of joint ventures and associates	12	(45)	(191)
Dividends received from joint ventures and associates	12	27	60
Amortisation and impairment of intangible assets	9	290	902
Depreciation and impairment of property, plant and equipment		462	821
Depreciation and impairment of right-of-use assets	11	257	732
Adjustment of amounts payable under residual value guarantees within lease liabilities [2]		(4)	(102)
Impairment of and other movements on investments	12	7	24
Decrease in provisions		(394)	(801)
(Increase)/decrease in inventories		(169)	588
Movement in trade receivables/payables and other assets/liabilities		(507)	(2,655)
Movement in contract assets/liabilities		(134)	259
Financial penalties paid [3]		(156)	(135)
Cash flows on other financial assets and liabilities held for operating purposes		(85)	(126)
Interest received		9	13
Net defined benefit post-retirement cost/(credit) recognised in profit/(loss) before financing	22	23	(68)
Cash funding of defined benefit post-retirement schemes	22	(162)	(80)
Share-based payments	24	28	25
Net cash outflow from operating activities before taxation		(74)	(2,778)
Taxation paid		(185)	(231)
Net cash outflow from operating activities		(259)	(3,009)
Cash flows from investing activities			
Movement in other investments	12	(26)	(5)
Additions of intangible assets		(231)	(365)
Disposals of intangible assets	9	5	18
Purchases of property, plant and equipment		(328)	(585)
Disposals of property, plant and equipment		61	23
Acquisition of businesses		–	(106)
Disposal of businesses	27	99	23
Movement in investments in joint ventures and associates and other movements on investments	12	–	(19)
Movement in short-term investments		(8)	6
Net cash outflow from investing activities		(428)	(1,010)
Cash flows from financing activities			
Repayment of loans [4]		(965)	(2,884)
Proceeds from increase in loans [4]		2,005	4,774
Capital element of lease payments		(374)	(284)
Net cash flow from increase in borrowings and leases		666	1,606
Interest paid		(206)	(88)
Interest element of lease payments		(63)	(74)
Fees paid on undrawn facilities		(62)	(97)
Cash flows on settlement of excess derivative contracts [5]	4	(452)	(202)
Issue of ordinary shares – rights issue (net of expenses and rights taken by share trust)		–	1,972
Purchase of ordinary shares		–	(1)
Transactions with non-controlling interests (NCI) [6]		30	–
NCI on formation of subsidiary		3	–
Dividends to NCI		(1)	(1)
Redemption of C Shares		(3)	(91)
Net cash (outflow)/inflow from financing activities		(88)	3,024
Change in cash and cash equivalents		(775)	(995)
Cash and cash equivalents at 1 January		3,496	4,435
Exchange (losses)/gains on cash and cash equivalents		(82)	56
Cash and cash equivalents at 31 December [7]		2,639	3,496

CONSOLIDATED CASH FLOW STATEMENT – CONTINUED

Year ended 31 December 2021

[1] During the year, the Group has received £11m (2020: £47m) from the British Government as part of the UK furlough scheme. This has been recognised within operating profit/loss.
[2] Where the cost of meeting residual value guarantees is less than that previously estimated, as costs have been mitigated or liabilities waived by the lessor, the lease liability has been remeasured. To the extent that the value of this remeasurement exceeds the value of the right-of use asset, the reduction in the lease liability is credited to cost of sales.
[3] Relates to penalties paid on agreements with investigating bodies.
[4] Repayment of loans includes repayment of £300m commercial paper under the Covid Corporate Financing Facility (CCFF) and €750m (£639m) loan notes in line with repayment terms. Proceeds from increase in loans includes the drawdown of a £2,000m loan (supported by an 80% guarantee from UK Export Finance). Further details are provided in note 17.
[5] During the year, the Group incurred a cash outflow of £452m as a result of settling foreign exchange contracts that were originally in place to sell $3,184m receipts. Further detail is provided in note 4.
[6] Relates to NCI investment received in the year, in respect of Rolls-Royce SMR Limited. Following the formation of Rolls-Royce SMR Limited during the year, and in line with the shareholder agreements, £30m investment was received by Rolls-Royce SMR Limited.
[7] The Group considers overdrafts (repayable on demand) and cash held for sale to be an integral part of its cash management activities and these are included in cash and cash equivalents for the purposes of the cash flow statement.

In deriving the consolidated cash flow statement, movement in balance sheet items have been adjusted for non-cash items. The cash flow in the year includes the sale of goods and services to joint ventures and associates – see note 26.

	2021 £m	2020 £m
Reconciliation of movements in cash and cash equivalents to movements in net debt		
Change in cash and cash equivalents	(775)	(995)
Cash flows from increase in borrowings and leases	(666)	(1,606)
Less: settlement of related derivatives included in fair value of swaps below	6	50
Cash flows from increase/(decrease) in short-term investments	8	(6)
Change in net debt resulting from cash flows	(1,427)	(2,557)
New leases and other non-cash adjustments on lease liabilities and borrowings	(86)	(38)
Exchange (losses)/gains on net debt	(51)	143
Fair value adjustments	170	(126)
Debt disposed of on disposal of business/(assumed on acquisition of business)	8	(24)
Reclassifications	19	11
Movement in net debt excluding the fair value of swaps	(1,367)	(2,591)
Net debt at 1 January excluding the fair value of swaps	(3,827)	(1,236)
Net debt at 31 December excluding the fair value of swaps	(5,194)	(3,827)
Fair value of swaps hedging fixed rate borrowings	37	251
Net debt at 31 December	(5,157)	(3,576)

The movement in net debt (defined by the Group as including the items shown below) is as follows:

	At 1 January £m	Funds flow £m	Net funds on acquisition/ disposal £m	Exchange differences £m	Fair value adjustments £m	Reclassifications [1] £m	Other movements £m	At 31 December £m
2021								
Cash at bank and in hand	940	(87)	–	(20)	–	(38)	–	795
Money market funds	669	(620)	–	–	–	–	–	49
Short-term deposits	1,843	–	–	(66)	–	–	–	1,777
Cash and cash equivalents (per balance sheet)	3,452	(707)	–	(86)	–	(38)	–	2,621
Cash and cash equivalents included within assets held for sale	51	(68)		4	–	38	–	25
Overdrafts	(7)	–	–	–	–	–	–	(7)
Cash and cash equivalents (per cash flow statement)	3,496	(775)	–	(82)	–	–	–	2,639
Short-term investments	–	8	–	–	–	–	–	8
Other current borrowings	(1,006)	950	–	1	35	18	–	(2)
Non-current borrowings	(4,274)	(2,002)	–	38	136	88	(9)	(6,023)
Borrowings included within liabilities held for sale	–	18	–	1	(1)	(77)	–	(59)
Lease liabilities	(2,043)	370	–	(9)	–	15	(77)	(1,744)
Lease liabilities included within liabilities held for sale	–	4	8	–	–	(25)	–	(13)
Financial liabilities	(7,323)	(660)	8	31	170	19	(86)	(7,841)
Net debt excluding the fair value of swaps	(3,827)	(1,427)	8	(51)	170	19	(86)	(5,194)
Fair value of swaps hedging fixed rate borrowings [2]	251	(6)	–	(35)	(173)	–	–	37
Net debt [3]	(3,576)	(1,433)	8	(86)	(3)	19	(86)	(5,157)

CONSOLIDATED CASH FLOW STATEMENT – CONTINUED

Year ended 31 December 2021

	At 1 January £m	Funds flow £m	Net funds on acquisition/ disposal £m	Exchange differences £m	Fair value adjustments £m	Reclassifications [1] £m	Other movements £m	At 31 December £m
2020								
Cash at bank and in hand	825	163	–	3	–	(51)	–	940
Money market funds	1,095	(426)	–	–	–	–	–	669
Short-term deposits	2,523	(733)	–	53	–	–	–	1,843
Cash and cash equivalents (per balance sheet)	4,443	(996)	–	56	–	(51)	–	3,452
Cash and cash equivalents included within assets held for sale	–	–	–	–	–	51	–	51
Overdrafts	(8)	1	–	–	–	–	–	(7)
Cash and cash equivalents (per cash flow statement)	4,435	(995)	–	56	–	–	–	3,496
Short-term investments	6	(6)	–	–	–	–	–	–
Other current borrowings	(427)	134	(24)	(1)	–	(686)	(2)	(1,006)
Non-current borrowings	(2,896)	(1,974)	–	38	(126)	686	(2)	(4,274)
Lease liabilities	(2,354)	284	–	50	–	11	(34)	(2,043)
Financial liabilities	(5,677)	(1,556)	(24)	87	(126)	11	(38)	(7,323)
Net debt excluding fair value swaps	(1,236)	(2,557)	(24)	143	(126)	11	(38)	(3,827)
Fair value of swaps hedging fixed rate borrowings [2]	243	(50)	–	(42)	114	(14)	–	251
Net debt [3]	(993)	(2,607)	(24)	101	(12)	(3)	(38)	(3,576)

[1] Reclassifications include the transfer of ITP Aero to held for sale and fees of £29m paid in previous periods for the £2,000m loan (supported by an 80% guarantee from UK Export Finance) that have been reclassified to borrowings on the draw down of the facility during the current period.

[2] Fair value of swaps hedging fixed rate borrowings reflects the impact of derivatives on repayments of the principal amount of debt. Net debt therefore includes the fair value of derivatives included in fair value hedges (2021: £114m, 2020: £293m) and the element of fair value relating to exchange differences on the underlying principal of derivatives in cash flow hedges (2021: £(77)m, 2020: £(42)m).

[3] As at 31 December 2021, net debt excluding lease liabilities was £(3,400)m (2020: £(1,533)m).

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Year ended 31 December 2021

The following describes the nature and purpose of each reserve within equity:

Share capital – The nominal value of ordinary shares of 20p each in issue.
Share premium – Proceeds received in excess of the nominal value of ordinary shares issued, less the costs of issue.
Capital redemption reserve – Amounts transferred from accumulated losses on the repurchase of ordinary shares or the redemption of C Shares. In Rolls-Royce Holdings plc's own Financial Statements, C Shares are issued from the merger reserve. This reserve was created by a scheme of arrangement in 2011. As this reserve is eliminated on consolidation in the Consolidated Financial Statements, the C Shares are shown as being issued from the capital redemption reserve.
Cash flow hedging reserve – Cumulative gains and losses on hedging instruments deemed effective in cash flow hedges.
Merger reserve – The premium on issuing shares to acquire a business where merger relief in accordance with the Companies Act 2006 applies.
Translation reserve – Gains and losses arising on retranslating the net assets of overseas operations into sterling.
Accumulated losses – All other net gains and losses and transactions with owners not recognised elsewhere and ordinary shares held for the purpose of share-based payment plans.
Non-controlling interests – The share of net assets or liabilities of subsidiaries held by third parties.

		Attributable to ordinary shareholders									
	Notes	Share capital £m	Share premium £m	Capital redemption reserve £m	Cash flow hedging reserve £m	Merger reserve £m	Trans-lation reserve £m	Accum-ulated losses [1] £m	Total £m	Non-controlling interests (NCI) £m	Total equity £m
At 1 January 2021		1,674	1,012	162	(94)	650	524	(8,825)	(4,897)	22	(4,875)
Profit for the year		–	–	–	–	–	–	120	120	1	121
Foreign exchange translation differences on foreign operations		–	–	–	–	–	(178)	–	(178)	–	(178)
Reclassified to income statement on disposal of businesses	27	–	–	–	–	–	(1)	–	(1)	–	(1)
Movement on post-retirement schemes	22	–	–	–	–	–	–	254	254	–	254
Movement on fair values debited to cash flow hedge reserve		–	–	–	(32)	–	–	–	(32)	–	(32)
Reclassified to income statement from cash flow hedge reserve		–	–	–	39	–	–	–	39	–	39
Revaluation to fair value of other investments	12	–	–	–	–	–	–	(2)	(2)	–	(2)
OCI of joint ventures and associates	12	–	–	–	44	–	–	1	45	–	45
Related tax movements	5	–	–	–	(2)	–	(3)	(79)	(84)	–	(84)
Total comprehensive income/ (expense) for the year		–	–	–	49	–	(182)	294	161	1	162
Redemption of C Shares	20	–	–	3	–	–	–	(3)	–	–	–
Share-based payments – direct to equity [2]		–	–	–	–	–	–	28	28	–	28
Transactions with NCI [3]		–	–	–	–	–	–	29	29	1	30
Dividends to NCI		–	–	–	–	–	–	–	–	(1)	(1)
NCI on formation of subsidiary		–	–	–	–	–	–	–	–	3	3
Related tax movements		–	–	–	–	–	–	17	17	–	17
Other changes in equity in the year		–	–	3	–	–	–	71	74	3	77
At 31 December 2021		1,674	1,012	165	(45)	650	342	(8,460)	(4,662)	26	(4,636)

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY – CONTINUED

Year ended 31 December 2021

	Notes	Attributable to ordinary shareholders: Share capital £m	Share premium £m	Capital redemption reserve £m	Cash flow hedging reserve £m	Merger reserve £m	Translation reserve £m	Accumulated losses [1] £m	Total £m	Non-controlling interests (NCI) £m	Total equity £m
At 1 January 2020		386	319	159	(96)	650	397	(5,191)	(3,376)	22	(3,354)
Loss for the year		–	–	–	–	–	–	(3,170)	(3,170)	1	(3,169)
Foreign exchange translation differences on foreign operations		–	–	–	–	–	121	–	121	–	121
Reclassified to income statement on disposal of businesses		–	–	–	–	–	6	–	6	–	6
Movement on post-retirement schemes	22	–	–	–	–	–	–	(590)	(590)	–	(590)
Movement on fair values debited to cash flow hedge reserve		–	–	–	(16)	–	–	–	(16)	–	(16)
Reclassified to income statement from cash flow hedge reserve		–	–	–	26	–	–	–	26	–	26
OCI of joint ventures and associates	12	–	–	–	(4)	–	–	(1)	(5)	–	(5)
Related tax movements	5	–	–	–	(4)	–	–	197	193	–	193
Total comprehensive expense for the year		–	–	–	2	–	127	(3,564)	(3,435)	1	(3,434)
Issues of ordinary shares											
– Rights issue [4]		1,288	693	–	–	–	–	(10)	1,971	–	1,971
Issue of C Shares	20	–	–	(89)	–	–	–	1	(88)	–	(88)
Redemption of C Shares	20	–	–	92	–	–	–	(92)	–	–	–
Ordinary shares purchased		–	–	–	–	–	–	(1)	(1)	–	(1)
Share-based payments – direct to equity [2]		–	–	–	–	–	–	27	27	–	27
Transactions with NCI		–	–	–	–	–	–	–	–	(1)	(1)
Related tax movements		–	–	–	–	–	–	5	5	–	5
Other changes in equity in the year		1,288	693	3	–	–	–	(70)	1,914	(1)	1,913
At 31 December 2020		1,674	1,012	162	(94)	650	524	(8,825)	(4,897)	22	(4,875)

[1] At 31 December 2021, 29,405,191 ordinary shares with a net book value of £65m (2020: 39,866,717 ordinary shares with a net book value of £89m) were held for the purpose of share-based payment plans and included in accumulated losses. During the year:
- 10,667,095 ordinary shares with a net book value of £24m (2020: 3,458,865 ordinary shares with a net book value of £29m) vested in share-based payment plans; and
- the Company acquired none (2020: 85,724) of its ordinary shares via reinvestment of dividends received on its own shares and purchased none (2020: 30,763,282) of its ordinary shares through purchases on the London Stock Exchange.

[2] Share-based payments – direct to equity is the share-based payment charge for the year less actual cost of vesting excluding those vesting from own shares and cash received on share-based schemes vesting.

[3] Relates to NCI investment received in the year in respect of Rolls-Royce SMR Limited. Further detail can be found on page 113.

[4] In 2020, the Company issued 6,436,601,676 new ordinary shares with a net book value of £1,288m and the Employee Share Trust subscribed for new shares at a value of £10m relating to the November 2020 rights issue. The amount credited to share premium is net of £79m in relation to transaction costs associated with the rights issue.

1 ACCOUNTING POLICIES

The Company and the Group

Rolls-Royce Holdings plc (the 'Company') is a public company limited by shares incorporated under the Companies Act 2006 and domiciled in England in the United Kingdom. The Consolidated Financial Statements of the Company for the year ended 31 December 2021 consist of the audited consolidation of the Financial Statements of the Company and its subsidiaries (together referred to as the Group) together with the Group's interest in jointly controlled and associated entities.

Basis of preparation and statement of compliance

The Company has elected to prepare its individual Company Financial Statements under FRS 101 *Reduced Disclosure Framework*. They are set out on pages 184 to 189 with the associated accounting policies from page 186.

The Consolidated Financial Statements have been prepared in accordance with UK adopted International Accounting Standards (IAS) and interpretations issued by the IFRS Interpretations Committee (IFRS IC) applicable to companies reporting under UK adopted IFRS.

The Consolidated Financial Statements have been prepared on a going concern basis as described on page 58. The historical cost basis has been used except where IFRS require the revaluation of financial instruments to fair value and certain other assets and liabilities on an alternative basis, most significantly post-retirement scheme obligations are valued on the basis required by IAS 19 *Employee Benefits*.

The Consolidated Financial Statements are presented in sterling which is the Company's functional currency.

The preparation of Consolidated Financial Statements requires management to make judgements and estimates that affect the reported amounts of assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenue and expenses during the reporting period. Actual future outcomes could differ from those estimates.

Going concern

The Directors have undertaken a comprehensive going concern review over an 18-month period to August 2023, considering the forecast cash flows of the Group and the liquidity headroom available over the corresponding period, taking into account the Group's principal risks and uncertainties. The Directors have considered the impact that the COVID-19 pandemic continues to have on the Group and the uncertainty that remains in the short term over the timing of recovery of demand, in particular in relation to the civil aviation industry. The Group has modelled two forecasts in its assessment of going concern which have been considered by the Directors, along with a likelihood assessment of these forecasts, being:

- base case, which reflects the Directors' current expectations of future trading; and
- severe but plausible downside forecast, which envisages a 'stress' or 'downside' situation.

In addition, the Directors believe there are significant business growth opportunities to come from the Group playing a leading role in the transition to net zero, whilst at the same time climate change poses potentially significant risks to the Group. Although it is unlikely that physical and transition risks will arise during the 18-month period being assessed for going concern, both physical and transition risks have been considered as part of the Group's risk assessment.

Further details are given in the Going Concern Statement on pages 58 to 59. After due consideration, the Directors consider that the Group has sufficient liquidity to continue in operational existence for a period of at least 18 months from the date of this report and are therefore satisfied that it is appropriate to adopt the going concern basis of accounting in preparing the Financial Statements.

Climate change

In preparing the Consolidated Financial Statements the Directors have considered the potential impact of climate change, particularly in the context of the disclosures included in the Strategic Report this year and the stated decarbonisation commitments. Based on the Taskforce for Climate-related Financial Disclosures (TCFD) recommendations, the Group assesses the potential impact of climate-related risks which cover both transition risks and physical risks. The transition risks may include extensive policy, legal, technological, and market changes and physical risks could include direct damage to assets and supply chain disruption.

The Group has set decarbonisation commitments and identified longer-term considerations in response to the climate challenge and is engaging proactively with external stakeholders to advocate for the conditions that society needs to achieve its net zero target. The Group's main short- and longer-term priorities include the following:

- achieving net zero greenhouse gas (GHG) emissions by 2030 from all energy purchased and consumed in the operation of the buildings, facilities and manufacturing processes (with the exception of product testing and development). This will be met through continued investment in onsite renewable energy installations; the procurement of renewable energy; and continued investment in energy efficiency improvements to reduce the Group's overall energy demands and operating costs. The investment required to meet these scope 1 and 2 emission improvements is included in the forecasts that support these Financial Statements. The Group expects the Bristol, UK, manufacturing site to be its first site to achieve net zero carbon operations during 2022.
- pioneering breakthrough new technologies, including investment in hybrid-electric solutions in Power Systems, continued development of the more efficient UltraFan aero engine, testing of sustainable aviation fuels, small modular reactors (SMRs) and hybrid and fully electric propulsion. New products will be compatible with net zero operation by 2030 and all products will be compatible with net zero operation by 2050. In the year, R&D costs of £(68)m within New Markets included design development to ready the SMRs to enter the UK GDA process and investment in electrical propulsion technology. Future investment required to deliver these technologies is included in the forecasts that support the Financial Statements.

Climate change (continued)

Climate change scenarios have been prepared to assess the viability of our business strategy, decarbonisation plans and approach to managing climate-related risk. There is inherent uncertainty over the assumptions used within these and how they will impact the Group's business operations, cash flows and profit projections. The Directors assess the assumptions on a regular basis to ensure that they are consistent with the risk management activities and the commitments made to investors and other stakeholders.

Assumptions used within the Financial Statements in relation to areas such as revenue recognition for long-term contracts, impairment reviews of non-current assets and the carrying amount of deferred tax assets consider the findings from the climate scenarios prepared. Key variables include carbon prices based on the IEA Net Zero scenario, which assumes an increase from $47 per tonne of carbon in 2022 to $250 per tonne in 2050, commodity price trends derived from the climate scenarios set out by the Intergovernmental Panel on Climate Change (IPCC RCP1.9), temperature rises from the (IPCC SSP1-19) scenario, and GDP information from the Oxford Economics Net Zero model.

As details of what specific future intervention measures will be taken by governments are not yet available, carbon pricing has been used to quantify the potential impact of future policy changes on the Group. To ensure revenue recognition or the carrying value of assets is not overstated it has cautiously been assumed that the impact of carbon pricing predominantly falls on the cost base of the domestic facilities and external supply chain, rather than directly on customers or consumers. The Group will be able to mitigate an element of the financial impact as it reduces the scope 1 and 2 emissions from its buildings, facilities and manufacturing processes and this is expected to decline. However, no account has been made of expected mitigations from decarbonisation in the external supply chain (who the Group is working with, whilst acknowledging in its financial modelling that this is complex and will therefore take some time). The financial modelling performed recognises the extent to which the Group's current supplier contracts offer protection from cost increases in the short to medium term where pricing is fixed or subject to capped escalation clauses. The Group has made a cautious assessment of whether higher costs would be passed on to customers in the short and medium term that considers the markets operated in and the pricing mechanisms in place. For example, in Civil Aerospace it is recognised that escalation caps within a number of its LTSA contracts would be triggered, meaning additional costs could remain within the business under current commercial arrangements until the end of existing contract periods.

When determining the amount of cumulative revenue recognised on long-term contracts, and the obligation in relation to onerous contracts, the assumptions above have been used to reflect the climate uncertainties. This has resulted in a revenue catch-up of £(17)m and an increase in contract loss provisions of £(20)m in the year from increased costs over the term of the current contracts of around 1%. A sensitivity is presented within the key sources of estimation uncertainty (page 129) to disclose the impact of a further 1% cost increase that might arise from further unmitigated increases in carbon and/or commodity pricing.

Impairment testing of non-current assets including goodwill, programme assets and deferred tax assets has considered the above risks as well as assessing how the Group's 1.5°C scenario may change the demand for products over the medium and longer term. To assess the carrying value of assets where there is more potential for impairment, the Directors have modelled downside risks specific to those products. This included consideration of lower OE volumes or a shorter in-service life that generates lower aftermarket volumes, together with higher costs in Civil Aerospace. Power Systems is a shorter-cycle business with scope to re-assess contractual terms to reflect the cost of carbon. Whilst the Defence programmes cover a longer period, the nature of the largest customers and the typical contractual arrangements mean that the Group expects future contracts to reflect the cost of carbon. Further information is provided in notes 5 and 9.

Deferred tax assets are recognised to the extent it is probable that future taxable profits will be available, against which the unused tax losses and deductible temporary difference can be utilised. In addition to the weighted downside forecast (see note 5), the climate-related estimates and assumptions above have also been considered when assessing the recoverability of the deferred tax assets. Recognising the longer term over which these assets will be recovered, the Group has also considered the impact on OE and aftermarket sales if new, more efficient, civil aircraft or new engine options enter the market earlier than assumed in its most likely estimates. Under this scenario some older products would see a reduction in profits but additional opportunities exist for newer products such as the Trent XWB. Whilst carbon pricing illustrates pressure on costs, decarbonisation and new supplier and customer contracts offer the opportunity to receive value for more efficient and sustainable products. Further details are included in note 5 together with sensitivity analysis in the key sources of estimation uncertainty section below.

The climate-related estimates and assumptions that have been considered to be key areas of judgement or sources of estimation uncertainty for the year ended 31 December 2021 are those relating to the recoverable amount of non-current assets including goodwill, capitalised development costs, recovery of deferred tax assets, recognition and measurement of provisions and recognition of revenue on long-term contracts. These items are included within the key areas of judgement and key sources of estimation uncertainty summarised on page 119 and 120 and explained in detail throughout the significant accounting policies.

Items that may be impacted by climate-related risks, but which are not considered to be key areas of judgements or sources of estimation uncertainty in the current financial year are outlined below:

Useful lives of assets - The useful lives of assets could be reduced by climate-related matters, for example as a result of physical risks, obsolescence or legal restrictions. The change in useful lives would have a direct impact on the amount of depreciation or amortisation recognised each year from the date of reassessment. The Directors' review of useful lives has taken into consideration the impacts of the Group's decarbonisation commitments and has not had a material impact on the results for the year.

Inventory valuation - Climate-related matters may affect the value of inventories as they could become obsolete as a result of a decline in selling prices or a reduction in demand. After consideration of the typical stock-turns of the inventory in relation to the rate of change in the market the Directors consider that inventory is appropriately valued.

1 ACCOUNTING POLICIES – CONTINUED

Recoverability of trade receivables and contract assets - The impact of climate-related matters could have an impact on the Group's customers in the future, especially those customers in the Civil Aerospace business. No material climate-related issues have arisen during the year that have impacted our assessment of the recoverability of receivables. The Group's ECL provision uses credit ratings which inherently will include the market's assessment of the climate change impact on credit risk of the counter parties. Given the maturity time of trade receivables and the majority of contract assets, climate change is unlikely to have a material increase on counter party credit risk in that time.

Share-based payments - Executive leadership remuneration packages will be impacted and measured against a new sustainability metric from the 2023 financial year. This could impact the future amount and timing of the recognition of the share-based payment expense in the income statement once these metrics are included within the performance condition criteria of the share-based payment plans. This change has had no impact on the 2021 financial statements.

Defined benefit pension plans - Climate-related risks could affect the financial position of defined benefit pension plans. As a result, this could have implications on the expected return on plan assets and measurement of defined benefit liabilities in future years.

Presentation of underlying results

The Group measures financial performance on an underlying basis and discloses this information as an alternative performance measure. This is consistent with the way that financial performance is measured by management and reported to the Board in accordance with IFRS 8 *Operating Segments*. The Group believes this is the most appropriate basis to measure the in-year performance as underlying results reflect the substance of trading activity, including the impact of the Group's foreign exchange forward contracts, which economically hedge net foreign currency cash flows at predetermined exchange rates. In addition, underlying results exclude the accounting impact of business acquisitions and disposals, impairment charges where the reasons are outside of normal operating activities, exceptional items, and certain other items which are market driven and outside of the control of management. Further details are given in note 2. A reconciliation of alternative performance measures to the statutory equivalent is provided on page 215 and 216.

Revisions to IFRS applicable in 2021

In April 2021, the IFRS IC published its final agenda decision on Configuration and Customisation costs in a Cloud Computing Arrangement. The agenda decision considers how a customer accounts for configuration or customisation costs where an intangible asset is not recognised in a cloud computing arrangement. The agenda decision does not have a material impact on the Group in respect of the current period or prior periods.

There are no other new standards or interpretations issued by the IASB that had a significant impact on the Consolidated Financial Statements.

Key areas of judgement and sources of estimation uncertainty

The determination of the Group's accounting policies requires judgement. The subsequent application of these policies requires estimates and the actual outcome may differ from that calculated. The key judgements and key sources of estimation uncertainty at the balance sheet date, that have a significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the next financial year, are summarised below. Further details, together with sensitivities for key sources of estimation uncertainty where appropriate and practicable, are included within the significant accounting policies section of this note.

Area	Key judgements	Key sources of estimation uncertainty	Page ref
Revenue recognition and contract assets and liabilities	– Whether Civil Aerospace OE and after-market contracts should be combined. – How performance on long-term after-market contracts should be measured. – Whether any costs should be treated as wastage. – Whether sales of spare engines to joint ventures are at fair value. – When revenue should be recognised in relation to spare engine sales to related entities.	– Estimates of future revenue and costs of long-term contractual arrangements including the impact of climate change.	121
Risk and revenue sharing arrangements	– Determination of the nature of entry fees received.		123
Taxation		– Estimates necessary to assess whether it is probable that sufficient suitable taxable profits will arise in the UK to utilise the deferred tax assets.	124

1 ACCOUNTING POLICIES – CONTINUED

Area	Key judgements	Key sources of estimation uncertainty	Page ref
Discontinued operations and assets held for sale	– Whether the ITP Aero business and associated consolidation adjustments meet the criteria to be classified as held for sale and a discontinued operation.		124
Research and development	– Determination of the point in time where costs incurred on an internal programme development meet the criteria for capitalisation or ceasing capitalisation. – Determination of the basis for amortising capitalised development costs.		126
Leases	– Determination of the lease term.	– Estimates of the payments required to meet residual value guarantees at the end of engine leases.	127
Impairment of non-current assets	– Determination of cash-generating units for assessing impairment of goodwill.	– Estimates of cash flow forecasts to support the carrying value of intangible assets (including programme-related assets).	128
Provisions	– Whether any costs should be treated as wastage.	– Estimates of the time to resolve the technical issues on the Trent 1000, including the development of the modified high pressure turbine (HPT) blade and estimates of the expenditure required to settle the obligation relating to Trent 1000 claims and to settle Trent 1000 long-term contracts assessed as onerous. – Estimates of the future revenues and costs to fulfil onerous contracts.	129
Post-retirement benefits		– Estimates of the assumptions for valuing the defined benefit obligation.	130

Significant accounting policies

The Group's significant accounting policies are set out below. These accounting policies have been applied consistently to all periods presented in these Consolidated Financial Statements.

Basis of consolidation

The Consolidated Financial Statements include the Company Financial Statements and its subsidiary undertakings together with the Group's share of the results in joint arrangements and associates made up to 31 December.

A subsidiary is an entity controlled by the Company. Control exists when the Company has power over an entity, exposure to variable returns from its involvement with an entity and the ability to use its power over an entity so as to affect the Company's returns. Subsidiaries are consolidated in accordance with IFRS 10 *Consolidated Financial Statements*.

A joint arrangement is an entity in which the Group holds a long-term interest and which is jointly controlled by the Group and one or more other investors under a contractual arrangement. Joint arrangements may be either joint ventures or joint operations. Joint ventures are accounted for using the equity method of accounting and joint operations are accounted for using proportionate accounting.

An associate is an entity that is neither a subsidiary nor a joint arrangement, in which the Group holds a long-term interest and where the Group has a significant influence. The results of associates are accounted for using the equity method of accounting.

All intra-group transactions, balances, income and expenses are eliminated on consolidation. Adjustments are made to eliminate the profit or loss arising on transactions with joint arrangements and associates to the extent of the Group's interest in the entity. Transactions with non-controlling interests are recorded directly in equity.

Any subsidiary undertaking, joint arrangement or associate sold or acquired during the year are included up to, or from, the date of change of control. Details of transactions in the year are set out in note 27.

Revenue recognition and contract assets and liabilities

Revenue recognised comprises sales to the Group's customers after discounts and amounts payable to customers. Revenue excludes value added taxes. The transaction price of a contract is typically clearly stated within the contract, although the absolute amount may be dependent on escalation indices and long-term contracts require the key estimates highlighted below. Refund liabilities where sales are made with a right of return are not typical in the Group's contracts. Where they do exist, and consideration has been received, a portion based on an assessment of the expected refund liability is recognised within other payables. The Group has elected to use the practical expedient not to adjust revenue for the effect of financing components where the expectation is that the period between the transfer of goods and services to customers and the receipt of payment is less than a year.

Sales of standard OE, spare parts and time and material overhaul services are generally recognised on transfer of control to the customer. This is generally on delivery to the customer, unless the specific contractual terms indicate a different point. The Directors consider whether there is a need to constrain the amount of revenue to be recognised on delivery based on the contractual position and any relevant facts, however, this is not typically required.

Sales of OE and services that are specifically designed for the contract (most significantly in the Defence business) are recognised by reference to the progress towards completion of the performance obligation, using the cost method described in the key judgements, provided the outcome of contracts can be assessed with reasonable certainty.

The Group generates a significant portion of its revenue on aftermarket arrangements arising from the installed OE fleet. As a consequence, in particular in the Civil Aerospace large engine business, the Group will often agree contractual prices for OE deliveries that take into account the anticipated aftermarket arrangements. Sometimes this may result in losses being incurred on OE. As described in the key judgements, these contracts are not combined. The consideration in the OE contract is therefore allocated to OE performance obligations and the consideration in the aftermarket contract to aftermarket performance obligations.

Key areas of the accounting policy are:

- Future variable revenue from long-term contracts is constrained to take account of the risk of non-recovery of resulting contract balances from reduced utilisation e.g. engine flying hours, based on historical forecasting experience and the risk of aircraft being parked by the customer.
- A significant amount of revenue and cost related to long-term contract accounting is denominated in currencies other than that of the relevant Group undertaking, most significantly US dollar transactions in sterling and euro denominated undertakings. These are translated at estimated long-term exchange rates.
- The assessment of stage of completion is generally measured for each contract. However, in certain cases, such as for CorporateCare agreements where there are many contracts covering aftermarket services each for a small number of engines, the Group accounts for a portfolio of contracts together as the effect on the Consolidated Financial Statements would not differ materially from applying the standard to the individual contracts in the portfolio. When accounting for a portfolio of long-term service arrangements the Group uses estimates and assumptions that reflect the size and composition of the portfolio.
- A contract asset/liability is recognised where payment is received in arrears/advance of the revenue recognised in meeting performance obligations.
- Where material, wastage costs (see key judgements below) are recorded as an exceptional non-underlying expense.

If the expected costs to fulfil a contract exceed the expected revenue, a contract loss provision is recognised for the excess costs.

The Group pays participation fees to airframe manufacturers, its customers for OE, on certain programmes. Amounts paid are initially treated as contract assets and subsequently charged as a reduction to the OE revenue when the engines are transferred to the customer.

The Group has elected to use the practical expedient to expense as incurred any incremental costs of obtaining or fulfilling a contract if the amortisation period of an asset created would have been one year or less. Where costs to obtain a contract are recognised in the balance sheet, they are amortised over the performance of the related contract (two to ten years).

Key judgement – Whether Civil Aerospace OE and aftermarket contracts should be combined
In the Civil Aerospace business, OE contracts for the sale of engines to be installed on new aircraft are with the airframers, while the contracts to provide spare engines and aftermarket goods and services are with the aircraft operators, although there may be interdependencies between them. IFRS 15 *Revenue from Contracts with Customers* includes guidance on the combination of contracts, in particular that contracts with unrelated parties should not be combined. Notwithstanding the interdependencies, the Directors consider that the engine contract should be considered separately from the aftermarket contract. In making this judgement, they also took account of industry practice.

Key judgement – How performance on long-term aftermarket contracts should be measured
The Group generates a significant proportion of its revenue from aftermarket arrangements. These aftermarket contracts, such as TotalCare and CorporateCare agreements in the Civil Aerospace business, cover a range of services and generally have contractual terms covering more than one year. Under these contracts, the Group's primary obligation is to maintain customers' engines in an operational condition and this is achieved by undertaking various activities, such as maintenance, repair and overhaul, and engine monitoring over the period of the contract. Revenue on these contracts is recognised over the period of the contract and the basis for measuring progress is a matter of judgement. The Directors consider that the stage of completion of the contract is best measured by using the actual costs incurred to date compared to the estimated costs to complete the performance obligations, as this reflects the extent of completion of the activities to be performed.

1 ACCOUNTING POLICIES – CONTINUED

Key judgement – Whether any costs should be treated as wastage
In rare circumstances, the Group may incur costs of wasted material, labour or other resources to fulfil a contract where the level of cost was not reflected in the contract price. The identification of such costs is a matter of judgement and would only be expected to arise where there has been a series of abnormal events which give rise to a significant level of cost of a nature that the Group would not expect to incur and hence is not reflected in the contract price. Examples include technical issues that: require resolution to meet regulatory requirements; have a wide-ranging impact across a product type; and cause significant operational disruption to customers. Similarly, in these rare circumstances, significant disruption costs to support customers resulting from the actual performance of a delivered good or service may be treated as a wastage cost. Provision is made for any costs identified as wastage when the obligation to incur them arises – see note 21.

Key judgement – Whether sales of spare engines to joint ventures are at fair value
The Civil Aerospace business maintains a pool of spare engines to support its customers. Some of these engines are sold to, and held by, joint venture companies. The assessment of whether the sales price reflects fair value is a key judgement. The Group considers that based upon the terms and conditions of the sales, and by comparison to the sales price of spare engines to other third parties, the sales made to joint ventures reflect the fair value of the goods sold. See note 26 for value of sales to joint ventures during the year.

Key judgement - When revenue should be recognised in relation to spare engine sales to related entities
The Group recognises revenue when a performance obligation is settled. A judgement has been made on whether the Group relinquishes control of these spare engines at the point of legal sale, as the customer, in some instances, is contracted to provide some future spare engine capacity to the Group to support its installed fleet. The customer in the engine sale has responsibility for generating revenue from the engines and exposure to periods of non-utilisation; exposure to risk of damage or loss, risk from residual value movements, and will determine if and when profits will be made from disposal. The spare engines that will be made available to the Group in the future do not consist of identified assets and the provider retains a substantive right to substitute the asset through the Group's period of use. It is therefore appropriate to recognise revenue from the sale of the spare engines at the point that title transfers.

Key estimate – Estimates of future revenue and costs on long-term contractual arrangements
The Group has long-term contracts that fall into different accounting periods and which can extend over significant periods (generally up to 25 years) the most significant of these are long-term service arrangements (LTSAs) in the Civil Aerospace business with an average remaining term of around ten years. The estimated revenue and costs are inherently imprecise and significant estimates are required to assess: engine flying hours (EFHs), time-on-wing and other operating parameters; the pattern of future maintenance activity and the costs to be incurred; lifecycle cost improvements over the term of the contracts; and escalation of revenue and costs. The impact of climate change on EFH and costs is also considered when making these estimates. Industry and customer data on expected levels of utilisation is included in the forecasts used. Across the length of the current Civil LTSA contracts, allowance has been made for around a 1% projected cost increase resulting from carbon pricing and commodity price changes.

The sensitivities below demonstrate how changes in assumptions (including as a result of climate change) could impact the level of revenue recognised were assumptions to change. The Directors believe that the estimates used to prepare the financial statements take account of the inherent uncertainties, constraining the expected level of revenue as appropriate.

The ongoing COVID-19 pandemic continues to result in uncertainty over the recovery of demand across the civil aviation industry. Further details have been included in the going concern disclosure on page 58. Estimates of future LTSA revenue within Civil Aerospace are based upon future EFH forecasts, influenced by assumptions over the recovery of the civil aviation industry. Finally, many of the revenues and costs are denominated in currencies other than that of the relevant Group undertaking. These are translated at an estimated long-term exchange rate, based on historical trends and economic forecasts.

During the year, changes to the estimate in relation to the Civil LTSA contracts resulted in favourable catch-up adjustments to revenue of £214m.

Based upon the stage of completion of all widebody LTSA contracts within Civil Aerospace as at 31 December 2021, the following reasonably possible changes in estimates would result in catch-up adjustments being recognised in the period in which the estimates change (at underlying rates):

- A change in forecast EFHs of 1% over the remaining term of the contracts would impact LTSA income and to a lesser extent costs, resulting in an in-year impact of around £6m to £9m. This would be expected to be seen as a catch-up change in revenue or, to the extent it impacts onerous contracts, within cost of sales.
- A 1% increase or decrease in our pricing to customers over the life of the contracts would lead to a revenue catch-up adjustment in the next 12 months of around £100m.
- A 1% increase or decrease in shop visit costs over the life of the contracts would lead to a revenue catch-up adjustment in the next 12 months of around £25m.

Risk and revenue sharing arrangements (RRSAs)

Cash entry fees received are initially deferred on the balance sheet within trade payables and other liabilities. They are then recognised as a reduction in cost of sales incurred. Individual programme amounts are allocated pro rata to the estimated number of units to be produced. Amortisation commences as each unit is delivered and then charged on a 15-year straight-line basis.

The payments to suppliers of their shares of the programme cash flows for their production components are charged to cost of sales when OE sales are recognised or as LTSA costs are incurred.

The Group also has arrangements with third parties who invest in a programme and receive a return based on its performance, but do not undertake development work or supply parts. Such arrangements (financial RRSAs) are financial instruments as defined by IAS 32 *Financial Instruments: Presentation* and are accounted for using the amortised cost method.

Key judgement – Determination of the nature of entry fees received
RRSAs with key suppliers (workshare partners) are a feature of the civil aviation industry business. Under these contractual arrangements, the key commercial objectives are that: (i) during the development phase the workshare partner shares in the risks of developing an engine by performing its own development work, providing development parts and paying a non-refundable cash entry fee; and (ii) during the production phase it supplies components in return for a share of the programme cash flows as a 'life of type' supplier (i.e. as long as the engine remains in service).

The non-refundable cash entry fee is judged by the Group to be a contribution towards the development expenditure incurred. These receipts are deferred on the balance sheet and recognised against the cost of sales over the estimated number of units to be delivered on a similar basis to the amortisation of development costs – see 126.

Royalty payments

Where a government or similar body has previously acquired an interest in the intellectual property of a programme, royalty payments are matched to the related sales.

Government grants

Government grants received are varied in nature and are recognised in the income statement so as to match them with the related expenses that they are intended to compensate. Where grants are received in advance of the related expenses, they are initially recognised as liabilities within trade payables and other liabilities and released to match the related expenditure. Non-monetary grants are recognised at fair value.

Interest

Interest receivable/payable is credited/charged to the income statement using the effective interest method. Where borrowing costs are attributable to the acquisition, construction or production of a qualifying asset, such costs are capitalised as part of the specific asset.

Taxation

The tax charge/credit on the profit or loss for the year comprises current and deferred tax:

- Current tax is the expected tax payable for the year, using tax rates enacted or substantively enacted at the balance sheet date, and any adjustment to tax payable in respect of previous years.
- Deferred tax is provided using the balance sheet liability method, providing for temporary differences between the carrying amounts of the assets and liabilities for financial reporting purposes and the amounts used for tax purposes and is calculated using the enacted or substantively enacted rates that are expected to apply when the asset or liability is settled. In the UK, the deferred tax liability on the pension scheme surplus is recognised consistently with the basis for recognising the surplus i.e. at the rate applicable to refunds from a trust.

Tax is charged or credited to the income statement or OCI as appropriate, except when it relates to items credited or charged directly to equity in which case the tax is also dealt with in equity.

Deferred tax liabilities are recognised for taxable temporary differences arising on investments in subsidiaries and joint arrangements, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax is not recognised on taxable temporary differences arising on the initial recognition of goodwill or for temporary differences arising from the initial recognition of assets and liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profits, which include the reversal of taxable temporary differences, will be available against which the assets can be utilised. Further details on the Group's tax position can be found on page 213.

1 ACCOUNTING POLICIES – CONTINUED

Key estimate – Estimates necessary to assess whether it is probable that sufficient suitable taxable profits will arise in the UK to utilise the deferred tax assets
Deferred tax assets are recognised to the extent it is probable that future taxable profits will be available, against which the deductible temporary difference can be utilised. Further details are included in note 5.

In addition to taking into account a severe but plausible downside forecast (see below), the climate-related estimates and assumptions (set out on pages 117 to 119) have also been considered when assessing the recoverability of the deferred tax assets. Recognising the longer term over which these assets will be recovered, the Group has also considered the impact on OE and aftermarket sales if new more efficient civil aircraft or new engine options enter the market earlier than assumed in our most likely estimates. Under this scenario some older products would see a reduction in profits, but additional opportunities exist for our newer products such as the Trent XWB.

While carbon and commodity pricing may put pressure on costs, decarbonisation and new supplier and customer contracts offer the opportunity to receive value for more efficient and sustainable products.

The ongoing COVID-19 pandemic continues to result in uncertainty over the recovery of demand across the civil aviation industry. As explained in note 5, a 25% probability of there being a severe but plausible downside forecast in relation to the civil aviation industry has been taken into account in the assessment of the recovery of the UK deferred tax assets.

The estimates take account of the inherent uncertainties constraining the expected level of profit as appropriate. Changes in these estimates will affect future profits and therefore the recoverability of the deferred tax assets. The following sensitivities have been modelled to demonstrate the impact of changes in assumptions on the recoverability of deferred tax assets.

- A 5% change in margin in the main Civil Aerospace widebody programmes.
- A 5% change in the number of shop visits driven by EFHs.
- Assumed future cost increases from climate change expected to flow through to customers at 100% are restricted to 90% pass through.

All of these could be driven by a number of factors including the impact of climate change as explained on pages 117 to 119.

A 5% change in margin or shop visits would result in an increase/decrease in the deferred tax asset of around £150m.

If only 90% of assumed future cost increases are passed on to customers, this would result in a decrease in the deferred tax asset of around £40m, and if carbon prices were to double, this would be £110m.

Foreign currency translation

Transactions denominated in currencies other than the functional currency of the transacting Group undertaking are translated into the functional currency at the average monthly exchange rate when the transaction occurs. Monetary assets and liabilities denominated in foreign currencies are translated into the relevant functional currency at the rate prevailing at the year end. Exchange differences arising on foreign exchange transactions and the retranslation of monetary assets and liabilities into functional currencies at the rate prevailing at the year end are included in profit/(loss) before taxation.

The trading results of Group undertakings are translated into sterling at the average exchange rates for the year. The assets and liabilities of overseas undertakings, including goodwill and fair value adjustments arising on acquisition, are translated at the exchange rates prevailing at the year end. Exchange adjustments arising from the retranslation of the opening net assets, and from the translation of the profits or losses at average rates, are recognised in OCI.

Discontinued operations

A discontinued operation is defined in IFRS 5 *Non-current assets held for sale and discontinued operations* as a component of an entity that has been disposed of or is classified as held for sale, represents a separate major line of business or geographical area of operations, is part of a single co-ordinated plan to dispose of such a line of business or is a subsidiary acquired exclusively with a view to resale. The results of discontinued operations are required to be presented separately in the income statement with the comparative period restated to show results attributable to continuing operations.

Assets and businesses are classified as held for sale when their carrying amounts will be recovered through sale rather than through continuing use.

Key judgement – Whether the ITP Aero business and associated consolidation adjustments meet the criteria to be classified as held for sale and a discontinued operation
In identifying the assets and liabilities that form part of the disposal group held for sale in relation to the ITP Aero business, the Group has considered whether the associated consolidation adjustments meet the criteria to be classified within the disposal group. The consolidation adjustments allocated to the disposal group are those that relate to the carrying value of the disposal group's assets and liabilities. Further detail can be found in note 27.

Financial instruments – Classification and measurement

Financial assets primarily include trade receivables, cash and cash equivalents, short-term investments, derivatives (foreign exchange, commodity and interest rate contracts), and unlisted investments.

- Trade receivables are classified either as held to collect and measured at amortised cost, or as held to collect and sell and measured at fair value, with movements in fair value recognised through other comprehensive income (FVOCI). The Group may sell trade receivables due from certain customers before the due date. Any trade receivables from such customers that are not sold at the reporting date are classified as 'held to collect and sell'.
- Cash and cash equivalents (consisting of balances with banks and other financial institutions, money-market funds, short-term deposits) and short-term investments are subject to low market risk. Cash balances, short-term deposits and short-term investments are measured at amortised cost. Money market funds are measured at fair value, with movements in fair value recognised in the income statement as a profit or loss (FVPL).
- Derivatives and unlisted investments are measured at FVPL. During the year, the Company elected to measure its listed investment at FVOCI.
- Financial liabilities primarily consist of trade payables, borrowings, derivatives, financial RRSAs and C Shares.
- Derivatives are classified and measured at FVPL.
- All other financial liabilities are classified and measured at amortised cost.

Financial instruments – Impairment of financial assets and contract assets

IFRS 9 *Financial Instruments* sets out the basis for the accounting of expected credit losses (ECLs) on financial assets and contract assets resulting from transactions within the scope of IFRS 15 *Revenue from Contracts with Customers*. The Group has adopted the simplified approach to provide for ECLs, measuring the loss allowance at a probability weighted amount that considers reasonable and supportable information about past events, current conditions and forecasts of future economic conditions of customers. These are incorporated in the simplified model adopted by using credit ratings which are publicly available, or through internal risk assessments derived using the customer's latest available financial information. The ECLs are updated at each reporting date to reflect changes in credit risk since initial recognition. ECLs are calculated for all financial assets in scope, regardless of whether or not they are overdue.

Financial instruments – Hedge accounting

Forward foreign exchange contracts and commodity swaps (derivative financial instruments) are held to manage the cash flow exposures of forecast transactions denominated in foreign currencies or in commodities respectively. Derivative financial instruments qualify for hedge accounting when: (i) there is a formal designation and documentation of the hedging relationship and the Group's risk management objective and strategy for undertaking the hedge at the inception of the hedge; and (ii) the hedge is expected to be effective.

In general, the Group has chosen to not apply hedge accounting in respect of these exposures. Prior to its acquisition in 2017, ITP Aero adopted hedge accounting for its equivalent exposures. It has continued to do so, although the value of the derivatives is not significant relative to those held by the rest of the Group and are now classified as held for sale.

The Group economically hedges the fair value and cash flow exposures of its borrowings. Cross-currency interest rate swaps are held to manage the fair value or cash flow exposures of borrowings denominated in foreign currencies and are designated as fair value hedges or cash flow hedges as appropriate. Interest rate swaps are held to manage the interest rate exposures of fixed and floating rate borrowings and may be designated as fair value hedges or cash flow hedges as appropriate. If the swaps are not designated as fair value or cash flow hedges, the economic effect is included in the underlying results – see note 2.

Changes in the fair values of derivatives that are designated as fair value hedges are recognised directly in the income statement. The fair value changes of effective cash flow hedge derivatives are recognised in OCI and subsequently recycled in the income statement in the same period or periods during which the hedged cash flows affect profit or loss. Any ineffectiveness in the hedging relationship is included in the income statement.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, exercised, or no longer qualifies for hedge accounting. At that time, for cash flow hedges and, if the forecast transaction remains probable, any cumulative gain or loss on the hedging instrument recognised in SOCIE is retained until the forecast transaction occurs. If a hedged transaction is no longer expected to occur, the net cumulative gain or loss is recycled to the income statement.

Financial instruments – Replacement of benchmark interest rates

In August 2020, Phase 2 of IBOR reform was published, effective from 1 January 2021. The amendments address issues that arise from the implementation of the reforms including the replacement of one benchmark with an alternative one. The Phase 2 amendments provide additional temporary reliefs from applying specific IAS 39 *Financial Instruments: Recognition and Measurement* and IFRS 9: *Financial Instruments* hedge accounting requirements to hedging relationships directly affected by IBOR reform.

During 2021, the Group carried out an IBOR reform transition project to assess and implement changes to systems, processes, risk and valuation models, as well as managing related tax and accounting implications. The Group's risk exposure that is directly affected by the interest rate benchmark reform is its portfolio of long-term borrowings of £6.1bn and a number of its foreign exchange contracts. The borrowings are hedged, using interest rate swaps and cross-currency interest rate swaps, for changes in fair value and cash flows attributable to the relevant benchmark interest rate. The Group has made amendments to the contractual terms of IBOR-referenced floating-rate debt, swaps and foreign exchange contracts, and updated the relevant hedge designations.

A number of the Group's lease liabilities are based on a LIBOR index. These are predominantly referencing USD LIBOR, which is not expected to cease until 2023, hence the change in relation to these contracts has not impacted the 2021 financial statements. These contracts will be amended in due course.

Business combinations and goodwill

Goodwill recognised represents the excess of the fair value of the purchase consideration over the fair value to the Group of the net of the identifiable assets acquired and the liabilities assumed. On transition to IFRS on 1 January 2004, business combinations were not retrospectively adjusted to comply with UK-adopted International Accounting Standards and goodwill was recognised based on the carrying value under the previous accounting policies. Goodwill in respect of the acquisition of a subsidiary is recognised as an intangible asset. Goodwill arising on the acquisition of joint arrangements and associates is included in the carrying value of the investment.

Customer relationships

The fair value of customer relationships recognised as a result of a business combination relate to the acquired company's established relationships with its existing customers that result in repeat purchases and customer loyalty. Amortisation is charged on a straight-line basis over its useful economic life, up to a maximum of 15 years.

Certification costs

Costs incurred in respect of meeting regulatory certification requirements for new Civil Aerospace aero-engine/aircraft combinations, including payments made to airframe manufacturers for this, are recognised as intangible assets to the extent that they can be recovered out of future sales. They are charged to the income statement over the programme life. Individual programme assets are allocated pro rata to the estimated number of units to be produced. Amortisation commences as each unit is delivered and then charged on a 15-year straight-line basis.

Research and development

Expenditure incurred on research and development is distinguished as relating either to a research phase or to a development phase. All research phase expenditure is charged to the income statement. Development expenditure is recognised as an internally generated intangible asset (programme asset) only if it meets strict criteria, relating in particular to technical feasibility and generation of future economic benefits. More specifically, development costs are capitalised from the point at which the following conditions have been met:

- the technical feasibility of completing the programme and the intention and ability (availability of technical, financial and other resources) to complete the programme asset and use or sell it;
- the probability that future economic benefits will flow from the programme asset; and
- the ability to measure reliably the expenditure attributable to the programme asset during its development.

Capitalisation continues until the point at which the programme asset meets its originally contracted technical specification (defined internally as the point at which the asset is capable of operating in the manner intended by management).

Subsequent expenditure is capitalised where it enhances the functionality of the programme asset and demonstrably generates an enhanced economic benefit to the Group. All other subsequent expenditure on programme assets is expensed as incurred.

Individual programme assets are allocated pro rata to the estimated number of units to be produced. Amortisation commences as each unit is delivered and then charged on a 15-year straight-line basis. In accordance with IAS 38 *Intangible Assets*, the basis on which programme assets are amortised is assessed annually.

Key judgement – Determination of the point in time when costs incurred on an internal programme development meet the criteria for capitalisation

The Group incurs significant research and development expenditure in respect of various development programmes. Determining when capitalisation should commence and cease is a critical judgement, as is the determination of when subsequent expenditure on the programme assets should be capitalised. During the year, £104m of development expenditure was capitalised.

Within the Group, there is an established Product Introduction and Lifecycle Management process (PILM) in place. Within this process, the technical feasibility, the commercial viability and financial assessment of the programme is assessed at certain milestones. When these are met, development expenditure is capitalised. Prior to this, expenditure is expensed as incurred.

The Group continues to invest in new technologies as a result of its decarbonisation commitments. As these are new technologies, there is a higher level of uncertainty over potential outcomes and therefore, this could impact the level of expenditure that is capitalised or recognised in the income statement in future years.

Subsequent expenditure after entry into service which enhances the performance of the engine and the economic benefits to the Group is capitalised. This expenditure is referred to as enhanced performance and is governed by the PILM process referred to above. All other development costs are expensed as incurred.

Key judgement – Determination of the basis for amortising capitalised development costs

The economic benefits of the development costs are primarily those cash inflows arising from long-term service agreements, which are expected to be relatively consistent for each engine within a programme. Amortisation of development costs is recognised on a straight-line basis over the estimated period of operation of the engine by its initial operator.

Software

Software that is not specific to an item of property, plant and equipment is classified as an intangible asset, recognised at its acquisition cost and amortised on a straight-line basis over its useful economic life, up to a maximum of five years. The cost of internally developed software includes direct labour and an appropriate proportion of overheads.

Other intangible assets

These principally include intangible assets arising on acquisition of businesses, such as technology, patents and licences which are amortised on a straight-line basis over a maximum of 15 years and trademarks which are not amortised.

Property, plant and equipment

Property, plant and equipment are stated at acquisition cost less accumulated depreciation and any provision for impairment in value. The cost of self-constructed assets includes the cost of materials, direct labour and an appropriate proportion of overheads and, where appropriate, interest.

Depreciation is provided on a straight-line basis to write off the cost, less the estimated residual value, of property, plant and equipment over their estimated useful lives. No depreciation is recorded on assets in the course of construction. Estimated useful lives are reassessed annually and are as follows:

- Land and buildings, as advised by the Group's professional advisers:
  - freehold buildings – five to 50 years (average 25 years); and
  - no depreciation is provided on freehold land.
- Plant and equipment – two to 25 years (average 11 years).
- Aircraft and engines – five to 20 years (average 16 years).

Leases

Assets and liabilities arising from a lease are initially measured on a present value basis.

Lease liabilities include the net present value of the following lease payments:

- fixed payments less any lease incentive receivable;
- variable lease payments that are based on an index or a rate;
- amounts expected to be payable by the Group under residual value guarantees;
- the exercise price of a purchase option if the Group is reasonably certain to exercise that option; and
- payments of penalties for termination of the lease, if the lease term reflects the Group exercising that option.

Where leases commenced after the initial IFRS 16 *Leases* transition date, the lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the Group's incremental borrowing rate is used, being the rate that the Group would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions. Where appropriate, lease liabilities are revalued at each reporting date using the spot exchange rate.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability or a revaluation of the liability;
- any lease payments made at or before the commencement date less any lease incentives received;
- any initial direct costs; and
- restoration costs.

Each right-of-use asset is depreciated over the shorter of its useful economic life and the lease term on a straight-line basis unless the lease is expected to transfer ownership of the underlying asset to the Group, in which case the asset is depreciated to the end of the useful life of the asset.

Short-term leases are leases with a lease term of 12 months or less. Payments associated with short-term leases and low-value leases are recognised on a straight-line basis as an expense in the income statement.

Key judgement – Determination of lease term
In determining the lease term, the Group considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated). Certain land and building leases have renewal options with renewal dates for the most significant property leases evenly spread between 2022–2028 and in 2041. The Group reviews its judgements on lease terms annually, including the operational significance of the site, especially where utilised for manufacturing activities.

Key estimates – Estimates of the payments required to meet residual value guarantees at the end of engine leases
Engine leases in the Civil Aerospace segment often include clauses that require the engines to be returned to the lessor with specific levels of usable life remaining or cash payments to the lessor. The costs of meeting these requirements are included in the lease payments. The amounts payable are calculated based upon an estimate of the utilisation of the engines over the lease term, whether the engine is restored to the required condition by performing an overhaul at our own cost or through the payments of amounts specified in the contract and any new contractual arrangements arising when the current lease contracts end. Amounts due can vary depending on the level of utilisation of the engines, overhaul activity prior to the end of the contract, and decisions taken on whether ongoing access to the assets is required at the end of the lease term. During the year, adjustments to return conditions at the end of leases resulted in a credit of £4m to the income statement. The lease liability at 31 December 2021 included £412m relating to the cost of meeting these residual value guarantees in the Civil Aerospace business. Up to £76m is payable in the next 12 months, £75m is due over the following four years and the remaining balance after five years.

Impairment of non-current assets

Impairment of non-current assets is considered in accordance with IAS 36 *Impairment of Assets*. Where the asset does not generate cash flows that are independent of other assets, impairment is considered for the cash-generating unit (CGU) to which the asset belongs. Goodwill, indefinite life intangible assets and intangible assets not yet available for use are tested for impairment annually. Other intangible assets (including programme-related intangible assets), property, plant and equipment and investments are assessed for any indications of impairment annually. If any indication of impairment is identified, an impairment test is performed to estimate the recoverable amount.

If the recoverable amount of an asset (or CGU) is estimated to be below the carrying value, the carrying value is reduced to the recoverable amount and the impairment loss is recognised as an expense. The recoverable amount is the higher of value in use or fair value less costs of disposal, if this is readily available. The value in use is the present value of future cash flows using a pre-tax discount rate that reflects the time value of money and the risk specific to the asset (or CGU). The relevant local statutory tax rates have been applied in calculating post-tax to pre-tax discount rates.

Key judgement – Determination of CGUs for assessing impairment of goodwill
The Group conducts impairment reviews at the CGU level. As permitted by IAS 36, impairment reviews for goodwill are performed at the groups of CGUs level, representing the lowest level at which the Group monitors goodwill for internal management purposes and no higher than the Group's operating segments. The main CGUs for which goodwill impairment reviews have been performed are Rolls-Royce Deutschland Ltd & Co KG and at an aggregated Rolls-Royce Power Systems AG level.

Key estimate – Estimates of cash flow forecasts to support the carrying value of intangible assets (including programme-related intangible assets)
The assessment of the recoverable value of development expenditure, certification costs, and customer relationships recognised as intangible assets (31 December 2021: £2,274m, 2020: £3,220m) is dependent on estimates of cash flows generated by the relevant programme, the discount rate used to calculate a present value and assumptions on foreign exchange rates. The estimates of cash flows generated by a programme comprise: future market share; product performance related estimates (including EFHs and time-on-wing); pricing and cost for uncontracted business; assumptions over the recovery from COVID-19 of the industries in which we operate; and climate-related matters including assessment of future contractual terms with suppliers and customers in relation to the cost of carbon (with details set out in notes 1 and 9).

A weaker than expected recovery from the impacts of COVID-19 or a reduction in OE volumes, for example due to reduced customer demand and an increase in costs as a result of climate change, could result in a deterioration in future cash flow forecasts.

- The Group has considered whether a 10% reduction in OE quantities or a 5% deterioration in EFHs (and hence future cash flows) on the business aviation programme assets that have previously been subject to impairment would lead to an additional impairment and concluded that it would not.
- For programmes that have not previously been impaired, but where there is existing headroom that could be significantly reduced over the next 12 months, the Group has considered whether an increase in costs of up to 10% would lead to an additional impairment and concluded that it would not.

Inventories

Inventories are valued on a first-in, first-out basis, at the lower of cost and net realisable value. Cost comprises direct materials and, where applicable, direct labour costs and those direct and indirect overheads, including depreciation of property, plant and equipment, that have been incurred in bringing the inventories to their present location and condition. Net realisable value represents the estimated selling prices less all estimated costs of completion and costs to be incurred in marketing, selling and distribution. All inventories are classified as current as it is expected that they will be used in the Group's operating cycle, regardless of whether this is expected to be within 12 months of the balance sheet date.

Cash and cash equivalents

Cash and cash equivalents include cash at bank and in hand, investments in money-market funds and short-term deposits with a maturity of three months or less on inception. The Group considers overdrafts (repayable on demand) to be an integral part of its cash management activities and these are included in cash and cash equivalents for the purposes of the cash flow statement. Where the Group operates pooled banking arrangements across multiple accounts, these are presented on a net basis when it has both a legal right and intention to settle the balances on a net basis.

The Group offers a supply chain financing (SCF) programme in partnership with banks to enable suppliers, including joint ventures, who are on our standard 75 day or more payment terms to receive their payment sooner. The election to utilise the programme is the sole decision of the supplier. As the Group continues to have a contractual obligation to pay its suppliers under commercial terms which are unaffected by any utilisation of the programme, and it does not retain any ongoing involvement in the SCF, the related payables are retained on the Group's balance sheet and classified as trade payables. Further details are disclosed in note 19.

Provisions

Provisions are recognised when the Group has a present obligation as a result of a past event, and it is probable that the Group will be required to settle that obligation. Provisions are discounted to present value where the effect is material.

The principal provisions are recognised as follows:

- Trent 1000 in-service issues when wastage costs are identified as described on page 122;
- contract losses based on an assessment of whether the direct costs to fulfil a contract are greater than the expected revenue;
- warranties and guarantees based on an assessment of future claims with reference to past experience and recognised at the earlier of when the underlying products and services are sold and when the likelihood of a future cost is identified; and
- restructuring when the Group has approved a detailed and formal restructuring plan, and the restructuring has either commenced or has created a valid expectation to those affected.

Key judgement – Whether any costs should be treated as wastage
As described further on page 122, in rare circumstances, the Group may incur costs of wasted material, labour or other resources to fulfil a contract where the level of cost was not reflected in the contract price. The identification of such costs is a matter of judgement and would only be expected to arise where there has been a series of abnormal events which give rise to a significant level of cost of a nature that the Group would not expect to incur and hence is not reflected in the contract price. Provision is made for any costs identified as wastage when the obligation to incur them arises.

Specifically for the Trent 1000 wastage costs, provision has been made as the Group is an owner of an engine Type Certificate under which it has a present obligation to develop appropriate design changes to address certain engine conditions that have been noted in issued Airworthiness Directives. The Group is also required to ensure engine operators can continue to safely operate engines within the terms of their LTSAs, and this requires the engines to be compliant with the requirements of those issued Airworthiness Directives. These requirements cannot be met without the Group incurring significant costs in the form of replacement parts and customer claims. Given the significant activities of the Group in designing and overhauling aero engines it is very experienced in making the required estimates in relation to the number and timing of shop visits, parts costs, overhaul labour costs and customer claims.

Key estimates – Estimates of the time to resolve the technical issues on the Trent 1000, including the development of the modified HPT blade and estimates of the expenditure required to settle the obligation relating to Trent 1000 claims and to settle Trent 1000 long-term contracts assessed as onerous
The Group has provisions for Trent 1000 exceptional costs at 31 December 2021 of £157m (2020: £321m). These represent the Directors' best estimate of the expenditure required to settle the obligations at the balance sheet date. These estimates take account of information available and different possible outcomes.

The Group considers that at 31 December 2021 the Trent 1000 contract loss provisions and the Trent 1000 exceptional cost provision are most sensitive to changes in estimates. A 12-month delay in the availability of the modified HPT blade could lead to around a £60–100m increase in the Trent 1000 exceptional costs provision.

Key estimates – Estimates of the future revenues and costs to fulfil onerous contracts
The Group has provisions for onerous contracts at 31 December 2021 of £845m (2020: £808m).

An increase in Civil Aerospace widebody estimates of LTSA costs of 1% over the remaining term of the contracts could lead to around a £100–120m increase in the provision for contract losses across all programmes.

Post-retirement benefits

Pensions and similar benefits (principally healthcare) are accounted for under IAS 19 *Employee Benefits*.

For defined benefit plans, obligations are measured at discounted present value, using a discount rate derived from high-quality corporate bonds denominated in the currency of the plan, whilst plan assets are recorded at fair value. Surpluses in schemes are recognised as assets only if they represent economic benefits available to the Group in the future. Actuarial gains and losses are recognised immediately in OCI. The service and financing costs of such plans are recognised separately in the income statement:

- current service costs are spread systematically over the lives of employees;
- past-service costs and settlements are recognised immediately; and
- financing costs are recognised in the periods in which they arise.

UK pension obligations include the estimated impact of the obligation to equalise defined benefit pensions and transfer values for men and women – see note 22.

Payments to defined contribution schemes are charged as an expense as they fall due.

1 ACCOUNTING POLICIES – CONTINUED

Key estimate – Estimates of the assumptions for valuing the defined benefit obligation
The Group's defined benefit pension schemes and similar arrangements are assessed annually in accordance with IAS 19. The valuations, which are based on assumptions determined with independent actuarial advice, resulted in a net deficit of £225m before deferred taxation being recognised on the balance sheet at 31 December 2021 (2020: deficit of £686m). The size of the net surplus/deficit is sensitive to the actuarial assumptions, which include the discount rate, price inflation, pension and salary increases, longevity and, in the UK, the number of plan members who take the option to transfer their pension to a lump sum on retirement or who choose to take the Bridging Pension Option. Following consultation, the UK scheme closed to future accrual on 31 December 2020 and following conclusion on the final protections agreed in the year to 31 December 2021, the Group has trued up the estimate recognised at 31 December 2020.

A reduction in the discount rate of 0.25% from 1.90% could lead to an increase in the defined benefit obligations of the RR UK Pension Fund of approximately £460m. This would be expected to be broadly offset by changes in the value of scheme assets, as the scheme's investment policies are designed to mitigate this risk.

A one-year increase in life expectancy from 21.8 years (male aged 65) and from 23.2 years (male aged 45) would increase the defined benefit obligations of the RR UK Pension Fund by approximately £365m.

It is assumed that 50% of employed deferred and 40% of deferred (2020: 40%) of members of the RR UK Pension Fund will transfer out of the fund on retirement. The change in this assumption is a result of actual experience. An increase of 5% in this assumption would increase the defined benefit obligation by £30m.

Further details and sensitivities are included in note 22.

Share-based payments
The Group provides share-based payment arrangements to certain employees. These are principally equity-settled arrangements and are measured at fair value (excluding the effect of non-market based vesting conditions) at the date of grant. The fair value is expensed on a straight-line basis over the vesting period. The amount recognised as an expense is adjusted to reflect the actual number of shares or options that will vest, except where additional shares vest as a result of the total shareholder return (TSR) performance condition in the long-term incentive plan (LTIP), where no adjustment is required as allowance for this is included in the initial fair value.

Cash-settled share options (grants in the International ShareSave plan) are measured at fair value at the balance sheet date. The Group recognises a liability at the balance sheet date based on these fair values, taking into account the estimated number of options that will actually vest and the relative completion of the vesting period. Changes in the value of this liability are recognised in the income statement for the year.

The cost of shares of Rolls-Royce Holdings plc held by the Group for the purpose of fulfilling obligations in respect of employee share plans is deducted from equity in the consolidated balance sheet. See note 24 for a further description of the share-based payment plans.

Customer financing support
In connection with the sale of its products the Group will, on occasion, provide financing support for its customers. These arrangements fall into two categories: credit-based guarantees and asset-value guarantees. Credit-based guarantees are disclosed as commitments or contingent liabilities dependent on whether aircraft have been delivered or not. The Group considers asset-value guarantees to be non-financial liabilities and provides for amounts required. As described on page 171, the Directors consider the likelihood of crystallisation in assessing whether provision is required for any contingent liabilities.

The Group's contingent liabilities relating to financing arrangements are spread over many years and relate to a number of customers and a broad product portfolio and are reported on a discounted basis.

Costs of share issues
The costs of issuing ordinary shares are charged to the share premium account.

1 ACCOUNTING POLICIES – CONTINUED

Revisions to IFRS not applicable in 2021

Standards and interpretations issued by the IASB are only applicable if endorsed by the UK. Other than IFRS 17 *Insurance Contracts* and Amendments to IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* – Onerous Contracts described below, the Group does not consider that any standards, amendments or interpretations issued by the IASB, but not yet applicable will have a significant impact on the Consolidated Financial Statements.

The Group is not expecting to adopt the amendment to IFRS 16 *Leases*, effective in 2022, which provides a practical expedient to not treat COVID-19 rent concessions as lease modifications. The Group did not adopt the equivalent practical expedient during 2021.

IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*

Amendments to IAS 37 for Onerous Contracts – Cost of Fulfilling a Contract is effective from 1 January 2022. It clarifies the meaning of 'costs to fulfil a contract', explaining that the direct cost of fulfilling a contract comprises the incremental costs of fulfilling that contract (for example, direct labour and materials) and an allocation of other costs that relate directly to fulfilling contracts (for example, an allocation of the depreciation charge for an item of PP&E used to fulfil the contract). The Group has assessed the impact of this amendment on its contracts (of which the most significant onerous contracts are in Civil Aerospace) and the inclusion of additional allocated costs is expected to increase the total contract loss provision by £0.7bn to £0.8bn. As required by the transition arrangements in relation to the amendment, there will be a corresponding impact to 2022 opening retained earnings.

IFRS 17 *Insurance Contracts*

IFRS 17 is effective from 1 January 2023. The new Standard establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts within the scope of the Standard. The objective of IFRS 17 is to ensure that an entity provides relevant information that faithfully represents those contracts.

The Group has performed an assessment to establish where an impact is expected and at this time the Group believes that the impact is restricted to its captive insurance company. The process of assessing the financial impact on the Consolidated Financial Statements will continue during 2022.

Post balance sheet events

The Group has taken the latest legal position in relation to any ongoing legal proceedings and reflected these in the 2021 results as appropriate. In addition, the Group completed the sale of its 23.1% shareholding in AirTanker Holdings Limited to Equitix Investment Management Limited on 9 February 2022. Further details are included in note 27.

2 SEGMENTAL ANALYSIS

The analysis by business segment is presented in accordance with IFRS 8 *Operating Segments*, on the basis of those segments whose operating results are regularly reviewed by the Board (who acts as the Chief Operating Decision Maker as defined by IFRS 8). The Group's four divisions are set out below:

Civil Aerospace	development, manufacture, marketing and sales of commercial aero engines and aftermarket services
Defence	development, manufacture, marketing and sales of military aero engines, naval engines, submarine nuclear power plants and aftermarket services
Power Systems	development, manufacture, marketing and sales of integrated solutions for onsite power and propulsion
New Markets	development, manufacture and sales of small modular reactor (SMR) and new electrical power solutions

For the year ended 31 December 2020, Civil Aerospace, Power Systems, Defence and ITP Aero were identified as core businesses, with other smaller businesses identified as non-core businesses. From 1 January 2021, the identification of core and non-core businesses has ceased with non-core businesses now included within the category of 'Other businesses'. The figures in the segmental analysis are shown in total to include the Group's four divisions and Other businesses.

Other businesses include the trading results of the Bergen Engines AS business until the date of disposal on 31 December 2021, the results of the Civil Nuclear Instrumentation & Control business until the date of disposal on 5 November 2021, the results of the North America Civil Nuclear business until the date of disposal on 31 January 2020 and the results of the Knowledge Management System business until the date of disposal on 3 February 2020. The trading results of the UK Civil Nuclear business have also been included in Other businesses. The segmental analysis for 2020 has been restated to reflect the 2021 definition of Other businesses.

During the year to 31 December 2021, activity previously managed as part of the Civil Aerospace segment has been transferred to ITP Aero. The activity transferred from Civil Aerospace to ITP Aero relates to the change in ownership of the Hucknall site with associated fabrications activities. This transfers the production of fabrications, combustors and fan outlet guide vanes manufactured in Hucknall from Civil Aerospace to ITP Aero. To ensure comparability, the segmental analysis for 2020 has been restated to reflect this transfer. ITP has been classified as a disposal group held for sale and discontinued operations since 30 June 2021 and as such, the operating segment is no longer regularly reviewed by the Board as a basis for making decisions about the allocation of resources to the business or to assess its performance. In line with IFRS 8, ITP Aero is no longer considered to meet the definition of an operating segment and the segmental analysis for 2020 has been restated to reflect the 2021 assessment of operating segments.

2 SEGMENTAL ANALYSIS – CONTINUED

During the year to 31 December 2021, the Group assessed whether its New Markets activities met the criteria of an operating segment in accordance with IFRS 8. As the Group increases its investment in these important new technologies, the results of these activities have been combined and presented as an additional segment, reflecting the differing characteristics and risk profile of these businesses, in line with how performance is reviewed by the Board. These results were previously included within Civil Aerospace, Defence, Power Systems and Corporate and Inter-segment. The segmental analysis for 2020 has been restated to reflect the 2021 assessment of operating segments.

Underlying results

The Group presents the financial performance of the businesses in accordance with IFRS 8 and consistently with the basis on which performance is communicated to the Board each month.

Underlying results are presented by recording all relevant revenue and cost of sales transactions at the average exchange rate achieved on effective settled derivative contracts in the period that the cash flow occurs. The impact of the revaluation of monetary assets and liabilities using the exchange rate that is expected to be achieved by the use of the effective hedge book is recorded within underlying cost of sales. Underlying financing excludes the impact of revaluing monetary assets and liabilities to period end exchange rates. Transactions between segments are presented on the same basis as underlying results and eliminated on consolidation. Unrealised fair value gains/(losses) on foreign exchange contracts, which are recognised as they arise in the statutory results, are excluded from underlying results. To the extent that the previously forecast transactions are no longer expected to occur, an appropriate portion of the unrealised fair value gain/(loss) on foreign exchange contracts is recorded immediately in the underlying results.

Amounts receivable/(payable) on interest rate swaps which are not designated as hedge relationships for accounting purposes are reclassified from fair value movement on a statutory basis to interest receivable/(payable) on an underlying basis, as if they were in an effective hedge relationship.

In the first half of the year, the Group was a net purchaser of USD, with the consequence that the achieved exchange rate GBP:USD of 1.39 on settled contracts was similar to the average spot rate in the period. In the second half of 2021, the Group was a net seller of USD, at an achieved exchange rate GBP:USD of 1.59 based on the USD hedge book.

Estimates of future USD cash flows have been determined using the Group's base-case forecast. These USD cash flows have been used to establish the extent of future USD hedge requirements. In 2020, the Group took action to reduce the size of the USD hedge book by $11.8bn across 2020-2026, resulting in an underlying charge of £1.7bn being recognised within underlying finance costs and the associated cash settlement costs occurring over the period 2020-2026. In the year to 31 December 2021, the Group took the opportunity to further reduce the size of the USD hedge book by an additional $2bn by settling the mark-to-market at £1m cost. The derivatives relating to this underlying charge have been subsequently excluded from the hedge book and, therefore, are also excluded from the calculation of the average exchange rate achieved in the current and future periods. This charge was reversed in arriving at statutory performance on the basis that the cumulative fair value changes on these derivative contracts are recognised as they arise.

In the year to 31 December 2021, cash settlement costs of £452m were incurred (2020: £202m).

Underlying performance excludes the following:

- the effect of acquisition accounting and business disposals;
- impairment of goodwill, other non-current and current assets where the reasons for the impairment are outside of normal operating activities;
- exceptional items; and
- certain other items which are market driven and outside of the control of management.

Acquisition accounting, business disposals and impairment

We exclude these from underlying results so that the current year and comparative results are directly comparable.

Exceptional items

Items are classified as exceptional where the Directors believe that presentation of the results in this way is useful in providing an understanding of the Group's financial performance. Exceptional items are identified by virtue of their size, nature or incidence.

In determining whether an event or transaction is exceptional, the Directors considers quantitative as well as qualitative factors such as the frequency or predictability of occurrence. Examples of exceptional items include one-time costs and charges in respect of aerospace programmes, costs of restructuring programmes and one-time past service charges and credits on post-retirement schemes.

Subsequent changes in exceptional items recognised in a prior period will also be recognised as exceptional. All other changes will be recognised within underlying performance.

Exceptional items are not allocated to segments and may not be comparable to similarly titled measures used by other companies.

2 SEGMENTAL ANALYSIS – CONTINUED

Other items

The financing component of the defined benefit pension scheme cost is determined by market conditions and has therefore been included as a reconciling difference between underlying performance and statutory performance.

Penalties paid on agreements with investigating bodies are considered to be one-off in nature and are therefore excluded from underlying performance.

The tax effects of the adjustments above are excluded from the underlying tax charge. In addition, changes in tax rates or changes in the amount of recoverable deferred tax or advance corporation tax recognised are also excluded.

See page 137 for the reconciliation between underlying performance and reported performance.

The following analysis sets out the results of the Group's businesses on the basis described above and also includes a reconciliation of the underlying results to those reported in the consolidated income statement.

	Civil Aerospace [1,2] £m	Defence [2] £m	Power Systems [2] £m	New Markets [2] £m	Other businesses £m	Corporate and Inter-segment [2] £m	Total Underlying £m
Year ended 31 December 2021							
Underlying revenue from sale of original equipment	1,612	1,411	1,744	–	155	(11)	4,911
Underlying revenue from aftermarket services	2,924	1,957	1,005	2	148	–	6,036
Total underlying revenue	4,536	3,368	2,749	2	303	(11)	10,947
Gross profit/(loss)	474	721	778	1	32	(10)	1,996
Commercial and administrative costs	(297)	(161)	(383)	(3)	(20)	(35)	(899)
Research and development costs	(434)	(105)	(157)	(68)	(10)	–	(774)
Share of results of joint ventures and associates	85	2	4	–	–	–	91
Underlying operating (loss)/profit	(172)	457	242	(70)	2	(45)	414
Year ended 31 December 2020							
Underlying revenue from sale of original equipment	2,278	1,428	1,787	3	136	(6)	5,626
Underlying revenue from aftermarket services	2,790	1,927	948	2	137	–	5,804
Total underlying revenue	5,068	3,355	2,735	5	273	(6)	11,430
Gross (loss)/profit	(1,987)	684	678	2	15	(5)	(613)
Commercial and administrative costs	(310)	(146)	(331)	(1)	(26)	(52)	(866)
Research and development costs	(407)	(86)	(160)	(46)	(9)	–	(708)
Share of results of joint ventures and associates	169	9	1	–	–	–	179
Underlying operating (loss)/profit	(2,535)	461	188	(45)	(20)	(57)	(2,008)

[1] The underlying results for Civil Aerospace for 31 December 2020 have been restated to reflect the changes to activity during 2021 due to the transfer of the Hucknall site and associated fabrications activities to ITP Aero.

[2] The underlying results of Civil Aerospace, Defence, Power Systems and Corporate and Inter-segment activities for 31 December 2020 have been restated to reclassify the results of the Group's SMR and electrical activities as New Markets.

2 SEGMENTAL ANALYSIS – CONTINUED

Reconciliation to statutory results

	Total underlying £m	Underlying adjustments and adjustments to foreign exchange £m	Group statutory results £m
Year ended 31 December 2021			
Continuing operations			
Revenue from sale of original equipment	4,911	152	5,063
Revenue from aftermarket services	6,036	119	6,155
Total revenue	10,947	271	11,218
Gross profit	1,996	140	2,136
Commercial and administrative costs	(899)	9	(890)
Research and development costs	(774)	(4)	(778)
Share of results of joint ventures and associates	91	(46)	45
Operating profit	414	99	513
Gain arising on the acquisition and disposal of businesses	–	56	56
Profit before financing and taxation	414	155	569
Net financing	(378)	(485)	(863)
Profit/(loss) before taxation	36	(330)	(294)
Taxation	(26)	444	418
Profit for the year from continuing operations	10	114	124
Discontinued operations [1]	51	(54)	(3)
Profit for the year	61	60	121
Attributable to:			
Ordinary shareholders	60	60	120
Non-controlling interests	1	–	1

Year ended 31 December 2020			
Continuing operations			
Revenue from sale of original equipment	5,626	(68)	5,558
Revenue from aftermarket services	5,804	129	5,933
Total revenue	11,430	61	11,491
Gross (loss)/profit	(613)	426	(187)
Commercial and administrative costs	(866)	95	(771)
Research and development costs	(708)	(496)	(1,204)
Share of results of joint ventures and associates	179	11	190
Operating (loss)/profit	(2,008)	36	(1,972)
Loss arising on the disposal of businesses	–	(14)	(14)
(Loss)/profit before financing and taxation	(2,008)	22	(1,986)
Net financing	(1,985)	1,172	(813)
(Loss)/profit before taxation	(3,993)	1,194	(2,799)
Taxation	(46)	(256)	(302)
(Loss)/profit for the year from continuing operations	(4,039)	938	(3,101)
Discontinued operations [1]	42	(110)	(68)
(Loss)/profit for the year	(3,997)	828	(3,169)
Attributable to:			
Ordinary shareholders	(3,998)	828	(3,170)
Non-controlling interests	1	–	1

[1] Discontinued operations relate to the results of ITP Aero and are presented net of intercompany trading eliminations and related consolidation adjustments.

2 SEGMENTAL ANALYSIS – CONTINUED

Disaggregation of revenue from contracts with customers

Analysis by type and basis of recognition

	Civil Aerospace [1, 2] £m	Defence [2] £m	Power Systems [2] £m	New Markets [2] £m	Other businesses £m	Corporate and Inter-segment [2] £m	Total Underlying £m
Year ended 31 December 2021							
Original equipment recognised at a point in time	1,612	604	1,720	–	142	(11)	4,067
Original equipment recognised over time	–	807	24	–	13	–	844
Aftermarket services recognised at a point in time	629	825	871	2	148	–	2,475
Aftermarket services recognised over time	2,223	1,132	134	–	–	–	3,489
Total underlying customer contract revenue [3]	4,464	3,368	2,749	2	303	(11)	10,875
Other underlying revenue	72	–	–	–	–	–	72
Total underlying revenue	4,536	3,368	2,749	2	303	(11)	10,947
Year ended 31 December 2020							
Original equipment recognised at a point in time	2,278	522	1,769	3	120	(6)	4,686
Original equipment recognised over time	–	905	17	–	16	–	938
Aftermarket services recognised at a point in time	1,168	794	824	2	136	–	2,924
Aftermarket services recognised over time	1,398	1,132	124	–	1	–	2,655
Total underlying customer contract revenue [3]	4,844	3,353	2,734	5	273	(6)	11,203
Other underlying revenue	224	2	1	–	–	–	227
Total underlying revenue	5,068	3,355	2,735	5	273	(6)	11,430

[1] The underlying results for Civil Aerospace for 31 December 2020 have been restated to reflect the changes to activity during 2021 due to the transfer of the Hucknall site and associated fabrications activities to ITP Aero.
[2] The underlying results of Civil Aerospace, Defence, Power Systems and Corporate and Inter-segment activities for 31 December 2020 have been restated to reclassify the results of the Group's SMR and electrical activities as New Markets.
[3] Includes £159m, of which £214m relates to Civil LTSA contracts, (2020: £(1,048)m, of which £(1,061)m relates to Civil LTSA contracts) of revenue recognised in the year relating to performance obligations satisfied in previous years.

	Total underlying £m	Underlying adjustments and adjustments to foreign exchange £m	Group statutory results £m
Year ended 31 December 2021			
Original equipment recognised at a point in time	4,067	152	4,219
Original equipment recognised over time	844	–	844
Aftermarket services recognised at a point in time	2,475	38	2,513
Aftermarket services recognised over time	3,489	75	3,564
Total customer contract revenue	10,875	265	11,140
Other revenue	72	6	78
Total revenue [1]	10,947	271	11,218
Year ended 31 December 2020			
Original equipment recognised at a point in time	4,686	(63)	4,623
Original equipment recognised over time	938	(6)	932
Aftermarket services recognised at a point in time	2,924	53	2,977
Aftermarket services recognised over time	2,655	110	2,765
Total customer contract revenue	11,203	94	11,297
Other revenue	227	(33)	194
Total revenue [1]	11,430	61	11,491

[1] During the year to 31 December 2021, revenue recognised within Civil Aerospace, Defence and Power Systems of £1,634m (2020: 1,701m) was received from a single customer.

2 SEGMENTAL ANALYSIS – CONTINUED

Analysis by geographical destination

The Group's revenue by destination of the ultimate operator is as follows:

	2021 £m	Restated 2020 £m
United Kingdom	1,497	1,132
Germany	737	807
Switzerland	164	258
Spain	106	281
France	332	224
Italy	187	185
Russia	170	102
Norway	146	110
Rest of Europe	610	730
Europe	3,949	3,829
United States	3,525	3,647
Canada	235	292
North America	3,760	3,939
South America	170	128
Central America	76	64
Saudi Arabia	271	353
Rest of Middle East	364	546
Middle East	635	899
China	1,245	1,058
Singapore	105	366
Japan	233	350
South Korea	137	130
India	140	77
Rest of Asia	359	101
Asia	2,219	2,082
Africa	213	257
Australasia	196	291
Other	–	2
	11,218	11,491

Order backlog

Contracted consideration, translated at the estimated long term exchange rates, that is expected to be recognised as revenue when performance obligations are satisfied in the future (referred to as order backlog) is as follows:

	2021			Restated 2020		
	Within five years £bn	After five years £bn	Total [1] £bn	Within five years £bn	After five years £bn	Total [1] £bn
Civil Aerospace	20.3	20.8	41.1	17.6	24.8	42.4
Defence	6.2	0.3	6.5	7.1	0.4	7.5
Power Systems	2.6	0.2	2.8	2.2	0.2	2.4
Other businesses	0.2	–	0.2	0.6	–	0.6
	29.3	21.3	50.6	27.5	25.4	52.9

[1] There is no order backlog attributable to New Markets.

The parties to these contracts have approved the contract and our customers do not have a unilateral enforceable right to terminate the contract without compensation. The Group excludes Civil Aerospace OE orders (for deliveries beyond the next 7-12 months) that our customers have placed where they retain a right to cancel. Our expectation based on historical experience is that these orders will be fulfilled. Within the 0-5 years category, contracted revenue in: Defence will largely be recognised in the next three years and Power Systems will be recognised over the next two years as it is a short cycle business.

2 SEGMENTAL ANALYSIS – CONTINUED

Underlying adjustments

		2021				Restated 2020			
		Revenue £m	Profit before financing £m	Net financing £m	Taxation[11] £m	Revenue £m	Loss before financing £m	Net financing £m	Taxation[11] £m
Underlying performance		**10,947**	**414**	**(378)**	**(26)**	11,430	(2,008)	(1,985)	(46)
Impact of settled derivative contracts on trading transactions [1]	A	**271**	**(34)**	**62**	**33**	61	995	(324)	(39)
Unrealised fair value changes on derivative contracts held for trading [2]	A	**–**	**(6)**	**(618)**	**110**	–	8	(85)	(182)
Unrealised net (gain)/losses on closing future over-hedged position [3]	A	**–**	**–**	**(8)**	**–**	–	–	1,503	(106)
Realised net (gain)/losses on closing over-hedged position [3]	A	**–**	**–**	**(6)**	**–**	–	–	202	(38)
Unrealised fair value change to derivative contracts held for financing [4]	A	**–**	**–**	**79**	**(20)**	–	–	(86)	–
Exceptional programme credits/(charges) [5]	B	**–**	**105**	**–**	**(1)**	–	620	(36)	–
Exceptional restructuring credit/(charge) [6]	B	**–**	**45**	**–**	**1**	–	(470)	–	32
Impairments [7]	C	**–**	**9**	**–**	**–**	–	(1,244)	–	258
Other write-offs	C	**–**	**–**	**–**	**–**	–	(92)	–	25
Effect of acquisition accounting [8]	C	**–**	**(50)**	**–**	**12**	–	(85)	–	23
Pension past-service credit [9]	B	**–**	**47**	**–**	**(13)**	–	308	–	(108)
Other	D	**–**	**(17)**	**6**	**(37)**	–	(4)	(2)	(7)
Included in operating profit/(loss)		**271**	**99**	**(485)**	**85**	61	36	1,172	(142)
Gains/(loss) arising on the acquisitions and disposals of businesses [10]	C	**–**	**56**	**–**	**2**	–	(14)	–	3
Impact of tax rate change		**–**	**–**	**–**	**327**	–	–	–	159
Re-recognition/(de-recognition) of deferred tax assets		**–**	**–**	**–**	**30**	–	–	–	(276)
Total underlying adjustments		**271**	**155**	**(485)**	**444**	61	22	1,172	(256)
Statutory performance per consolidated income statement		**11,218**	**569**	**(863)**	**418**	11,491	(1,986)	(813)	(302)

A – FX, B – Exceptional, C – M&A and impairment, D – Other

[1] The impact of measuring revenues and costs and the impact of valuation of assets and liabilities using the period end exchange rate rather than the achieved rate or the exchange rate that is expected to be achieved by the use of the hedge book increased reported revenues by £271m (2020: increased by £61m) and reduced profit before financing and taxation by £34m (2020 restated: reduced loss by £995m). Underlying financing excludes the impact of revaluing monetary assets and liabilities at the period end exchange rate.

[2] The underlying results exclude the fair value changes on derivative contracts held for trading. These fair value changes are subsequently recognised in the underlying results when the contracts are settled.

[3] In 2020, the Group took action to reduce the size of the USD hedge book by $11.8bn across 2020-2026, resulting in an underlying charge of £1.7bn at 31 December 2020. In 2021, this estimate was updated to reflect the actual cash cost and resulted in a £15m gain to underlying finance costs in the year to 31 December 2021. In the year to 31 December 2021, the Group took the opportunity to further reduce the size of the USD hedge book by an additional $2bn resulting in a £1m charge to underlying finance costs. Further detail is provided in note 4.

[4] Includes the losses on hedge ineffectiveness in the year of £1m (2020: losses of £11m) and net fair value gains of £80m (2020: losses of £75m) on any interest rate swaps not designated into hedging relationships for accounting purposes.

[5] During the year to 31 December 2021, the estimated Trent 1000 abnormal wastage costs reduced by £105m following a reassessment of the number of engines impacted by these issues, with an associated reduction in expected contract losses. See note 21 for further details.

[6] During the year to 31 December 2021, the Group recorded an exceptional restructuring credit of £45m (2020 restated: charge of £470m) which included a £138m provision release offset by £93m (2020: £116m) associated with initiatives to enable the restructuring which have been charged directly to the income statement. Further details are provided in note 21.

[7] The Group has assessed the carrying value of its assets. Further details are provided in notes 9, 10 and 11.

[8] The effect of acquisition accounting includes the amortisation of intangible assets arising on previous acquisitions.

[9] The past service credit £47m comprises of; £7m has been recorded following the final details on the additional transitional protections agreed during the period; £4m as a result of transferring employment of 236 employees in anticipation of a business disposal; £4m from the updated scope of the fundamental restructuring programmes following a higher than expected rate of natural attrition; and £32m from remeasurement of the US defined benefit liability to remove spousal benefits not included in the plan benefits.

[10] Gains/(losses) arising on the acquisitions and disposals of businesses are set out in note 27.

[11] Appropriate rates of tax have been applied to adjustments made to profit/(loss) before tax in the table above. Adjustments which impact the UK tax loss have an effective tax rate of zero. See note 5 for more details. The total underlying adjustments in 2021 are a credit of £444m (2020: tax charge of £256m). The overall tax credit in 2021 includes £327m which arises on the re-measurement of UK deferred tax balances following the change in the UK tax rate from 19% to 25% and £30m re-recognition of deferred tax assets previously not recognised. The £159m tax credit in 2020 relates to the re-measurement of the UK deferred tax balances from 17% to 19%. In 2020 there is a tax charge of £276m relating to the derecognition of some of the deferred tax asset on UK losses previously recognised.

2 SEGMENTAL ANALYSIS – CONTINUED

Balance sheet analysis

Year ended 31 December 2021	Civil Aerospace [1, 2] £m	Defence [2] £m	Power Systems [2] £m	New Markets [2] £m	Total reportable segments £m
Segment assets	15,846	2,766	3,531	90	22,233
Interests in joint ventures and associates	378	9	16	–	403
Segment liabilities	(20,745)	(2,635)	(1,503)	(33)	(24,916)
Net (liabilities)/assets	(4,521)	140	2,044	57	(2,280)
Investment in intangible assets, property, plant and equipment, right-of-use assets and joint ventures and associates	323	97	187	15	622
Depreciation, amortisation and impairment	660	117	177	4	958

Year ended 31 December 2020					
Segment assets	16,622	3,083	3,471	65	23,241
Interests in joint ventures and associates	363	19	11	–	393
Segment liabilities	(22,331)	(3,079)	(1,352)	(17)	(26,779)
Net (liabilities)/assets	(5,346)	23	2,130	48	(3,145)
Investment in intangible assets, property, plant and equipment, right-of-use assets and joint ventures and associates	774	121	179	3	1,077
Depreciation, amortisation and impairment	1,914	125	266	5	2,310

[1] The financial position for Civil Aerospace for 31 December 2020 has been restated to reflect the transfer of activity during 2021 as described on page 131.
[2] The financial positions of Civil Aerospace, Defence, Power Systems and Corporate and Inter-segment activities at 31 December 2020 have been restated to reclassify the results of the Group's SMR and electrical activities as New Markets.

Reconciliation to the balance sheet

	2021 £m	2020 £m
Total reportable segment assets excluding held for sale	22,233	23,241
Other businesses	14	21
Corporate and inter-segment	(2,255)	(3,112)
Interests in joint ventures and associates	403	393
ITP Aero prior to classification as held for sale	–	2,091
Assets held for sale [1]	2,028	288
Cash and cash equivalents and short-term investments	2,629	3,452
Fair value of swaps hedging fixed rate borrowings	135	293
Deferred and income tax assets	2,339	1,943
Post-retirement scheme surpluses	1,148	907
Total assets	28,674	29,517
Total reportable segment liabilities excluding held for sale	(24,916)	(26,779)
Other businesses	(11)	(10)
Corporate and inter-segment	2,139	3,261
ITP Aero prior to classification as held for sale	–	(1,036)
Liabilities associated with assets held for sale [1]	(723)	(228)
Borrowings and lease liabilities	(7,776)	(7,330)
Fair value of swaps hedging fixed rate borrowings	(98)	(42)
Deferred and income tax liabilities	(552)	(648)
Post-retirement scheme deficits	(1,373)	(1,580)
Total liabilities	(33,310)	(34,392)
Net liabilities	(4,636)	(4,875)

[1] As at 31 December 2021, assets and liabilities relating to ITP Aero, the investment in Airtanker Holdings and other non-current assets related to the Group's site rationalisation activities have been classified as held for sale. At 31 December 2020, Bergen Engines AS and Civil Nuclear Instrumentation and Control were classified as held for sale. For further details see note 27.

2 SEGMENTAL ANALYSIS – CONTINUED

The carrying amounts of the Group's non-current assets including investments but excluding financial instruments, deferred tax assets and post-employment benefit surpluses, by the geographical area in which the assets are located, are as follows:

	2021 £m	2020 £m
United Kingdom	5,489	5,823
Germany	2,086	2,269
Spain	38	1,267
United States	1,282	1,380
Other	706	739
	9,601	11,478

3 RESEARCH AND DEVELOPMENT

	2021 £m	Restated 2020 £m
Gross research and development costs	(1,179)	(1,225)
Contributions and fees [1]	366	353
Expenditure in the year	(813)	(872)
Capitalised as intangible assets	105	228
Amortisation and impairment of capitalised costs [2]	(70)	(560)
Net cost recognised in the income statement	(778)	(1,204)
Underlying adjustments relating to effects of acquisition accounting, impairment and foreign exchange [3]	4	496
Net underlying cost recognised in the income statement	(774)	(708)

[1] Includes government funding.
[2] See note 9 for analysis of amortisation and impairment. During the year, amortisation of £5m has been incurred within the disposal group recognised as a discontinued operation.
[3] During the year, no impairment of research and development was recorded. In the comparative period to 31 December 2020 (restated), impairment charges of £464m were recorded, relating to the financial and operational impact of COVID-19.

4 NET FINANCING

	2021		Restated 2020	
	Per consolidated income statement £m	**Underlying financing [1] £m**	Per consolidated income statement £m	Underlying financing [1] £m
Interest receivable	**7**	**7**	21	21
Net fair value gains on non-hedge accounted interest rate swaps [2]	**80**	**–**	–	–
Financial RRSAs – foreign exchange differences and changes in forecast payments	**–**	**–**	12	–
Net fair value gains on commodity contracts	**63**	**–**	–	–
Financing on post-retirement scheme surpluses	**17**	**–**	28	–
Net foreign exchange gains	**62**	**–**	–	–
Realised net gains on closing over-hedged position [3]	**–**	**6**	–	–
Unrealised net gains on closing over-hedged position [3]	**–**	**8**	–	–
Financing income	**229**	**21**	61	21
Interest payable	**(252)**	**(262)**	(178)	(175)
Net fair value losses on foreign currency contracts	**(681)**	**–**	(23)	–
Net fair value losses on non-hedge accounted interest rate swaps [2]	**–**	**–**	(75)	–
Unrealised net losses on closing future over-hedged position	**–**	**–**	–	(1,503)
Realised net losses on closing over-hedged position	**–**	**–**	–	(202)
Financial RRSAs – foreign exchange differences and changes in forecast payments	**(7)**	**–**	(20)	–
Financial charge relating to financial RRSAs	**–**	**–**	(3)	(8)
Net fair value losses on commodity contracts	**–**	**–**	(62)	–
Financing on post-retirement scheme deficits	**(20)**	**–**	(29)	–
Net foreign exchange losses	**–**	**–**	(324)	–
Fees paid on undrawn facilities	**(62)**	**(62)**	(97)	(97)
Other financing charges	**(70)**	**(75)**	(63)	(21)
Financing costs	**(1,092)**	**(399)**	(874)	(2,006)
Net financing costs	**(863)**	**(378)**	(813)	(1,985)
Analysed as:				
Net interest payable	**(245)**	**(255)**	(157)	(154)
Net fair value (losses)/gains on derivative contracts	**(538)**	**14**	(160)	(1,705)
Net post-retirement scheme financing	**(3)**	**–**	(1)	–
Net foreign exchange gains/(losses)	**62**	**–**	(324)	–
Net other financing	**(139)**	**(137)**	(171)	(126)
Net financing costs	**(863)**	**(378)**	(813)	(1,985)

[1] See note 2 for definition of underlying results.

[2] The consolidated income statement shows the net fair value gain/(loss) on any interest rate swaps not designated into hedging relationships for accounting purposes. Underlying financing reclassifies the fair value movements on these interest rates swaps to net interest payable.

[3] In 2020, the Group took action to reduce the size of the USD hedge book by $11.8bn across 2020-2026, resulting in an underlying charge of £1,689m at 31 December 2020. In 2021, this estimate was updated to reflect the actual cash settlement cost of £1,674m and resulted in a £15m gain to underlying finance costs in the year to 31 December 2021. In the year to 31 December 2021, the Group took the opportunity to further reduce the size of the USD hedge book by an additional $2bn resulting in a £1m charge to underlying finance costs. The cash settlement costs of £1,674m covers the period 2020 to 2026, £186m was incurred in 2020 and £452m was incurred in the year to 31 December 2021. The Group estimates that future cash outflows of £326m will be incurred in 2022 and £710m spread over 2023 to 2026.

5 TAXATION

(Credited)/charged in the income statement

	UK		Overseas		Total	
	2021 £m	Restated 2020 £m	2021 £m	Restated 2020 £m	2021 £m	Restated 2020 £m
Current tax charge for the year	17	12	151	162	168	174
Adjustments in respect of prior years	2	–	12	(27)	14	(27)
Current tax	19	12	163	135	182	147
Deferred tax (credit)/charge for the year	(173)	178	(59)	(327)	(232)	(149)
Adjustments in respect of prior years	(15)	(12)	(26)	42	(41)	30
Derecognition of deferred tax	–	433	–	–	–	433
Deferred tax credit resulting from increase in UK tax rates	(327)	(159)	–	–	(327)	(159)
Deferred tax	(515)	440	(85)	(285)	(600)	155
(Credited)/charged in the income statement	(496)	452	78	(150)	(418)	302

Other tax (charges)/credits

	OCI				Equity	
	Items that will not be reclassified		Items that may be reclassified			
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Deferred tax:						
Movement in post-retirement schemes	(79)	195	–	–	–	–
Cash flow hedge	–	–	(2)	(4)	–	–
Net investment hedge	–	–	(3)	2	–	–
Share-based payments – direct to equity	–	–	–	–	17	5
Other tax (charges)/credits	(79)	195	(5)	(2)	17	5

Tax reconciliation on continuing operations

	2021 £m	Restated 2020 £m
Loss before taxation from continuing operations	(294)	(2,799)
Less: share of results of joint ventures and associates (note 12)	(22)	(132)
Loss before taxation from continuing operations excluding joint ventures and associates	(316)	(2,931)
Nominal tax credit at UK corporation tax rate 19% (2020: 19%)	(60)	(557)
UK tax rate differential [1]	(33)	33
Overseas rate differences [2]	26	(59)
Impairments	–	21
R&D credits	(10)	(10)
Exempt gain on disposal of businesses [3]	(15)	–
Other permanent differences	13	9
Benefit to deferred tax from previously unrecognised tax losses and temporary differences	(47)	–
Tax losses and other temporary differences not recognised in deferred tax [4]	62	588
Derecognition of deferred tax [5]	–	433
Adjustments in respect of prior years	(27)	3
Increase in deferred taxes resulting from a change in the UK tax rate [6]	(327)	(159)
	(418)	302
Underlying items (note 2)	26	46
Non-underlying items	(444)	256
	(418)	302

[1] The UK tax rate differential arises on the difference between the deferred tax rate and the UK current corporation tax rate.
[2] Overseas rate differences mainly relate to tax on profits or losses in countries such as the US and Germany which have higher tax rates than the UK. In 2020, the impact is negative because of the loss in Germany relating to the impairment of the business aviation programme intangible assets.
[3] The exempt gain mainly relates to the disposal of the Civil Nuclear Instrumentation and Control business.
[4] Tax losses and other temporary differences not recognised mainly relate to the UK.
[5] Derecognition of deferred tax assets in 2020 relates to foreign exchange and commodity financial assets and liabilities and UK losses.
[6] UK deferred tax was previously measured at 19%. The Spring Budget 2021 announced that the UK corporate tax rate will increase to 25% from 1 April 2023. The UK deferred tax balances have therefore been re-measured at 25%. The 2020 rate change relates to the Spring Budget 2020 announcement that the UK tax rate would remain at 19% rather than reducing to 17%.

5 TAXATION – CONTINUED

Tax on discontinued operations

	2021 £m	2020 £m
Tax credit on loss before taxation from discontinued operations	**(34)**	(43)

Deferred taxation assets and liabilities

	2021 £m	2020 £m
At 1 January	**1,332**	1,269
Amount credited/(charged) to income statement	**636**	(107)
Amount (charged)/credited to other comprehensive income	**(82)**	197
Amount charged to cash flow hedge reserve	**(2)**	(4)
Amount credited to equity	**17**	5
On disposal/acquisition of businesses [1]	**(4)**	(20)
Transferred to assets held for sale [2]	**(85)**	(4)
Exchange differences	**(14)**	(4)
At 31 December	**1,798**	1,332
Deferred tax assets	**2,249**	1,826
Deferred tax liabilities	**(451)**	(494)
	1,798	1,332

[1] The 2021 deferred tax relates to the disposal of Bergen Engines AS and the Civil Nuclear Instrumentation & Control business. The 2020 deferred tax relates to the acquisitions of Qinous GmBH and Kinolt Group S.A.
[2] The 2021 deferred tax transferred to assets held for sale relates to ITP Aero. The 2020 deferred tax transferred to assets held for sale relates to Bergen Engines AS and the Civil Nuclear Instrumentation and Control business.

5 TAXATION – CONTINUED

The analysis of the deferred tax position is as follows:

	At 1 January £m	Recognised in income statement £m	Recognised in OCI £m	Recognised in equity £m	Disposals and acquisition related activity £m	Transferred to held for sale £m	Exchange differences £m	At 31 December £m
2021								
Intangible assets	(567)	(102)	–	–	–	188	17	(464)
Property, plant and equipment	34	145	–	–	–	23	(9)	193
Other temporary differences	343	185	(12)	–	(4)	(49)	8	471
Net contract liabilities	56	17	–	–	–	–	–	73
Pensions and other post-retirement scheme benefits	(8)	(47)	(79)	–	–	–	(6)	(140)
Foreign exchange and commodity financial assets and liabilities	187	165	7	–	–	1	2	362
Losses	850	254	–	17	–	(33)	(3)	1,085
R&D credit	274	20	–	–	–	(215)	(23)	56
Advance corporation tax	163	(1)	–	–	–	–	–	162
	1,332	636	(84)	17	(4)	(85)	(14)	1,798
Recognised in:								
Continuing operations		600						
Discontinued operations		36						
2020								
Intangible assets	(726)	160	–	–	(20)	–	19	(567)
Property, plant and equipment	(138)	153	–	–	(2)	–	21	34
Other temporary differences	374	48	5	(1)	6	(4)	(85)	343
Net contract liabilities	55	1	–	–	–	–	–	56
Pensions and other post-retirement scheme benefits	(154)	(48)	195	–	–	–	(1)	(8)
Foreign exchange and commodity financial assets and liabilities	425	(251)	(7)	–	(6)	–	26	187
Losses	1,017	(178)	–	6	2	–	3	850
R&D credit	253	8	–	–	–	–	13	274
Advance corporation tax	163	–	–	–	–	–	–	163
	1,269	(107)	193	5	(20)	(4)	(4)	1,332
Recognised in:								
Continuing operations		(155)						
Discontinued operations		48						

Unrecognised deferred tax assets

	2021 £m	2020 £m
Advance corporation tax	19	19
UK losses	1,563	1,181
Foreign exchange and commodity financial assets and liabilities	392	369
Losses and other unrecognised deferred tax assets	73	68
Deferred tax not recognised on unused tax losses and other items on the basis that future economic benefit is uncertain	2,047	1,637

Gross amount and expiry of losses and other deductible temporary differences for which no deferred tax asset has been recognised

	2021					2020				
	Total gross losses and deductible temporary differences £m	UK losses £m	Foreign exchange and commodity financial assets and liabilities £m	Other losses £m	Other deductible temporary differences £m	Total gross losses and deductible temporary differences £m	UK losses £m	Foreign exchange and commodity financial assets and liabilities £m	Other losses £m	Other deductible temporary differences £m
Expiry within 5 years	4	–	–	4	–	26	–	–	26	–
Expiry within 6 to 30 years	282	–	–	282	–	281	–	–	281	–
No expiry	7,992	6,251	1,567	66	108	8,381	6,214	1,940	44	183
	8,278	6,251	1,567	352	108	8,688	6,214	1,940	351	183

In addition to the gross balances shown above, advance corporation tax of £19m (2020: £19m) has not been recognised. Advance corporation tax has no expiry.

Deferred tax assets of £2,249m include £1,054m (2020: £801m) relating to UK tax losses and £162m (2020: £163m) relating to advance corporation tax (ACT), both arising in Rolls-Royce plc. These assets have been recognised based on the expectation that the business will generate taxable profits and tax liabilities in the future against which the losses and ACT can be utilised.

Most of the tax losses relate to the Civil Aerospace widebody business which makes initial losses through the investment period of a programme and then makes a profit through its contracts for services. The programme lifecycles are typically in excess of 30 years. In the past few years there have been four new engines that have entered into service (Trent 1000–TEN, Trent 7000, Trent XWB-84 and Trent XWB-97).

Deferred tax assets are recognised only to the extent that it is probable that future taxable profits will be available against which the assets can be utilised. A recoverability assessment has been undertaken, taking account of deferred tax liabilities against which the reversal can be offset and using latest UK forecasts, which are mainly driven by the Civil Aerospace widebody business, to assess the level of future taxable profits.

The recoverability of deferred tax assets relating to tax losses and ACT has been assessed in 2021 on the following basis:

- using the most recent UK profit forecasts which are consistent with past experience and external sources on market conditions. These forecasts cover the next five years;
- the long-term forecast profit profile of certain of the major widebody engine programmes which is typically in excess of 30 years from initial investment to retirement of the fleet, including the aftermarket revenues earned from airline customers;
- taking into account forecast reductions in the usage of older aircraft, and including new business in certain areas;
- taking into account a 25% probability of the severe but plausible downside forecast materialising in relation to the civil aviation industry; and
- the long-term forecast profit and cost profile of the other parts of the business.

The assessment takes into account UK tax laws that, in broad terms, restrict the offset of the carried forward tax losses to 50% of current year profits. In addition, management's assumptions relating to the amounts and timing of future taxable profits take into account the impact of COVID-19 and climate change on existing widebody engine programmes. Based on this assessment, the Group has recognised a deferred tax asset of £1,054m relating to losses and £162m relating to ACT. This reflects the conclusions that:

- It is probable that the business will generate taxable income and tax liabilities in the future against which these losses and the ACT can be utilised.
- Based on current forecasts and using various scenarios these losses and the ACT will be used in full within the expected widebody engine programme lifecycles.
- The Group has not recognised any deferred tax assets in respect of 2021 UK tax losses.

5 TAXATION – CONTINUED

An explanation of the potential impact of climate change on forecast profits and sensitivity analysis can be found in note 1.

The Group has also reassessed the recovery of other deferred tax assets in Rolls-Royce plc, including those arising on unrealised losses on derivative contracts, resulting in a net increase of £154m of which £58m relates to the increase in the UK corporation tax rate (see below). Any future changes in tax law or the structure of the Group could have a significant effect on the use of losses, ACT and other deferred tax assets, including the period over which they can be used. In view of this and the significant judgement involved the Board continuously reassesses this area.

The other significant deferred tax assets in respect of tax losses and other deductible temporary differences continue to arise in Rolls-Royce Deutschland Ltd & Co KG, where the main business is business aviation. The total net deferred tax asset is £254m (2020: £252m), which has been recognised in full as it is considered probable that the business will generate taxable income in the future against which these assets can be utilised.

The Spring Budget 2021, announced that the UK corporation tax rate will increase from 19% to 25% from 1 April 2023. The new law was substantively enacted on 24 May 2021. The prior year UK deferred tax assets and liabilities were calculated at 19%, as this was the enacted rate at the 2020 balance sheet date. As the 25% rate has been substantively enacted before 31 December 2021, the UK deferred tax assets and liabilities have been re-measured at 25%.

The resulting credits and charges have been recognised in the income statement except to the extent that they relate to items previously credited or charged to equity. Accordingly, in 2021, £327m has been credited to the income statement and £17m has been credited directly to equity.

The temporary differences associated with investments in subsidiaries, joint ventures and associates, for which a deferred tax liability has not been recognised, aggregate to £957m (2020: £907m). No deferred tax liability has been recognised on the potential withholding tax due on the remittance of undistributed profits as the Group is able to control the timing of such remittances and it is probable that consent will not be given in the foreseeable future.

6 EARNINGS PER ORDINARY SHARE

Basic earnings per ordinary share (EPS) is calculated by dividing the profit/(loss) attributable to ordinary shareholders by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares held under trust, which have been treated as if they had been cancelled.

In the current period, the potentially dilutive share options element has been assessed as 20 million shares. Where a loss for the year is recognised the effect of potentially dilutive ordinary shares is anti-dilutive.

	2021			Restated 2020		
	Basic	Potentially dilutive share options	Diluted	Basic	Potentially dilutive share options	Diluted
Profit/(loss) attributable to ordinary shareholders (£m)						
Continuing operations	123		123	(3,102)		(3,102)
Discontinued operations	(3)		(3)	(68)		(68)
	120		120	(3,170)		(3,170)
Weighted average number of ordinary shares (millions)	8,332	20	8,352	5,987	–	5,987
EPS (pence)						
Continuing operations	1.48p	(0.01p)	1.47p	(51.81p)	–	(51.81p)
Discontinued operations	(0.04p)	–	(0.04p)	(1.14p)	–	(1.14p)
	1.44p	(0.01p)	1.43p	(52.95p)	–	(52.95p)

The reconciliation between underlying EPS and basic EPS is as follows:

	2021		Restated 2020	
	Pence	£m	Pence	£m
Underlying EPS/Underlying profit/(loss) from continuing operations attributable to ordinary shareholders	0.11	9	(67.48)	(4,040)
Total underlying adjustments to profit/(loss) before tax (note 2)	(3.96)	(330)	19.94	1,194
Related tax effects	5.33	444	(4.27)	(256)
EPS/Profit/(loss) from continuing operations attributable to ordinary shareholders	1.48	123	(51.81)	(3,102)
Diluted underlying EPS from continuing operations attributable to ordinary shareholders	0.11		(67.48)	

7 AUDITORS' REMUNERATION

	2021 £m	2020 £m
Fees payable to the Company's auditor for the audit of the Company's annual Financial Statements	3.3	2.7
Fees payable to the Company's auditor and its associates for the audit of the Company's subsidiaries pursuant to legislation	8.3	7.6
Total fees payable for audit services	11.6	10.3
Fees payable to the Company's auditor and its associates for other services:		
Audit related assurance services [1]	1.7	1.6
Taxation compliance services [2]	–	0.1
Other assurance services [3]	0.2	1.0
Total fees payable to the Company's auditor and its associates [4]	13.5	13.0
Fees payable in respect of the Group's pension schemes:		
Audit	0.1	0.1

[1] This includes £0.7m (2020: £1.0m) for the review of the half-year report, £0.8m (2020: £0.6m) in respect of the audit of grant claims and £0.2m (2020: nil) for a non-statutory audit of Bergen Engines.
[2] During the year to 31 December 2020, this included £0.1m for tax compliance services in respect of Kinolt Group S.A. where the auditor was engaged prior to the acquisition by the Group. These services ceased following the acquisition.
[3] This includes £0.1m in respect of levies payable to BEIS (Department of Business, Energy and Industrial Strategy) (2020: £0.5m in respect of Reporting Accountant services for the rights issue and £0.5m in respect of the bond issuance).
[4] Audit fees for overseas entities are reported at the average exchange rate for the year.

8 EMPLOYEE INFORMATION

	2021 Number	2020 Number
United Kingdom	19,700	22,000
Germany	9,500	9,800
United States	5,000	5,400
Spain	2,700	3,000
Italy	900	800
Singapore	900	1,100
Nordics	700	700
Canada	700	800
India	600	1,000
France	600	700
Rest of world	2,700	2,900
Monthly average number of employees	44,000	48,200
Civil Aerospace [1]	17,900	22,300
Defence [1]	11,100	10,500
Power Systems [1]	9,100	8,900
New Markets [1]	400	300
Other businesses [2]	1,400	1,600
Corporate [1, 3]	100	100
Monthly average number of employees excluding discontinued operations	40,000	43,700
ITP Aero (classified as discontinued operation) [1]	4,000	4,500
Monthly average number of employees	44,000	48,200

	2021			2020		
	Continuing operations £m	Discontinued operations £m	Total £m	Continuing operations £m	Discontinued operations £m	Total £m
Wages, salaries and benefits	2,392	154	2,546	2,404	164	2,568
Social security costs	343	36	379	392	41	433
Share-based payments (note 24)	28	–	28	25	–	25
Pensions and other post-retirement scheme benefits (note 22)	250	3	253	92	5	97
Group employment costs [4]	3,013	193	3,206	2,913	210	3,123

[1] Comparative information has been restated to reflect changes in segmental analysis. See note 2 for more detail.
[2] Other businesses are set out in note 2 on page 131.
[3] Corporate consists of employees who do not provide a shared service to the segments. Where corporate functions provide such a service, employees have been allocated to the segments on an appropriate basis.
[4] Remuneration of key management personnel is shown in note 26.

9 INTANGIBLE ASSETS

	Goodwill £m	Certification costs £m	Development expenditure £m	Customer relationships £m	Software[4] £m	Other £m	Total £m
Cost							
At 1 January 2020	1,024	962	3,294	1,303	967	803	8,353
Additions	–	3	232	–	89	40	364
Acquisition of businesses	57	–	3	41	–	36	137
Transferred to assets held for sale [1]	(3)	–	(33)	–	(12)	(4)	(52)
Disposals	–	(1)	–	–	(93)	(2)	(96)
Reclassifications [2]	4	(4)	(8)	–	15	(6)	1
Exchange differences	30	3	76	59	2	26	196
At 31 December 2020	1,112	963	3,564	1,403	968	893	8,903
Additions	–	1	104	–	83	35	223
Transferred to assets held for sale [1]	–	(6)	(179)	(868)	(15)	(59)	(1,127)
Disposals	(4)	(22)	–	–	(51)	(2)	(79)
Reclassifications [2]	–	–	–	–	(2)	8	6
Exchange differences	(48)	(3)	(96)	(60)	(5)	(42)	(254)
At 31 December 2021	1,060	933	3,393	475	978	833	7,672
Accumulated amortisation and impairment							
At 1 January 2020	30	392	1,201	354	605	329	2,911
Charge for the year [3]	–	21	106	82	81	33	323
Impairment	8	17	481	31	5	37	579
Transferred to assets held for sale [1]	–	–	(20)	–	(12)	(4)	(36)
Disposals	–	(1)	–	–	(75)	(2)	(78)
Reclassifications [2]	–	–	(2)	–	2	–	–
Exchange differences	–	–	37	11	1	10	59
At 31 December 2020	38	429	1,803	478	607	403	3,758
Charge for the year [3]	–	21	75	59	97	29	281
Impairment	–	–	–	–	1	8	9
Transferred to assets held for sale [1]	–	(4)	(51)	(176)	(10)	–	(241)
Disposals	(4)	(21)	–	–	(48)	(1)	(74)
Reclassifications [2]	–	–	(1)	–	6	1	6
Exchange differences	–	–	(66)	(19)	(3)	(20)	(108)
At 31 December 2021	34	425	1,760	342	650	420	3,631
Net book value							
At 31 December 2021	1,026	508	1,633	133	328	413	4,041
At 31 December 2020	1,074	534	1,761	925	361	490	5,145

[1] ITP Aero has been classified as a disposal group held for sale since 30 June 2021. Bergen Engines AS and the Civil Nuclear Instrumentation & Control business were classified as held for sale at 31 December 2020 – see note 27.
[2] Includes reclassifications within intangible assets or from property, plant and equipment when available for use.
[3] Charged to cost of sales and commercial and administrative costs except development costs, which are charged to research and development costs.
[4] Includes £115m (2020: £110m) of software under course of construction which is not amortised.

At 31 December 2021, the Group had expenditure commitments for software of £49m (2020: £34m).

9 INTANGIBLE ASSETS – CONTINUED

Goodwill

In accordance with the requirements of IAS 36 *Impairment of Assets*, goodwill is allocated to the Group's cash-generating units, or groups of cash-generating units, that are expected to benefit from the synergies of the business combination that gave rise to the goodwill as follows:

Cash-generating unit (CGU) or group of CGUs

	Primary reporting segment	2021 £m	2020 £m
Rolls-Royce Power Systems AG	Power Systems	760	792
Rolls-Royce Deutschland Ltd & Co KG	Civil Aerospace	229	245
Other	Various	37	37
		1,026	1,074

Goodwill has been tested for impairment during 2021 on the following basis:

- The carrying values of goodwill have been assessed by reference to value in use. These have been estimated using cash flows from the most recent forecasts prepared by the Directors, which are consistent with past experience and external sources of information on market conditions. These forecasts generally cover the next five years. Growth rates for the period not covered by the forecasts are based on growth rates of 2% which reflect the products, industries and countries in which the relevant CGU or group of CGUs operate.
- The key forecast assumptions for the impairment tests are the discount rate and the cash flow projections, in particular the programme assumptions (such as sales volumes and product costs), the impact of foreign exchange rates on the relationship between selling prices and costs, and growth rates. Impairment tests are performed using prevailing exchange rates.
- The Group believes there are significant business growth opportunities to come from Rolls-Royce playing a leading role in the transition to net zero, whilst at the same time climate change poses potentially significant risks. The assumptions used by the Directors are based on past experience and external sources of information. The main areas that have been considered are demand for engines and their in-service lives, utilisation of the products whilst in service, and the impact of market and regulatory change. The investment required to ensure our new products will be compatible with net zero operation by 2030, and to achieve net zero scope 1 and 2 GHG emissions is reflected in the forecasts used.

A 1.5°C Paris-aligned sensitivity, based on IEA and Oxford Economics forecasts, has been considered which assumes that Governments adopt strict product and behavioural standards, high carbon pricing and strategic investments in low carbon alternatives, with markets willing to pay for low carbon solutions. The sensitivity has considered the likelihood of demand changes for our products based on their relative fuel efficiency in the marketplace and the probability of alternatives being introduced earlier than currently expected. The sensitivity also reflects a broad range of potential costs imposed by policy or regulatory interventions (through carbon pricing). This sensitivity does not indicate the need for an impairment charge. Further detail can be found in note 1.

The principal value in use assumptions for goodwill balances considered to be individually significant are:

Rolls-Royce Power Systems AG

- Trading assumptions (e.g. volume of equipment deliveries, pricing achieved and cost escalation) that are based on current and known future programmes, estimates of market share and long-term economic forecasts;
- Plausible downside scenario in relation to COVID-19 recovery included with a 20% weighting;
- Cash flows beyond the five-year forecasts are assumed to grow at 2.0% (2020: 2.0%); and
- Pre-tax discount rate 10.7% (2020: 11.7%).

The Directors do not consider that any reasonably possible changes in the key assumptions (including taking consideration of the climate risks detailed above) would cause the value in use of the goodwill to fall below its carrying value.

Rolls-Royce Deutschland Ltd & Co KG

- Trading assumptions (e.g. volume of engine deliveries, flying hours of installed fleet, including assumptions on the recovery of the civil aviation industry, and cost escalation) that are based on current and known future programmes, estimates of market share and long-term economic forecasts;
- Plausible downside scenario in relation to COVID-19 recovery included with a 25% weighting;
- Cash flows beyond the five-year forecasts are assumed to grow at 2.0% (2020: 2.0%).
- Pre-tax discount rate 11.9% (2020: 11.9%).

The Directors do not consider that any reasonably possible changes in the key assumptions (including taking consideration of the climate risks detailed above) would cause the value in use of the goodwill to fall below its carrying value.

Other cash generating units

Goodwill balances across the Group that are not considered to be individually significant were also tested for impairment, resulting in no impairment charge (2020: £8m) being recognised in 2021.

The carrying amounts and the residual life of the material intangible assets (excluding goodwill) for the Group are as follows:

	Residual life	Net book value	
		2021 £m	2020 £m
Trent programme intangible assets [1]	7-15 years	**1,787**	1,770
Business aviation programme intangible assets [2]	15 years	**237**	256
Customer relationship assets on acquisition of ITP Aero [3]	typically 13–35 years	**–**	651
Intangible assets from acquisition of Power Systems [4]		**491**	531
		2,515	3,208

[1] Included within the Trent programmes are the Trent 1000, Trent 7000 and Trent XWB.
[2] Included within business aviation are the Pearl 700 and Pearl 15.
[3] ITP Aero has been classified as a disposal group held for sale since 30 June 2021.
[4] Includes £108m (2020: £115m) in respect of a brand intangible asset which is not amortised. Remaining assets are amortised over a range of 2 to 10 years.

The carrying amount of goodwill or intangible assets allocated across multiple CGUs is not significant in comparison with the Group's total carrying amount of goodwill or intangible assets with indefinite useful lives.

Other intangible assets (including programme intangible assets) have been reviewed for impairment in accordance with IAS 36 *Impairment of Assets*. Assessments have considered potential triggers of impairment such as external factors, including climate change (as set out in the goodwill section above), significant changes with an adverse effect on a programme and by analysing latest management forecasts against those prepared in 2020 to identify any deterioration in performance. Where a trigger event has been identified, an impairment test has been carried out. Where an impairment was required, the test was performed on the following basis:

- The carrying values have been assessed by reference to value in use. These have been estimated using cash flows from the most recent forecasts prepared by the Directors, which are consistent with past experience and external sources of information on market conditions over the lives of the respective programmes.
- The key assumptions underlying cash flow projections are based on estimates of product performance related estimates, future market share and pricing and cost for uncontracted business. Climate risks are considered when making these estimates consistent with the assumptions above. The uncertainty over the recovery from COVID-19 has been modelled by including downside forecasts at an appropriate weighting taking into account the business segment being considered.

There have been no individually material impairment charges or reversals recognised in the year.

10 PROPERTY, PLANT AND EQUIPMENT

	Land and buildings £m	Plant and equipment £m	Aircraft and engines £m	In course of construction £m	Total £m
Cost					
At 1 January 2020	2,020	5,497	876	401	8,794
Additions	14	145	162	232	553
Acquisition of businesses	9	7	–	1	17
Transferred to assets held for sale [1]	(32)	(77)	–	(9)	(118)
Disposal of businesses	–	(19)	–	–	(19)
Disposals/write-offs	(52)	(264)	(19)	(24)	(359)
Reclassifications [2]	25	117	3	(150)	(5)
Exchange differences	10	36	3	–	49
At 31 December 2020	1,994	5,442	1,025	451	8,912
Additions	**19**	**120**	**6**	**154**	**299**
Transferred to assets held for sale [1]	**(200)**	**(305)**	**(22)**	**(8)**	**(535)**
Disposals/write-offs	**(59)**	**(264)**	**(11)**	**(23)**	**(357)**
Reclassifications [2]	**144**	**75**	**53**	**(271)**	**1**
Exchange differences	**(33)**	**(82)**	**(5)**	**(3)**	**(123)**
At 31 December 2021	**1,865**	**4,986**	**1,046**	**300**	**8,197**
Accumulated depreciation					
At 1 January 2020	590	3,167	223	11	3,991
Charge for the year [3]	71	362	56	–	489
Impairment	71	137	97	27	332
Transferred to assets held for sale [1]	(29)	(74)	–	(8)	(111)
Disposal of businesses	–	(19)	–	–	(19)
Disposals/write-offs	(33)	(248)	(2)	(13)	(296)
Reclassifications [2]	10	(1)	–	(9)	–
Exchange differences	(1)	12	–	–	11
At 31 December 2020	679	3,336	374	8	4,397
Charge for the year [3]	**70**	**312**	**57**	**–**	**439**
Impairment [4]	**1**	**18**	**–**	**–**	**19**
Transferred to assets held for sale [1]	**(74)**	**(127)**	**(5)**	**–**	**(206)**
Disposals/write-offs	**(48)**	**(254)**	**(1)**	**–**	**(303)**
Reclassifications [2]	**(7)**	**11**	**(10)**	**–**	**(6)**
Exchange differences	**(7)**	**(52)**	**(1)**	**–**	**(60)**
At 31 December 2021	**614**	**3,244**	**414**	**8**	**4,280**
Net book value					
At 31 December 2021	**1,251**	**1,742**	**632**	**292**	**3,917**
At 31 December 2020	1,315	2,106	651	443	4,515

[1] ITP Aero has been classified as a disposal group held for sale since 30 June 2021. In addition, certain property, plant and equipment related to the Group's site rationalisation activities have been classified as held for sale at 31 December 2021. Bergen Engines AS and the Civil Nuclear Instrumentation & Control business were classified as held for sale at 31 December 2020 – see note 27.

[2] Includes reclassifications of assets under construction to the relevant classification in property, plant and equipment, right-of-use assets and intangible assets when available for use.

[3] Depreciation is charged to cost of sales and commercial and administrative costs or included in the cost of inventory as appropriate.

[4] The carrying values of property, plant and equipment have been assessed during the period in line with IAS 36. Material items of plant and equipment and aircraft and engines are assessed for impairment together with other assets used in individual programmes – see assumptions in note 9. Land and buildings are generally used across multiple programmes and are considered based on future expectations of the use of the site, which includes any implications from climate-related risks as explained in note 9. As a result of this assessment, there are no individually material impairment charges or reversals in the year.

Property, plant and equipment includes:

	2021 £m	2020 £m
Assets held for use in leases where the Group is the lessor:		
Cost	**808**	824
Depreciation	**(311)**	(277)
Net book value	**497**	547
Capital expenditure commitments	**121**	145
Cost of fully depreciated assets	**2,001**	1,853

The Group's share of equity accounted entities' capital commitments is £22m (2020: £8m).

11 RIGHT-OF-USE ASSETS

	Land and buildings £m	Plant and equipment £m	Aircraft and engines £m	Total £m
Cost				
At 1 January 2020	504	128	1,767	2,399
Additions/modification of leases	(27)	33	129	135
Acquisition of businesses	–	1	–	1
Transferred to assets held for sale [1]	(13)	(3)	–	(16)
Disposals	(18)	(10)	(67)	(95)
Exchange differences	1	1	4	6
At 31 December 2020	447	150	1,833	2,430
Additions/modification of leases	**37**	**15**	**30**	**82**
Transferred to assets held for sale [1]	**(16)**	**(2)**	**–**	**(18)**
Disposals	**(8)**	**(16)**	**(66)**	**(90)**
Reclassifications to PPE	**–**	**–**	**(8)**	**(8)**
Exchange differences	**(4)**	**(4)**	**(4)**	**(12)**
At 31 December 2021	**456**	**143**	**1,785**	**2,384**
Accumulated depreciation and impairment				
At 1 January 2020	55	29	306	390
Charge for the year	56	35	255	346
Impairment [2]	66	9	311	386
Transferred to assets held for sale [1]	(5)	(2)	–	(7)
Disposals	(10)	(10)	(67)	(87)
Exchange differences	(3)	(1)	1	(3)
At 31 December 2020	159	60	806	1,025
Charge for the year	**43**	**30**	**199**	**272**
Impairment [2]	**(2)**	**(6)**	**(7)**	**(15)**
Transferred to assets held for sale [1]	**(4)**	**(1)**	**–**	**(5)**
Disposals	**(8)**	**(16)**	**(66)**	**(90)**
Reclassifications to PPE	**–**	**–**	**(1)**	**(1)**
Exchange differences	**(2)**	**(1)**	**(2)**	**(5)**
At 31 December 2021	**186**	**66**	**929**	**1,181**
Net book value				
At 31 December 2021	**270**	**77**	**856**	**1,203**
At 31 December 2020	288	90	1,027	1,405
Right-of-use assets held for use in operating leases where the Group is the lessor				
Cost	**2**	**1**	**1,785**	**1,788**
Depreciation	**(1)**	**(1)**	**(929)**	**(931)**
Net book value at 31 December 2021	**1**	**–**	**856**	**857**
Cost	2	1	1,833	1,836
Depreciation	(1)	(1)	(806)	(808)
Net book value at 31 December 2020	1	–	1,027	1,028

[1] ITP Aero has been classified as a disposal group held for sale since 30 June 2021. Bergen Engines AS and the Civil Nuclear Instrumentation & Control business were classified as held for sale at 31 December 2020 – see note 27.

[2] The carrying values of right-of-use assets have been assessed during the period in line with IAS 36. Material items of plant and equipment and aircraft and engines are assessed for impairment together with other assets used in individual programmes – see assumptions in note 9. Land and buildings are generally used across multiple programmes and are considered based on future expectations of the use of the site (which includes any implications from climate-related risks as explained in note 9). As a result of this assessment, an impairment reversal of £8m has been recognised through non-underlying profit. The reversal relates to an element of the non-underlying impairments recorded in 2020 in Civil Aerospace for site rationalisation where there has been a subsequent change in strategy to continue production on that site.

12 INVESTMENTS

Composition of the Group

The entities contributing to the Group's financial results are listed on pages 190 to 196.

Where the Group does not own 100% of the shares of a Group undertaking, there are a number of arrangements with the other shareholder(s) that give the Group the option or potential obligation to acquire the third parties' shares. These arrangements have been assessed and are not considered to have a significant value, individually or in aggregate.

The Group does not have any material non-wholly owned subsidiaries.

Equity accounted and other investments

	Equity accounted			Other [1]
	Joint ventures £m	Associates £m	Total £m	Total £m
At 1 January 2020	402	–	402	14
Additions	19	–	19	5
Disposals [2]	(6)	–	(6)	–
Impairment [3]	(24)	–	(24)	–
Share of retained profit [4]	130	1	131	–
Reclassification of deferred profit to deferred income [5]	(96)	–	(96)	–
Transfer to subsidiary [2]	(4)	–	(4)	–
Exchange differences	(23)	–	(23)	–
Share of OCI	(5)	–	(5)	–
At 1 January 2021	**393**	**1**	**394**	**19**
Additions [6]	**2**	**1**	**3**	**27**
Disposals	**–**	**–**	**–**	**(1)**
Impairment [3]	**(2)**	**–**	**(2)**	**(5)**
Share of retained profit/(loss) [4]	**19**	**(1)**	**18**	**–**
Reclassification of deferred profit to deferred income [5]	**(24)**	**–**	**(24)**	**–**
Transferred to assets held for sale [7]	**(35)**	**–**	**(35)**	**–**
Repayment of loans	**(3)**	**–**	**(3)**	**–**
Revaluation of investments accounted for at FVOCI	**–**	**–**	**–**	**(2)**
Exchange differences	**8**	**–**	**8**	**(2)**
Share of OCI [8]	**45**	**–**	**45**	**–**
At 31 December 2021	**403**	**1**	**404**	**36**

[1] Other investments includes unlisted investments of £29m and listed investments of £7m.
[2] On 15 January 2020, the Group completed the acquisition of Qinous GmbH (increasing its shareholding from 24% to 100%). On the 6 July 2020, the Group completed the disposal of its 18% shareholding in Exostar LLC.
[3] During the year, the Group recognised an impairment of £7m (2020: nil) through underlying and nil (2020: £24m) charged to the income statement through non-underlying.
[4] See table below.
[5] The Group's share of unrealised profit on sales to joint ventures is eliminated against the carrying value of the investment in the entity. Any excess amount, once the carrying value is reduced to nil, is recorded as deferred income.
[6] During the year, additions to other investments of £27m include the following significant transactions. On 17 December 2021, the Group acquired a 1% investment in Vertical Aerospace for consideration of £9m. The Group has elected to value this investment at fair value through other comprehensive income. On 18 May 2020, the Group increased its shareholding in Reaction Engines Limited from 2% to 10.1% for £20m (£4m of which was paid during 2020) which was payable (and the associated shares acquired) in instalments. During the year, the Group paid the remaining instalments of £16m for the Reaction Engines acquisition.
[7] The Group's investment in Airtanker Holdings Limited has been classified as a non-current asset held for sale since 13 September 2021. Further detail can be found in note 27.
[8] Up to 13 September 2021, when Airtanker Holdings Limited was transferred to held for sale, the Group recognised its share of OCI relating to cash flow hedges of £43m.

Reconciliation of share of retained profit to the income statement and cash flow statement:

	2021 £m	Restated 2020 £m
Share of results of joint ventures and associates	**22**	132
Adjustments for intercompany trading [1]	**23**	58
Share of results of joint ventures and associates to the Group	**45**	190
Dividends paid by joint ventures and associates to the Group (cash flow statement)	**(27)**	(60)
Share of retained profit attributable to continuing operations	**18**	130
Share of retained profit attributable to discontinued operations	**–**	1
Share of retained profit above	**18**	131

[1] During the year, the Group sold spare engines to Rolls-Royce & Partners Finance, a joint venture and subsidiary of Alpha Partners Leasing Limited. The Group's share of the profit on these sales is deferred and released to match the depreciation of the engines in the joint venture's financial statements. In 2021 and 2020, profit deferred on the sale of engines was lower than the release of that deferred in prior years.

12 INVESTMENTS – CONTINUED

The following joint ventures are considered to be individually material to the Group:

	Principal location	Activity	Ownership interest
Alpha Partners Leasing Limited (APL)	UK	Aero engine leasing	50.0%
Hong Kong Aero Engine Services Limited (HAESL)	Hong Kong	Aero engine repair and overhaul	50.0%
Singapore Aero Engine Services Pte Limited (SAESL)	Singapore	Aero engine repair and overhaul	50.0%

Summarised financial information of the Group's individually material joint ventures is as follows:

	APL		HAESL		SAESL	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Revenue	278	330	1,605	1,995	1,057	1,178
(Loss)/profit and total comprehensive (expense)/income for the year	(16)	44	51	71	20	32
Dividends paid during the year	–	–	(46)	(62)	–	(14)
(Loss)/profit for the year included the following:						
Depreciation and amortisation	(165)	(165)	(14)	(15)	(20)	(21)
Interest expense	(65)	(83)	(1)	(2)	(3)	(5)
Income tax expense	(77)	(35)	(10)	(13)	–	(4)
Current assets	314	172	533	461	676	256
Non-current assets	2,978	3,191	90	102	151	164
Current liabilities	(287)	(201)	(343)	(287)	(554)	(156)
Non-current liabilities	(2,401)	(2,551)	(73)	(78)	(65)	(74)
Net assets	604	611	207	198	208	190
Included in the above:						
Cash and cash equivalents	239	64	30	29	105	47
Current financial liabilities [1]	(217)	(143)	–	(22)	–	–
Non-current financial liabilities [1]	(2,048)	(2,245)	(67)	(66)	(65)	(73)
Reconciliation to the carrying amount recognised in the Consolidated Financial Statements						
Ownership interest	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Group share of net assets above	302	306	104	99	104	95
Goodwill	–	–	34	34	78	77
Adjustments for intercompany trading	(302)	(306)	(1)	(3)	–	–
Included in the balance sheet	–	–	137	130	182	172

[1] Excluding trade payables and other liabilities.

The summarised aggregated results of the Group's share of equity accounted investments is as follows:

	Individually material joint ventures (above)		Other joint ventures [2]		Associates		Total	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Assets:								
Non-current assets	1,610	1,729	205	734	–	–	1,815	2,463
Current assets	762	444	316	514	1	1	1,079	959
Liabilities: [1]								
Current liabilities	(592)	(322)	(232)	(303)	–	–	(824)	(625)
Non-current liabilities	(1,270)	(1,351)	(84)	(758)	–	–	(1,354)	(2,109)
Group adjustment for goodwill	112	111	–	17	–	–	112	128
Adjustment for intercompany trading	(303)	(309)	(121)	(113)	–	–	(424)	(422)
	319	302	84	91	1	1	404	394
[1] Liabilities include borrowings of:	(1,198)	(1,263)	(534)	(548)	–	–	(1,732)	(1,811)

[2] The aggregate value of the Group's share of profit/(loss) and total comprehensive income of individually immaterial joint ventures is £39m (2020: £58m).

13 INVENTORIES

	2021 £m	2020 £m
Raw materials	376	417
Work in progress	1,135	1,139
Finished goods	2,146	2,111
Payments on account	9	23
	3,666	3,690
Inventories stated at net realisable value	215	305
Amount of inventory write-down	92	95
Reversal of inventory write-down	26	16

14 TRADE RECEIVABLES AND OTHER ASSETS

	Current		Non-current		Total	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Trade receivables [1]	2,141	2,479	52	–	2,193	2,479
Receivables due on RRSAs	702	603	67	82	769	685
Amounts owed by joint ventures and associates	598	486	1	16	599	502
Costs to obtain contracts with customers [2]	13	12	41	50	54	62
Other taxation and social security receivable	197	225	8	6	205	231
Other receivables [3]	593	639	20	20	613	659
Prepayments	572	412	378	425	950	837
	4,816	4,856	567	599	5,383	5,455
Trade receivables and other assets are analysed as follows:						
Financial instruments (note 20):						
Trade receivables and similar items					3,466	3,584
Other non-derivative financial assets					705	740
Non-financial instruments					1,212	1,131
					5,383	5,455

[1] Non-current trade receivables relate to amounts not expected to be received in the next 12 months from customers on payment plans.
[2] These are amortised over the term of the related contract, resulting in amortisation of £9m (2020: £10m) in the year. There were no impairment losses.
[3] Other receivables includes unbilled recoveries relating to overhaul activity.

During the year to 31 December 2021, the Group reassessed which trade receivables are held to collect or sell. The Group's intent is to no longer utilise invoice discounting and, consequently, balances are generally not classified as held to collect or sell. A small amount of invoice discounting has continued within Power Systems at the request and cost of the customers.

The expected credit losses for trade receivables and other assets have increased by £7m to £259m (2020: £252m). This movement is mainly driven by the Civil Aerospace business of £7m, of which £10m relates to specific customers and £(3)m relates to updates to the recoverability of other receivables.

The Group has adopted the simplified approach to provide for expected credit losses, measuring the loss allowance at a probability weighted amount incorporated by using credit ratings which are publicly available, or through internal risk assessments derived using the customer's latest available financial information. The assumptions and inputs used for the estimation of the expected credit losses are shown in the table below:

	2021			2020		
	Trade receivables and other financial assets £m	Loss allowance £m	Average expected credit loss rate %	Trade receivables and other financial assets £m	Loss allowance £m	Average expected credit loss rate %
Investment grade	1,092	(27)	2%	1,611	(33)	2%
Non-investment grade	147	(2)	1%	149	(7)	5%
Without credit rating	3,191	(230)	7%	2,816	(212)	8%
	4,430	(259)	6%	4,576	(252)	5%

14 TRADE RECEIVABLES AND OTHER ASSETS – CONTINUED

The movements of the Group's expected credit losses provision are as follows:

	2021 £m	2020 £m
At 1 January	(252)	(138)
Increases in loss allowance recognised in the income statement during the year	(124)	(119)
Loss allowance utilised	46	5
Releases of loss allowance previously provided	46	13
Transferred to assets held for sale	2	–
Exchange differences	23	(13)
At 31 December	(259)	(252)

15 CONTRACT ASSETS AND LIABILITIES

	Current		Non-current [1]		Total [2]	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Contract assets						
Contract assets with customers	586	416	641	660	1,227	1,076
Participation fee contract assets	27	48	219	386	246	434
	613	464	860	1,046	1,473	1,510

[1] Contract assets and contract liabilities have been presented on the face of the balance sheet in line with the operating cycle of the business. Contract liabilities are further split according to when the related performance obligation is expected to be satisfied and, therefore, when revenue is estimated to be recognised in the income statement. Further disclosure of contract assets is provided in the table above, which shows within current the element of consideration that will become unconditional in the next year.
[2] Contract assets are classified as non-financial instruments.

Contract assets with customers includes £915m (2020: £726m) of Civil Aerospace LTSA assets, with most of the remaining balance relating to Defence. The main driver of the increase in the Group's balance is revenue recognised in Civil Aerospace in the year as performance obligations have been completed exceeding amounts received, partly reduced by £10m relating to performance obligations satisfied in previous years, together with foreign exchange movements. No impairment losses in relation to these contract assets (2020: none) have arisen during the year to 31 December 2021.

Participation fee contract assets have reduced by £188m (2020: reduced by £165m) due to ITP Aero being reclassified as a disposal group held for sale which had an impact of £147m, amortisation exceeding additions by £23m and foreign exchange on consolidation of overseas entities of £18m.

The absolute value of expected credit losses for contract assets has increased by £1m to £15m (2020: £14m).

	Current		Non-current		Total	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Contract liabilities	3,599	4,187	6,710	6,245	10,309	10,432
Contract liabilities are analysed as follows:						
Financial instruments (note 20)					264	186
Non-financial instruments					10,045	10,246
					10,309	10,432

During the year £2,713m (31 December 2020: £2,792m) of the opening contract liability was recognised as revenue.

Contract liabilities have decreased by £123m. The main driver of the change in the Group balance is as a result of ITP Aero contract liabilities (2020: £173m) being reclassified as held for sale. The remaining movement includes an increase in Civil Aerospace of £165m offset by a £99m decrease in Defence.

The Civil Aerospace movement consists of an increase in relation to LTSA liabilities of £288m to £7,129m (2020: £6,841m). LTSA revenue billed has been ahead of revenue recognised in the year and, together with foreign exchange movements, resulted in an increase in the LTSA liabilities by £512m, offset by £224m of revenue recognised relating to performance obligations satisfied in previous years, which were principally driven by price escalation in business aviation and the impact of specific customer negotiations. This is partially offset by the utilisation of deposits received in previous years as engines and aftermarket services were delivered in 2021.

The movement in Defence is from utilisation of prior year deposits and recognition of deferred income as revenue as performance obligations have been satisfied.

16 CASH AND CASH EQUIVALENTS

	2021 £m	2020 £m
Cash at bank and in hand	795	940
Money-market funds	49	669
Short-term deposits	1,777	1,843
Cash and cash equivalents per the balance sheet	2,621	3,452
Cash and cash equivalents included within assets held for sale (note 27)	25	51
Overdrafts (note 17)	(7)	(7)
Cash and cash equivalents per cash flow statement (page 112)	2,639	3,496

Cash and cash equivalents at 31 December 2021 includes £89m (2020: £143m) that is not available for general use by the Group. This balance includes £40m which is held in an account that is exclusively for the general use of Rolls-Royce Submarines Limited. This cash is not available for use by other entities within the Group. The remaining balance relates to cash held in non-wholly owned subsidiaries and joint arrangements.

Balances are presented on a net basis when the Group has both a legal right of offset and the intention to either settle on a net basis or realise the asset and settle the liability simultaneously.

17 BORROWINGS AND LEASE LIABILITIES

	Current		Non-current		Total	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Unsecured						
Overdrafts	7	7	–	–	7	7
Bank loans [1]	2	9	1,975	10	1,977	19
Commercial paper [2]	–	300	–	–	–	300
2.125% Notes 2021 €750m [3]	–	680	–	–	–	680
0.875% Notes 2024 €550m [4]	–	–	471	511	471	511
3.625% Notes 2025 $1,000m [4]	–	–	781	800	781	800
3.375% Notes 2026 £375m [5]	–	–	394	420	394	420
4.625% Notes 2026 €750m [6]	–	–	624	667	624	667
5.75% Notes 2027 $1,000m [6]	–	–	735	724	735	724
5.75% Notes 2027 £545m	–	–	540	539	540	539
1.625% Notes 2028 €550m [4]	–	–	493	545	493	545
Other loans [7]	–	17	10	58	10	75
Total unsecured	9	1,013	6,023	4,274	6,032	5,287
Lease liability – Land and buildings	46	44	365	392	411	436
Lease liability – Aircraft and engines	198	185	1,053	1,320	1,251	1,505
Lease liability – Plant and equipment	26	30	56	72	82	102
Total lease liabilities	270	259	1,474	1,784	1,744	2,043
Total borrowings and lease liabilities	279	1,272	7,497	6,058	7,776	7,330

All the items described as notes above are listed on the London Stock Exchange.

[1] On 15 June 2021, the Group drew down the £2,000m loan maturing in 2025 (supported by an 80% guarantee from UK Export Finance).
[2] On 17 March 2021, the Group repaid commercial paper of £300m issued as part of the COVID Corporate Financing Facility (CCFF), a fund operated by the Bank of England on behalf of HM Treasury.
[3] These notes were the subject of cross-currency interest rate swap agreements under which the Group had undertaken to pay floating rates of GBP interest, which form a fair value hedge. On the 18 June 2021, the Group repaid €750m (£639m) loan notes in line with repayment terms.
[4] These notes are the subject of cross-currency interest rate swap agreements under which the Group has undertaken to pay floating rates of GBP interest, which form a fair value hedge. They are also subject to interest rate swap agreements under which the Group has undertaken to pay fixed rates of interest, which are classified as fair value through profit and loss.
[5] These notes are the subject of interest rate swap agreements under which the Group has undertaken to pay floating rates of interest, which form a fair value hedge. They are also subject to interest rate swap agreements under which the Group has undertaken to pay fixed rates of interest, which are classified as fair value through profit and loss.
[6] These notes are the subject of cross-currency interest rate swap agreements under which the Group has undertaken to pay fixed rates of GBP interest, which form a cash flow hedge.
[7] During the year, the Group reclassified borrowings and lease liabilities relating to ITP Aero as liabilities associated with assets held for sale.

17 BORROWINGS AND LEASE LIABILITIES – CONTINUED

During the year, the Group entered into a new £1,000m facility, maturing in 2026 (supported by an 80% guarantee from UK Export Finance and available to draw until March 2025). This facility was undrawn at 31 December 2021.

Under the terms of certain recent loan facilities, the Company is restricted from declaring, making or paying distributions to shareholders on or prior to 31 December 2022 and from declaring, making or paying distributions to shareholders from 1 January 2023 unless certain conditions are satisfied. The restrictions on distributions do not prevent shareholders from redeeming C Shares issued in January 2020 or earlier.

18 LEASES

Leases as lessee

The net book value of right-of-use assets at 31 December 2021 was £1,203m (2020: £1,405m), with a lease liability of £1,744m (2020: £2,043m), per notes 11 and 17, respectively. Leases that have not yet commenced to which the Group is committed have a future liability of £55m and consist of mainly engines, plant and equipment, properties and cars. The consolidated income statement shows the following amounts relating to leases:

	2021 £m	2020 £m
Land and buildings depreciation and impairment [1]	(41)	(122)
Plant and equipment depreciation and impairment [2]	(24)	(44)
Aircraft and engines depreciation and impairment [3]	(192)	(566)
Total depreciation and impairment charge for right-of-use assets	(257)	(732)
Adjustment of amounts payable under residual value guarantees within lease liabilities [3, 4]	4	102
Expense relating to short-term leases of 12 months or less recognised as an expense on a straight-line basis [2]	(16)	(18)
Expense relating to variable lease payments not included in lease liabilities [3, 5]	(2)	(1)
Total operating costs	(271)	(649)
Interest expense [6]	(63)	(74)
Total lease expense	(334)	(723)
Income from sub-leasing right-of-use assets	35	97
Total amount recognised in the income statement	(299)	(626)

[1] Included in cost of sales and commercial and administration costs depending on the nature and the use of the right-of-use asset.
[2] Included in cost of sales, commercial and administration costs, or research and development depending on the nature and use of the right-of-use asset.
[3] Included in cost of sales.
[4] Where the cost of meeting residual value guarantees is less than that previously estimated, as costs have been mitigated or liabilities waived by the lessor, the lease liability has been remeasured. To the extent the value of this remeasurement exceeds the value of the right-of use asset, the reduction in the lease liability is credited to cost of sales.
[5] Variable lease payments primarily arise on a small number of contracts where engine lease payments are dependent upon utilisation rather than a periodic charge.
[6] Included in financing costs.

The total cash outflow for leases in 2021 was £448m (2020: £377m). Of this, £430m related to leases reflected in the lease liability, £16m to short-term leases where lease payments are expensed on a straight-line basis and £2m for variable lease payments where obligations are only due when the assets are used. The timing difference between income statement charge and cash flow relates to costs incurred at the end of leases for residual value guarantees and restoration costs that are recognised within depreciation over the term of the lease, the most significant amounts relate to engine leases.

Leases as lessor

The Group acts as lessor for engines to Civil Aerospace customers when they require engines to support their fleets. Lease agreements with the lessees provide protection over our assets. Usage in excess of specified limits and damage to the engine while on lease are covered by variable lease payment structures. Lessee bankruptcy risk is managed through the Cape Town Convention on International Interests in Mobile Equipment (including a specific protocol relating to aircraft equipment), an international treaty that creates common standards for the registration of lease contracts and establishes various legal remedies for default in financing agreements, including repossession and the effect of particular states' bankruptcy laws. Engines are only leased once we confirm that appropriate insurance documentation is established that covers the engine assets to pre-agreed amounts. All such contracts where we are lessor are operating leases. The Group also leases out a small number of properties, or parts of properties, where there is excess capacity under operating leases.

	2021 £m	2020 £m
Operating lease income – credited within revenue from aftermarket services [1, 2]	80	194

[1] Includes variable lease payments received of £71m (2020: £179m) that do not depend on an index or a rate.
[2] Items of property, plant and equipment subject to an operating lease are disclosed in note 10.

18 LEASES – CONTINUED

Non-cancellable future operating lease rentals (undiscounted) are receivable as follows:

	2021 £m	2020 £m
Within one year	9	13
Between one and two years	7	12
Between two and three years	7	10
Between three and four years	7	6
Between four and five years	7	6
After five years	21	21
	58	68

In a limited number of circumstances the Group sublets properties that are treated as a finance lease when the arrangement transfers substantially all the risks and rewards of ownership of the asset. At 31 December 2021, the total undiscounted lease payments receivable is £19m (2020: £22m) on annual lease income of £2m (2020: £3m). The discounted finance lease receivable at 31 December 2021 is £17m (2020: £19m). There was nil (2020: nil) finance income recognised during the year.

19 TRADE PAYABLES AND OTHER LIABILITIES

	Current		Non-current		Total	
	2021 £m	2020 £m	2021 £m	2020 £m	2021 £m	2020 £m
Trade payables	1,272	1,418	–	–	1,272	1,418
Payables due on RRSAs	739	697	–	–	739	697
Amounts owed to joint ventures and associates	486	583	–	–	486	583
Customer concession credits	1,106	1,536	399	514	1,505	2,050
Warranty credits	201	173	161	196	362	369
Accruals	1,361	1,322	192	117	1,553	1,439
Deferred receipts from RRSA workshare partners	23	17	484	507	507	524
Government grants [1]	28	16	39	66	67	82
Other taxation and social security	40	127	–	7	40	134
Other payables [2]	760	764	300	515	1,060	1,279
	6,016	6,653	1,575	1,922	7,591	8,575

Trade payables and other liabilities are analysed as follows:		
Financial instruments (note 20):		
Trade payables and similar items	4,045	4,128
Other non-derivative financial liabilities	2,403	3,021
Non-financial instruments	1,143	1,426
	7,591	8,575

[1] During the year, £13m, including £1m in discontinued operations, (2020: £10m) of government grants were released to the income statement.
[2] Other payables includes parts purchase obligations, payroll liabilities, HM UK Government levies and payables associated with business disposals.

The Group's payment terms with suppliers vary on the products and services being sourced, the competitive global markets the Group operates in and other commercial aspects of suppliers' relationships. Industry average payment terms vary between 90 to 120 days. The Group offers reduced payment terms for smaller suppliers, so that they are paid in 30 days. In line with civil aviation industry practice, the Group offers a supply chain financing (SCF) programme in partnership with banks to enable suppliers, including joint ventures, who are on standard 75-day payment terms to receive their payments sooner. The SCF programme is available to suppliers at their discretion and does not change rights and obligations with suppliers nor the timing of payment of suppliers. At 31 December 2021, suppliers had drawn £540m under the SCF scheme (2020: £582m).

20 FINANCIAL INSTRUMENTS

Carrying values and fair values of financial instruments

	Notes	Basis for determining fair value	Assets: Fair value through profit or loss £m	Assets: Fair value through OCI £m	Assets: Amortised cost £m	Liabilities: Fair value through profit or loss £m	Liabilities: Other £m	Total £m
2021								
Other non-current asset investments	12	A	36	–	–	–	–	36
Trade receivables and similar items	14	B/C	–	17	3,449	–	–	3,466
Other non-derivative financial assets	14	B	–	–	705	–	–	705
Other assets		D	28	–	–	–	–	28
Derivative financial assets [1]		C	379	–	–	–	–	379
Short-term investments		B	–	–	8	–	–	8
Cash and cash equivalents	16	B	49	–	2,572	–	–	2,621
Borrowings	17	E/F	–	–	–	–	(6,032)	(6,032)
Lease liabilities	17	G	–	–	–	–	(1,744)	(1,744)
Derivative financial liabilities [1]		C	–	–	–	(3,292)	–	(3,292)
Financial RRSAs		H	–	–	–	–	(12)	(12)
Other liabilities		H	–	–	–	–	(75)	(75)
C Shares		B	–	–	–	–	(25)	(25)
Trade payables and similar items	19	B	–	–	–	–	(4,045)	(4,045)
Other non-derivative financial liabilities	19	B	–	–	–	–	(2,403)	(2,403)
Contract liabilities	15	B	–	–	–	–	(264)	(264)
			492	17	6,734	(3,292)	(14,600)	(10,649)
2020								
Other non-current asset investments	12	A	19	–	–	–	–	19
Trade receivables and similar items	14	B/C	–	938	2,646	–	–	3,584
Other non-derivative financial assets	14	B	–	–	740	–	–	740
Other assets		D	28	–	–	–	–	28
Derivative financial assets [1]		C	766	–	–	–	–	766
Cash and cash equivalents [2]	16	B	669	–	2,783	–	–	3,452
Borrowings	17	E/F	–	–	–	–	(5,287)	(5,287)
Lease liabilities	17	G	–	–	–	–	(2,043)	(2,043)
Derivative financial liabilities [1]		C	–	–	–	(3,472)	–	(3,472)
Financial RRSAs		H	–	–	–	–	(81)	(81)
Other		H	–	–	–	–	(73)	(73)
C Shares		B	–	–	–	–	(28)	(28)
Trade payables and similar items	19	B	–	–	–	–	(4,128)	(4,128)
Other non-derivative financial liabilities	19	B	–	–	–	–	(3,021)	(3,021)
Contract liabilities	15	B	–	–	–	–	(186)	(186)
			1,482	938	6,169	(3,472)	(14,847)	(9,730)

[1] In the event of counterparty default relating to derivative financial assets and liabilities, offsetting would apply and financial assets and liabilities held with the same counterparty would net off. If this occurred with every counterparty, total financial assets would be nil (2020: £43m) and liabilities £2,913m (2020: £2,749m).
[2] Cash and cash equivalents for 2020 have been re-presented to exclude cash held for sale.

20 FINANCIAL INSTRUMENTS – CONTINUED

Fair values equate to book values for both 2021 and 2020, with the following exceptions:

		2021		2020	
	Basis for determining fair value	Book value £m	Fair value £m	Book value £m	Fair value £m
Borrowings	E	(4,038)	(4,106)	(4,886)	(4,814)
Borrowings	F	(1,994)	(2,122)	(401)	(403)
Financial RRSAs	H	(12)	(13)	(81)	(89)

The fair value of a financial instrument is the price at which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's-length transaction. Fair values have been determined with reference to available market information at the balance sheet date, using the methodologies described below. There have been no transfers during the year from or to level 3 valuation.

A These primarily comprise unconsolidated companies where fair value approximates to the book value.
B Fair values are assumed to approximate to cost either due to the short-term maturity of the instruments or because the interest rate of the investments is reset after periods not exceeding six months. Money market funds are valued using level 1 methodology.
C Fair values of derivative financial assets and liabilities and trade receivables held to collect or sell are estimated by discounting expected future contractual cash flows using prevailing interest rate curves. For commodity derivatives forward commodity prices are used to determine expected future cash flows. Amounts denominated in foreign currencies are valued at the exchange rate prevailing at the balance sheet date. These financial instruments are included on the balance sheet at fair value, derived from observable market prices (Level 2 as defined by IFRS 13 *Fair Value Measurement*).
D Other assets are included on the balance sheet at fair value, derived from observable market prices or latest forecast (Level 2/Level 3 as defined by IFRS 13). At 31 December 2021, Level 3 assets totalled £15m (2020: £15m).
E Borrowings are carried at amortised cost. Amounts denominated in foreign currencies are valued at the exchange rate prevailing at the balance sheet date. The fair value of borrowings is estimated using quoted prices (Level 1 as defined by IFRS 13).
F Borrowings are carried at amortised cost. Amounts denominated in foreign currencies are valued at the exchange rate prevailing at the balance sheet date. The fair value of borrowings is estimated by discounting contractual future cash flows (Level 2 as defined by IFRS 13).
G The fair value of lease liabilities are estimated by discounting future contractual cash flows using either the interest rate implicit in the lease or the Group's incremental cost of borrowing (Level 2 as defined by IFRS 13).
H The fair value of RRSAs and other liabilities are estimated by discounting expected future cash flows. The contractual cash flows are based on future trading activity, which is estimated based on latest forecasts (Level 3 as defined by IFRS 13).

IFRS 13 defines a three level valuation hierarchy:
Level 1 – quoted prices for similar instruments;
Level 2 – directly observable market inputs other than Level 1 inputs; and
Level 3 – inputs not based on observable market data.

Carrying values of other financial assets and liabilities

	Foreign exchange contracts £m	Commodity contracts £m	Interest rate contracts [1] £m	Total derivatives £m	Financial RRSAs £m	Other £m	C Shares £m	Total £m
2021								
Non-current assets	159	11	176	346	–	15	–	361
Current assets	12	21	–	33	–	13	–	46
Assets	171	32	176	379	–	28	–	407
Current liabilities	(629)	–	–	(629)	(7)	(28)	(25)	(689)
Non-current liabilities	(2,581)	–	(82)	(2,663)	(5)	(47)	–	(2,715)
Liabilities	(3,210)	–	(82)	(3,292)	(12)	(75)	(25)	(3,404)
	(3,039)	32	94	(2,913)	(12)	(47)	(25)	(2,997)
2020								
Non-current assets	396	18	258	672	–	15	–	687
Current assets	45	7	42	94	–	13	–	107
Assets	441	25	300	766	–	28	–	794
Current liabilities	(522)	(17)	(11)	(550)	(5)	(25)	(28)	(608)
Non-current liabilities	(2,790)	(19)	(113)	(2,922)	(76)	(48)	–	(3,046)
Liabilities	(3,312)	(36)	(124)	(3,472)	(81)	(73)	(28)	(3,654)
	(2,871)	(11)	176	(2,706)	(81)	(45)	(28)	(2,860)

[1] Includes the foreign exchange impact of cross-currency interest rate swaps.

20 FINANCIAL INSTRUMENTS – CONTINUED

Derivative financial instruments

The Group uses various financial instruments to manage its exposure to movements in foreign exchange rates. The Group uses commodity swaps to manage its exposure to movements in the price of commodities (jet fuel and base metals). To hedge the currency risk associated with a borrowing denominated in a foreign currency, the Group has currency derivatives designated as part of fair value or cash flow hedges. The Group uses interest rate swaps and forward rate agreements to manage its exposure to movements in interest rates.

Movements in the fair values of derivative financial assets and liabilities were as follows:

	Foreign exchange instruments		Commodity instruments		Interest rate instruments – hedge accounted [2]		Interest rate instruments – non-hedge accounted		Total	
	2021 £m	2020 £m	**2021 £m**	2020 £m	**2021 £m**	2020 £m	**2021 £m**	2020 £m	**2021 £m**	2020 £m
At 1 January	**(2,871)**	(3,104)	**(11)**	12	**233**	229	**(57)**	14	**(2,706)**	(2,849)
Movements in fair value hedges	**–**	–	**–**	–	**(143)**	139	**–**	–	**(143)**	139
Movements in cash flow hedges	**(13)**	18	**4**	6	**(2)**	(60)	**–**	–	**(11)**	(36)
Movements in other derivative contracts [1]	**(681)**	(23)	**63**	(62)	**–**	–	**80**	(75)	**(538)**	(160)
Contracts settled	**538**	238	**(9)**	33	**(31)**	(75)	**14**	4	**512**	200
Reclassification to held for sale	**(12)**	–	**(15)**	–	**–**	–	**–**	–	**(27)**	–
At 31 December	**(3,039)**	(2,871)	**32**	(11)	**57**	233	**37**	(57)	**(2,913)**	(2,706)

[1] Included in net financing.
[2] Includes the foreign exchange impact of cross-currency interest rate swaps.

Financial risk and revenue sharing arrangements (RRSAs) and other financial assets and liabilities

The Group has financial liabilities arising from financial RRSAs. These financial liabilities are valued at each reporting date using the amortised cost method. This involves calculating the present value of the forecast cash flows of the arrangements using the internal rate of return at the inception of the arrangements as the discount rate.

Movements in the carrying values were as follows:

	Financial RRSAs		Other – assets		Other – liabilities	
	2021 £m	2020 £m	**2021 £m**	2020 £m	**2021 £m**	2020 £m
At 1 January	**(81)**	(110)	**15**	16	**(73)**	(72)
Exchange adjustments included in OCI	**4**	(6)	**–**	–	**4**	(2)
Additions	**–**	–	**–**	–	**(9)**	(17)
Financing charge [1]	**–**	(3)	**–**	–	**(1)**	(13)
Excluded from underlying profit:						
Changes in forecast payments [1]	**(7)**	(3)	**–**	–	**–**	–
Cash paid	**3**	39	**–**	(1)	**3**	18
Other	**–**	–	**–**	–	**1**	13
Reclassification to held for sale	**69**	2	**–**	–	**–**	–
At 31 December	**(12)**	(81)	**15**	15	**(75)**	(73)

[1] Included in financing.

Effect of hedging instruments on the financial position and performance

To manage the risk of changes in the fair values of fixed rate borrowings (the hedged items), the Group has entered into fixed-to-floating interest rate swaps (the hedging instruments) which, for accounting purposes, are designated as fair value hedges. The impact of fair value hedges on the financial position and performance of the Group is as follows:

	Hedged item [1]				Hedging instrument [2]						
	Nominal £m	FV adjustment in the period £m	FV adjustment since inception £m	Carrying amount £m	Nominal £m	Carrying amount asset £m	Carrying amount liability £m	FV movement in the period £m	Hedge ineffect-iveness in the period [3] £m	Weighted average FX rate	Weighted average interest rate [4]
At 31 December 2021											
Sterling	(375)	27	(19)	(394)	375	19	–	(27)	–	1.00	SONIA + 0.893
US Dollar	(658)	19	(125)	(781)	658	116	–	(20)	(1)	1.52	SONIA + 1.4658
Euro	(968)	91	1	(965)	968	–	(21)	(90)	1	1.91	SONIA + 0.9185
At 31 December 2020											
Sterling	(375)	(10)	(46)	(420)	375	46	–	10	–	1.00	GBP LIBOR + 0.893
US Dollar	(658)	(18)	(144)	(800)	658	136	–	14	(4)	1.52	GBP LIBOR + 1.4658
Euro	(1,607)	(97)	(131)	(1,735)	1,607	111	–	90	(7)	1.15	GBP LIBOR + 0.8301

[1] Hedged items are included in borrowings in the balance sheet.
[2] Hedging instruments are included in other financial assets or liabilities in the balance sheet.
[3] Hedge ineffectiveness is included in net financing in the income statement.
[4] In anticipation of the cessation of GBP LIBOR at the end of 2021, the Group confirmed its adherence to the ISDA 2020 IBOR Fallbacks Protocol. Therefore the interest rate applicable to these swaps has been updated to Fallback Rate (SONIA plus credit adjustment spread) as defined in supplement 70 to the 2006 ISDA definitions which will be applied from 2022 onwards.

To manage the foreign exchange rate risk in cash flows on fixed-rate non-GBP borrowings (the hedged items), the Group has entered into fixed-to-fixed cross-currency interest rate swaps (the hedging instruments) to hedge the cash flows into GBP which, for accounting purposes, are designated as cash flow hedges. The impact of cash flow hedges on the financial position and performance of the Group is as follows:

	Hedged item		Hedging instrument [1]						Cash flow hedge reserve		
	Nominal £m	FV movement in the period £m	Nominal £m	Carrying amount £m	FV movement in the period £m	Hedge ineffect-iveness in the period £m	Weighted average FX rate	Weighted average interest rate	Amount recognised in OCI £m	Recycled to net financing £m	Closing cash flow hedge reserve £m
At 31 December 2021											
US Dollar	(772)	(35)	772	(20)	35	–	1.29	5.3263	(36)	10	(10)
Euro	(677)	32	677	(37)	(32)	(1)	1.11	5.4463	39	(51)	(10)
At 31 December 2020											
US Dollar	(772)	55	772	(55)	(55)	–	1.29	5.3263	55	(39)	16
Euro	(677)	5	677	(5)	(5)	–	1.11	5.4463	5	(3)	2

[1] Hedging instruments are included in other financial assets or liabilities in the balance sheet.

Risk management policies and hedging activities

The principal financial risks to which the Group is exposed are: foreign currency exchange rate risk; liquidity risk; credit risk; interest rate risk; and commodity price risk. The Board has approved policies for the management of these risks.

Foreign currency exchange rate risk – The Group has significant cash flows (most significantly USD, followed by the EUR) denominated in currencies other than the functional currency of the relevant trading entity. To manage its exposures to changes in values of future foreign currency cash flows, so as to maintain relatively stable long-term foreign exchange rates on settled transactions, the Group enters into derivative forward foreign currency transactions.

The Group economically hedges its GBP/USD exposure by forecasting highly probable net USD receipts up to ten years forward. Hedges are taken out within prescribed maximum and minimum hedge positions set out in the Group FX policy. The maximum and minimum policy bands decline gradually over the ten-year horizon and are calculated as a percentage of forecast net income. A similar policy is operated for the Group's EUR/USD exposure. For accounting purposes, these derivative contracts are not designated in hedging relationships with the exception of those taken out by the Group's Spanish subsidiary, ITP Aero, where they are designated in cash flow hedges. ITP Aero is exposed predominantly to net USD receipts that it hedges against EUR using foreign exchange forward contracts.

The Group also has exposures to cash flows on EUR and USD denominated fixed rate borrowings. To manage its exposures to changes in values of future foreign currency cash flows, the Group has entered into fixed-to -fixed cross-currency interest rate swaps which for accounting purposes are designated as cash flow hedges. The swaps have similar critical terms to the hedged items, such as the initial exchange amounts, payment dates and maturities. Therefore, there is an economic relationship and the hedge ratio is established as 1:1. Possible sources of ineffectiveness in the cash flow hedge relationship are changes in the credit risk of either party to the interest rate swap. Another possible source of ineffectiveness would be if the notional of the borrowings is less than the notional of the derivative, for example in the event of a partial repayment of hedged debt prior to its maturity.

The Group regards its interests in overseas subsidiary companies as long-term investments. The Group aims to match its translational exposures by matching the currencies of assets and liabilities.

Liquidity risk – The Group's policy is to hold financial investments and maintain undrawn committed facilities at a level sufficient to ensure that the Group has available funds to meet its medium-term capital and funding obligations and to meet any unforeseen obligations and opportunities. The Group holds cash and short-term investments, which together with the undrawn committed facilities, enable the Group to manage its liquidity risk.

Credit risk – The Group is exposed to credit risk to the extent of non-payment by either its customers or the counterparties of its financial instruments. The effective monitoring and controlling of credit risk is a key component of the Group's risk management activities. The Group has credit policies covering both trading and financial exposures. Credit risks arising from treasury activities are managed by a central treasury function in accordance with the Group credit policy. The objective of the policy is to diversify and minimise the Group's exposure to credit risk from its treasury activities by ensuring the Group transacts strictly with 'BBB' or higher rated financial institutions based on pre-established limits per financial institution. At the balance sheet date, there were no significant concentrations of credit risk to individual customers or counterparties. The Group's revenue is generated from customers located across multiple geographical locations (see note 2), these customers are typically: airframers and airline operators relating to Civil Aerospace; government defence departments for the UK and US; multiple smaller entities for Power Systems; and aero engine manufacturers for ITP Aero. Whilst there are a limited number of customers related to Civil Aerospace and Defence, they are spread across various geographical locations. The maximum exposure to credit risk at the balance sheet date is represented by the carrying value of each financial asset, including derivative financial instruments.

Interest rate risk – The Group's interest rate risk is primarily in relation to its fixed rate borrowings (fair value risk), floating rate borrowings and cash and cash equivalents (cash flow risk). Interest rate derivatives are used to manage the overall interest rate profile of the Group. The fixed or floating rate interest rate decision on long-term borrowings is determined for each new agreement at the point it is entered into. The aggregate interest rate position of the Group is reviewed regularly and can be revised at any time in order to react to changes in market conditions or circumstances.

The Group also has exposures to the fair values of non-derivative financial instruments such as EUR, GBP and USD fixed rate borrowings. To manage the risk of changes in these fair values, the Group has entered into fixed-to-floating interest rate swaps and cross-currency interest rate swaps which for accounting purposes are designated as fair value hedges. The swaps have similar critical terms to the hedged items, such as the reference rate, reset dates, notional amounts, payment dates and maturities. Therefore, there is an economic relationship and the hedge ratio is established as 1:1. Possible sources of ineffectiveness in the fair value hedge relationship are changes in the credit risk of either party to the interest rate swap and, for cross-currency interest rate swaps, the cross-currency basis risk as this risk is present in the hedging instrument only. Another possible source of ineffectiveness would be if the notional of the borrowings is less than the notional of the derivative, for example in the event of a partial repayment of hedged debt prior to its maturity.

The Group has exposure to changes in cash flows due to changes in interest rates. To manage this risk the Group has entered into floating-to-fixed interest rate swaps to hedge a proportion of its floating rate exposure to fixed rates. The swaps have similar critical terms to the floating leg of swaps that form part of the fair value hedges, such as the reference rate, reset dates, notional amounts, payment dates and maturities. For accounting purposes, these derivative contracts are generally not designated as hedging instruments.

20 FINANCIAL INSTRUMENTS – CONTINUED

ITP Aero, has also entered into a floating-to-fixed interest rate swap to hedge the cash flow risk on a floating rate borrowing which for accounting purposes is designated as a cash flow hedge.

Commodity risk – The Group has exposures to the price of jet fuel and base metals arising from business operations. To minimise its cash flow exposures to changes in commodity prices, the Group enters into derivative commodity transactions. The commodity hedging policy is similar to the Group FX policy, in that the Group forecasts highly probable exposures to commodities, and takes out hedges within prescribed maximum and minimum levels as set out in the policy. The maximum and minimum policy bands decline gradually over time. For accounting purposes, these derivative contracts are generally not designated in hedging relationships.

Other price risk – The Group's cash equivalent balances represent investments in money-market instruments, with a term of up to three months. The Group does not consider that these are subject to significant price risk.

Derivative financial instruments

The nominal amounts, analysed by year of expected maturity, and fair values of derivative financial instruments are as follows:

		Expected maturity				Fair value	
	Nominal amount £m	Within one year £m	Between one and two years £m	Between two and five years £m	After five years £m	Assets £m	Liabilities £m
At 31 December 2021							
Foreign exchange contracts:							
Non-hedge accounted	28,767	6,975	8,139	12,471	1,182	171	(3,210)
Interest rate contracts:							
Fair value hedges	2,001	–	–	1,517	484	135	(21)
Cash flow hedges	1,449	–	–	677	772	–	(57)
Non-hedge accounted	2,001	–	–	1,517	484	41	(4)
Commodity contracts:							
Non-hedge accounted	179	85	60	34	–	32	–
	34,397	7,060	8,199	16,216	2,922	379	(3,292)
At 31 December 2020							
Foreign exchange contracts:							
Cash flow hedges [1]	544	206	187	151	–	30	(4)
Non-hedge accounted	35,715	6,172	6,495	17,956	5,092	411	(3,308)
Interest rate contracts:							
Fair value hedges	2,640	639	–	1,142	859	293	–
Cash flow hedges	1,461	4	4	4	1,449	–	(60)
Non-hedge accounted	2,001	–	–	1,142	859	7	(64)
Commodity contracts:							
Cash flow hedges [1]	41	6	7	19	9	12	–
Non-hedge accounted	217	97	77	43	–	13	(36)
	42,619	7,124	6,770	20,457	8,268	766	(3,472)

[1] Cash flow hedges in ITP Aero on foreign exchange contracts and commodity contracts have been held for sale since 30 June 2021.

As described above, all derivative financial instruments are entered into for risk management purposes, although these may not be designated into hedging relationships for accounting purposes.

20 FINANCIAL INSTRUMENTS – CONTINUED

Currency analysis

Foreign exchange contracts are denominated in the following currencies:

	Nominal amount of currencies purchased forward				
	Sterling £m	US dollar £m	Euro £m	Other £m	Total £m
At 31 December 2021					
Currencies sold forward:					
Sterling	–	5,479	–	250	5,729
US dollar	19,916	–	2,430	325	22,671
Euro	–	263	–	46	309
Other	2	41	14	1	58
At 31 December 2020					
Currencies sold forward:					
Sterling	–	7,132	–	226	7,358
US dollar	23,857	–	3,910	486	28,253
Euro	5	306	–	161	472
Other	10	116	47	3	176

The nominal value of interest rate and commodity contracts are denominated in the following currencies:

	2021 £m	2020 £m
Sterling	2,376	2,376
US dollar	1,600	1,676
Euro	1,654	2,308

20 FINANCIAL INSTRUMENTS – CONTINUED

Non-derivative financial instruments are denominated in the following currencies:

	Sterling £m	US dollar £m	Euro £m	Other £m	Total £m
At 31 December 2021					
Other non-current investments	12	23	1	–	36
Trade receivables and similar items	176	2,776	450	64	3,466
Other non-derivative financial assets	17	640	30	18	705
Other assets	–	28	–	–	28
Short-term investments	–	–	8	–	8
Cash and cash equivalents	700	673	1,135	113	2,621
Assets	905	4,140	1,624	195	6,864
Borrowings	(2,915)	(1,518)	(1,598)	(1)	(6,032)
Lease liabilities	(188)	(1,300)	(48)	(208)	(1,744)
Financial RRSAs	–	–	(12)	–	(12)
Other liabilities	(17)	(58)	–	–	(75)
C Shares	(25)	–	–	–	(25)
Trade payables and similar items	(503)	(3,035)	(444)	(63)	(4,045)
Other non-derivative financial liabilities	(287)	(1,957)	(113)	(46)	(2,403)
Contract liabilities	–	(264)	–	–	(264)
Liabilities	(3,935)	(8,132)	(2,215)	(318)	(14,600)
	(3,030)	(3,992)	(591)	(123)	(7,736)

At 31 December 2020					
Other non-current investments	1	15	3	–	19
Trade receivables and similar items	154	2,933	440	57	3,584
Other non-derivative financial assets	80	599	44	17	740
Other assets	–	28	–	–	28
Cash and cash equivalents [1]	1,436	561	1,314	141	3,452
Assets	1,671	4,136	1,801	215	7,823
Borrowings	(1,266)	(1,526)	(2,494)	(1)	(5,287)
Lease liabilities	(211)	(1,559)	(67)	(206)	(2,043)
Financial RRSAs	–	–	(81)	–	(81)
Other liabilities	(16)	(57)	–	–	(73)
C Shares	(28)	–	–	–	(28)
Trade payables and similar items	(682)	(2,707)	(554)	(185)	(4,128)
Other non-derivative financial liabilities	(333)	(2,540)	(125)	(23)	(3,021)
Contract liabilities	–	(186)	–	–	(186)
Liabilities	(2,536)	(8,575)	(3,321)	(415)	(14,847)
	(865)	(4,439)	(1,520)	(200)	(7,024)

[1] Cash and cash equivalents at 2020 have been re-presented to exclude cash held for sale.

20 FINANCIAL INSTRUMENTS – CONTINUED

Currency exposures

The Group's actual currency exposures on financial instruments, after taking account of derivative foreign currency contracts, which are not designated as hedging instruments for accounting purposes, are as follows:

Functional currency of Group operations	Sterling £m	US dollar £m	Euro £m	Other £m	Total £m
At 31 December 2021					
Sterling	–	1	1	(4)	(2)
US dollar	(8)	–	–	4	(4)
Euro	1	(4)	–	3	–
Other	82	14	51	2	149
At 31 December 2020					
Sterling	–	–	–	(4)	(4)
US dollar	(11)	–	(2)	2	(11)
Euro	1	3	–	(17)	(13)
Other	78	9	59	–	146

Ageing beyond contractual due date of financial assets

	Within terms £m	Up to three months overdue £m	Between three months and one year overdue £m	More than one year overdue £m	Total £m
At 31 December 2021					
Other non-current asset investments	36	–	–	–	36
Trade receivables and similar items	2,749	369	211	137	3,466
Other non-derivative financial assets	699	–	5	1	705
Other assets	28	–	–	–	28
Derivative financial assets	379	–	–	–	379
Short-term investments	8	–	–	–	8
Cash and cash equivalents	2,621	–	–	–	2,621
	6,520	369	216	138	7,243
At 31 December 2020					
Other non-current asset investments	19	–	–	–	19
Trade receivables and similar items	2,673	467	373	71	3,584
Other non-derivative financial assets	738	1	–	1	740
Other assets	28	–	–	–	28
Derivative financial assets	766	–	–	–	766
Cash and cash equivalents [1]	3,452	–	–	–	3,452
	7,676	468	373	72	8,589

[1] Cash and cash equivalents at 2020 have been re-presented to exclude cash held for sale.

20 FINANCIAL INSTRUMENTS – CONTINUED

Contractual maturity analysis of non-derivative financial liabilities

	Gross values				
	Within one year £m	Between one and two years £m	Between two and five years £m	After five years £m	Carrying value £m
At 31 December 2021					
Borrowings	(259)	(265)	(4,806)	(1,849)	(6,032)
Lease liabilities	(322)	(261)	(724)	(852)	(1,744)
Financial RRSAs	(6)	(5)	(2)	–	(12)
Other liabilities	(27)	(9)	(24)	(15)	(75)
C Shares	(25)	–	–	–	(25)
Trade payables and similar items	(3,815)	(18)	(94)	(118)	(4,045)
Other non-derivative financial liabilities	(1,812)	(83)	(207)	(301)	(2,403)
Contract liabilities	(264)	–	–	–	(264)
	(6,530)	(641)	(5,857)	(3,135)	(14,600)
At 31 December 2020					
Borrowings	(1,174)	(183)	(1,722)	(3,041)	(5,287)
Lease liabilities	(320)	(373)	(746)	(1,091)	(2,043)
Financial RRSAs	(6)	(5)	(7)	(69)	(81)
Other liabilities	(25)	(8)	(23)	(17)	(73)
C Shares	(28)	–	–	–	(28)
Trade payables and similar items	(3,969)	(53)	(23)	(83)	(4,128)
Other non-derivative financial liabilities	(2,260)	(228)	(176)	(357)	(3,021)
Contract liabilities	(186)	–	–	–	(186)
	(7,968)	(850)	(2,697)	(4,658)	(14,847)

Expected maturity analysis of derivative financial instruments

	Gross values				
	Within one year £m	Between one and two years £m	Between two and five years £m	After five years £m	Carrying value £m
At 31 December 2021					
Derivative financial assets:					
Cash inflows	840	1,051	3,145	456	
Cash outflows	(811)	(1,017)	(2,922)	(445)	
Other net cash flows [1]	26	27	43	2	
	55	61	266	13	379
Derivative financial liabilities:					
Cash inflows	6,246	7,198	11,441	1,987	
Cash outflows	(6,917)	(8,022)	(13,200)	(2,314)	
Other net cash flows [1]	(2)	(1)	–	–	
	(673)	(825)	(1,759)	(327)	(3,292)
At 31 December 2020					
Derivative financial assets:					
Cash inflows	2,153	984	6,358	2,777	
Cash outflows	(2,038)	(937)	(6,122)	(2,634)	
Other net cash flows [1]	18	20	35	12	
	133	67	271	155	766
Derivative financial liabilities:					
Cash inflows	5,019	5,810	13,308	4,340	
Cash outflows	(5,557)	(6,398)	(15,189)	(4,993)	
Other net cash flows [1]	(36)	(27)	(40)	(4)	
	(574)	(615)	(1,921)	(657)	(3,472)

[1] Derivative financial assets and liabilities that are settled on a net cash basis.

Interest rate risk

In respect of income-earning financial assets and interest-bearing financial liabilities, the following table indicates their effective interest rates. The value shown is the carrying amount before taking account of swaps.

	2021			2020		
	Fixed rate £m	Floating rate £m	Total £m	Fixed rate £m	Floating rate £m	Total £m
Short-term investments	–	8	8	–	–	–
Cash and cash equivalents [1]	–	2,621	2,621	–	3,452	3,452
Borrowings	(4,041)	(1,991)	(6,032)	(4,576)	(711)	(5,287)
Lease liabilities	(1,084)	(660)	(1,744)	(1,224)	(819)	(2,043)
	(5,125)	(22)	(5,147)	(5,800)	1,922	(3,878)
Weighted average interest rates						
Borrowings	3.7%	4.1%		3.1%	1.3%	
Lease liabilities [2]	4.0%	2.0%		3.8%	2.4%	

[1] Cash and cash equivalents comprises bank balances and term deposits and earn interest based on short-term floating market interest rates. Cash and cash equivalents at 2020 have been re-presented to exclude cash held for sale.
[2] Interest rates for lease liabilities are considered to be the discount rates at the balance sheet date.

£8m (2020: £15m) of the Group's borrowings (including borrowings classified as held for sale) are subject to the Group meeting certain obligations, including customary financial covenants. If the Group fails to meet its obligations, these arrangements give rights to the lenders, upon agreement, to accelerate repayment of the facilities. At 31 December 2021, none of these were in breach (2020: none). There are no rating triggers contained in any of the Group's facilities that could require the Group to accelerate or repay any facility for a given movement in the Group's credit rating.

£99m (2020: £166m) of the Group's lease liabilities include a customary loan-to-value covenant. The Group has several contractual cures available in the event the stipulated loan-to-value ratio is exceeded. Failure by the Group to satisfy its contractual obligations under the covenant gives rights to the lessor to terminate its lease and claim termination amounts for the outstanding lease balance. At 31 December 2021, none (2020: none) of these were in breach.

Sensitivity analysis

Sensitivities at 31 December (all other variables held constant) – impact on profit after tax and equity	2021 £m	2020 £m
Sterling 10% weaker against the US dollar	(1,687)	(1,992)
Sterling 10% stronger against the US dollar	1,382	1,642
Euro 10% weaker against the US dollar	(227)	(315)
Euro 10% stronger against the US dollar	185	258
Sterling 10% weaker against the Euro	(15)	(14)
Sterling 10% stronger against the Euro	12	12
Commodity prices 10% lower	(17)	(20)
Commodity prices 10% higher	17	20
Interest rates 50 basis points lower	(67)	(77)
Interest rates 50 basis points higher	65	82

C Shares and payments to shareholders

The Company issues non-cumulative redeemable preference shares (C Shares) as an alternative to paying a cash dividend. C Shares in respect of a year are issued in the following year. Shareholders are able to redeem any number of their C Shares for cash. Any C Shares retained attract a dividend of Bank of England base rate on the 0.1p nominal value, paid on a twice-yearly basis, and have limited voting rights. The Company has the option to compulsorily redeem the C Shares, at any time, if the aggregate number of C Shares in issue is less than 10% of the aggregate number of C Shares issued, or on the acquisition or capital restructuring of the Company.

Movements in issued and fully paid C Shares during the year were as follows:

	2021		2020	
	Millions	Nominal value £m	Millions	Nominal value £m
At 1 January	27,540	28	30,608	31
Issued	–	–	88,825	89
Redeemed	(2,612)	(3)	(91,893)	(92)
At 31 December	24,928	25	27,540	28

Payments to shareholders in respect of the year represent the value of C Shares to be issued in respect of the results for the year. There have been no issues (2020: no issues) of C Shares declared in respect of the year to 31 December 2021.

21 PROVISIONS FOR LIABILITIES AND CHARGES

	At 1 January 2021 £m	Charged to income statement [1] £m	Reversed £m	Utilised £m	Transfers to held for sale £m	Exchange differences £m	At 31 December 2021 £m
Trent 1000 exceptional costs	321	80	(45)	(199)	–	–	157
Contract losses	808	272	(190)	(27)	(13)	(5)	845
Restructuring	236	5	(138)	(74)	(5)	(3)	21
Warranty and guarantees	327	84	(5)	(75)	(11)	(15)	305
Customer financing	17	–	–	–	–	–	17
Insurance	60	22	(20)	(10)	–	–	52
Tax related interest and penalties	33	5	(13)	(11)	–	–	14
Employer liability claims	50	3	(3)	(2)	(1)	–	47
Other	93	61	(11)	(17)	–	(2)	124
	1,945	532	(425)	(415)	(30)	(25)	1,582
Current liabilities	826						475
Non-current liabilities	1,119						1,107

[1] The charge to the income statement includes £32m (2020: £48m) as a result of the unwinding of the discounting of provisions previously recognised.

Trent 1000 exceptional costs

In November 2019, the Group announced the outcome of testing and a thorough technical and financial review of the Trent 1000 TEN programme, following technical issues which were identified in 2019, resulting in a revised timeline and a more conservative estimate of durability for the improved HP turbine blade for the TEN variant. During the year, the Group has utilised £199m of the Trent 1000 exceptional costs provision. This represents customer disruption costs settled in cash and credit notes, and remediation shop visit costs. The value of the remaining provision reflects the single most likely outcome and is expected to be utilised over the period 2022 to 2024.

Contract losses

Provisions for contract losses are recorded when the direct costs to fulfil a contract are assessed as being greater than the expected revenue. In the year, additional contract losses for the Group of £272m have been recognised as a result of changes in future cost estimates, primarily in relation to LTSA shop visits; £20m was a result of revised estimates in relation to climate change. Contract losses of £190m previously recognised have been reversed following a reassessment of the number of engines impacted by the Trent 1000 technical issues and the cost of meeting contractual obligations. The Group continues to monitor the contract loss provision for changes in the market and revises the provision as required. The value of the remaining contract loss provisions reflect in each case the single most likely outcome. The provisions are expected to be utilised over the term of the customer contracts, typically within 8 to 16 years. From 1 January 2022, provisions for contract losses will be measured on a fully costed basis. See note 1 for further detail.

Warranties and guarantees

Provisions for warranties and guarantees primarily relate to products sold and are calculated based on an assessment of the remediation costs related to future claims based on past experience. The provision generally covers a period of up to three years.

Restructuring

In May 2020, the Group announced a fundamental restructuring programme in response to the financial and operational impact caused by COVID-19 with a plan to remove at least 9,000 roles across the Group. During the year, £74m of the provision was utilised as part of these plans and £138m of the provision released following reassessment of the anticipated cost per role and a higher than expected rate of natural attrition. The remaining provision is expected to be utilised by the end of 2022.

Customer financing

Customer financing provisions have been made to cover guarantees provided for asset value and/or financing where it is probable that a payment will be made. In addition to the provisions recognised, the Group has contingent liabilities for customer financing arrangements where the payment is not probable as described below.

In connection with the sale of its products the Group will, on some occasions, provide financing support for its customers, generally in respect of civil aircraft. The Group's commitments relating to these financing arrangements are spread over many years, relate to a number of customers and a broad product portfolio and are generally secured on the asset subject to the financing. These include commitments of $1.7bn (2020: $1.9bn) (on a discounted basis) to provide facilities to enable customers to purchase aircraft (of which approximately $952m could be called during 2022). These facilities may only be used if the customer is unable to obtain financing elsewhere and are priced at a premium to the market rate. Significant events impacting the international aircraft financing market, including the COVID-19 pandemic, the failure by customers to meet their obligations under such financing agreements, or inadequate provisions for customer financing liabilities may adversely affect the Group's financial position.

Commitments on delivered aircraft in excess of the amounts provided are shown in the table on page 172. These are reported on a discounted basis at the Group's borrowing rate to better reflect the time span over which these exposures could arise. These amounts do not represent values that are expected to crystallise. The commitments are denominated in US dollars. As the Group does not generally adopt cash flow hedge accounting for future foreign exchange transactions, this amount is reported together with the sterling equivalent at the reporting date spot rate. The values of aircraft providing security are based on advice from a specialist aircraft appraiser.

21 PROVISIONS FOR LIABILITIES AND CHARGES – CONTINUED

	2021		2020	
	£m	*$m*	£m	*$m*
Gross commitments	32	*43*	38	*52*
Value of security [1]	(10)	*(13)*	(14)	*(19)*
Guarantees	(2)	*(3)*	(5)	*(6)*
Net commitments	20	*27*	19	*27*
Net commitments with security reduced by 20% [1]	22	*29*	22	*30*

[1] Although sensitivity calculations are complex, the reduction of relevant security by 20% illustrates the sensitivity of the contingent liability to changes in this assumption.

Insurance

The Group's captive insurance company retains a portion of the exposures it insures on behalf of the remainder of the Group which include policies for aviation claims, employer liabilities and healthcare claims. Significant delays can occur in the notification and settlement of claims and judgement is involved in assessing outstanding liabilities, the ultimate cost and timing of which cannot be known with certainty at the balance sheet date. The insurance provisions are based on information currently available, however, it is inherent in the nature of the business that ultimate liabilities may vary if the frequency or severity of claims differs from estimated. Provisions for outstanding claims are established to cover the outstanding expected liability as well as claims incurred but not yet reported.

Tax related interest and penalties

Provisions for tax related interest and penalties relate to uncertain tax positions in some of the jurisdictions in which the Group operates. Utilisation of the provisions will depend on the timing of resolution of the issues with the relevant tax authorities.

Employer liability claims

The provision relating to employer healthcare liability claims is as a result of an historical insolvency of the previous provider and is expected to be utilised over the next 30 years.

Other

During the year, £61m of other provisions have been charged to the income statement. The largest item is £29m for costs related to the termination of a contract under which the Group now has an obligation to enter an onerous lease. On commencement of that lease, expected to be in 2022, this balance will be recognised as a lease liability. The additional items that make up the remaining charge in the year are individually immaterial and predominantly relate to claims. At 31 December 2021, other provisions includes those items as well as others (predominantly supplier claims), where the related legal proceedings are ongoing and utilisation will depend upon their resolution. The value of the provision reflects the single most likely outcome in each case.

22 POST-RETIREMENT BENEFITS

The Group operates a number of defined benefit and defined contribution schemes:

- The UK defined benefit scheme is funded, with the assets held in a separate trustee administered fund. Employees are entitled to retirement benefits based on either their final or career average salaries and length of service. On 31 December 2020, the scheme was closed to future accrual.
- Overseas defined benefit schemes are a mixture of funded and unfunded plans and provide benefits in line with local practice. Additionally in the US, and to a lesser extent in some other countries, the Group's employment practices include the provision of healthcare and life insurance benefits for retired employees. These schemes are unfunded.

The valuations of the defined benefit schemes are based on the results of the most recent funding valuation, where relevant, updated by the scheme actuaries to 31 December 2021.

Changes to the UK defined benefit scheme

On 20 May 2020, the Group announced its intention to reshape and resize the Group due to the financial and operational impact of COVID-19. As part of this restructuring programme, a voluntary severance programme was offered to certain UK employees and pension liabilities were remeasured in 2020 to reflect the number of members who were expected to leave the scheme. During the year, a £4m past service credit has arisen from the updated scope of the fundamental restructuring programmes following a higher than expected rate of natural attrition.

On the 29 July 2020, the Group announced a consultation with the active members of the UK scheme on a proposal to close the scheme to future accrual on 31 December 2020. As at 31 December 2020, a non-underlying past-service credit of £67m was recognised. Following the confirmation of the scheme closure, the Group held discussions with the employees' representatives and the Trustee regarding additional transitional protections that could be granted from the scheme. At 31 December 2021, £7m had been recognised as a non-underlying past service credit which relates to the differences between the final protections agreed and the obligation estimated at 31 December 2020.

During the year to 31 December 2021, 236 employed deferred members transferred employment in anticipation of a business disposal. As a consequence of this, a £4m non-underlying past service credit has been recognised.

22 POST-RETIREMENT BENEFITS – CONTINUED

Amounts recognised in the income statement

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
Defined benefit schemes:						
Current service cost and administrative expenses	10	61	71	153	67	220
Past-service (credit)/cost [1]	(15)	(33)	(48)	(308)	20	(288)
	(5)	28	23	(155)	87	(68)
Defined contribution schemes	146	81	227	80	84	164
Operating cost	141	109	250	(75)	171	96
Net financing (credit)/charge in respect of defined benefit schemes	(16)	19	3	(26)	27	1
Total income statement charge	125	128	253	(101)	198	97

[1] The past service credit recognised during the year comprises the changes in the UK schemes above and £32m from the remeasurement of the US defined benefit liability to remove spousal benefits not included in the plan benefits. During the year to 31 December 2020, a UK past-service credit of £308m was recognised which comprised £213m arising from the restructuring programme and the introduction of the bridging pension option (BPO), £67m as a result of the closure of the scheme to future accrual, £35m as a result of changes to management benefits and a £7m past-service cost recognised as a result of the 20 November High Court judgement that previous statutory transfer values including guaranteed minimum pensions built up between May 1990 and April 1997 must be equalised between men and women.

The operating cost is charged as follows:

	Defined benefit		Defined contribution		Total	
	2021 £m	2020 £m	2021 £m	Restated 2020 £m	2021 £m	Restated 2020 £m
Cost of sales	50	170	158	115	208	285
Commercial and administrative costs	(38)	(271)	32	21	(6)	(250)
Research and development costs	11	33	35	23	46	56
	23	(68)	225	159	248	91
Discontinued operations	–	–	2	5	2	5
	23	(68)	227	164	250	96

Pension contributions to UK pension arrangements are generally paid via a salary sacrifice scheme under which employees agree to a reduction in gross contractual pay in return for the Group making additional pension contributions on their behalf. As a result, there is a decrease in wages and salaries and a corresponding increase in pension costs of £45m (2020: £46m) in the year.

Net financing comprises:

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
Financing on scheme obligations	137	41	178	148	54	202
Financing on scheme assets	(153)	(22)	(175)	(174)	(27)	(201)
Net financing (income)/charge in respect of defined benefit schemes	(16)	19	3	(26)	27	1
Financing income on scheme surpluses	(16)	(1)	(17)	(26)	(2)	(28)
Financing cost on scheme deficits	–	20	20	–	29	29

Amounts recognised in OCI in respect of defined benefit schemes

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
Actuarial gains and (losses) arising from:						
Demographic assumptions [1]	(101)	(2)	(103)	(85)	34	(51)
Financial assumptions [2]	416	159	575	(1,387)	(246)	(1,633)
Experience adjustments [3]	(88)	12	(76)	(157)	(7)	(164)
Return on scheme assets excluding financing income [2]	(112)	(30)	(142)	1,166	92	1,258
	115	139	254	(463)	(127)	(590)

[1] For the UK scheme, this reflects latest available CMI mortality projections and an update of the post-retirement mortality assumptions based on an analysis prepared for the 31 March 2020 funding valuation.
[2] These arise primarily due to changes in interest rates and inflation.
[3] This reflects updated membership data available from the 31 March 2020 funding valuation, actual experience of options selected by members leaving employment under the voluntary severance arrangements (see above) offset by lower than expected pension and deferred pension increases.

22 POST-RETIREMENT BENEFITS – CONTINUED

Amounts recognised in the balance sheet in respect of defined benefit schemes

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
Present value of funded obligations	(8,010)	(863)	(8,873)	(8,879)	(895)	(9,774)
Fair value of scheme assets	9,128	861	9,989	9,762	894	10,656
Net asset/(liability) on funded schemes	1,118	(2)	1,116	883	(1)	882
Present value of unfunded obligations	–	(1,341)	(1,341)	–	(1,568)	(1,568)
Net asset/(liability) recognised in the balance sheet	1,118	(1,343)	(225)	883	(1,569)	(686)
Post-retirement scheme surpluses [1]	1,118	30	1,148	883	24	907
Post-retirement scheme deficits	–	(1,373)	(1,373)	–	(1,580)	(1,580)
Included in liabilities associated with assets held for sale	–	–	–	–	(13)	(13)

[1] The surplus in the UK scheme is recognised as on an ultimate wind-up when there are no longer any remaining members, any surplus would be returned to the Group, which has the power to prevent the surplus being used for other purposes in advance of this event.

Overseas schemes are located in the following countries:

	2021			2020		
	Assets £m	Obligations £m	Net £m	Assets £m	Obligations £m	Net £m
Canada	245	(275)	(30)	243	(293)	(50)
Germany	2	(883)	(881)	2	(1,016)	(1,014)
US pension schemes	614	(643)	(29)	649	(669)	(20)
US healthcare schemes	–	(400)	(400)	–	(469)	(469)
Other	–	(3)	(3)	–	(16)	(16)
Net asset/(liability) recognised in the balance sheet	861	(2,204)	(1,343)	894	(2,463)	(1,569)

Defined benefit schemes

Assumptions

Significant actuarial assumptions for the UK scheme at the balance sheet date were as follows:

		2021	2020
Discount rate		1.90%	1.45%
Inflation assumption (RPI) [1]		3.60%	3.10%
Rate of increase in salaries [2]		n/a	2.55%
Transfer assumption (employed deferred/deferred)		50%/40%	40%/40%
Bridging Pension Option assumption		25%	30%
Life expectancy from age 65:	current male pensioner	21.8 years	21.8 years
	future male pensioner currently aged 45	23.2 years	23.2 years
	current female pensioner	23.6 years	23.6 years
	future female pensioner currently aged 45	25.4 years	25.4 years

[1] This is the assumption for the Retail Price Index. The Consumer Price Index is assumed to be on average 0.55% lower, taking account of the announcement in 2020 that from 2030, RPI will be replaced by CPIH (2020: 0.55% lower).
[2] Following the closure to future accrual during 2020, future salaries do not affect the defined benefit obligation. In 2020, this assumption (with zero increase in 2021) was made to determine the split between past-service credit arising from the closure included in the income statement and the actuarial gain or loss included in OCI.

Discount rates are determined by reference to the market yields on AA rated corporate bonds. The rate is determined by using the profile of forecast benefit payments to derive a weighted average discount rate from the yield curve.

The inflation assumption is determined by the market-implied assumption based on the yields on long-term index-linked government securities and increases in salaries are based on actual experience, allowing for promotion, of the real increase above inflation.

The mortality assumptions adopted for the UK pension schemes are derived from the SAPS S3 'All' actuarial tables, with future improvements in line with the CMI 2020 core projections updated to reflect use of an 'A' parameter of 0.25% for future improvements and long-term improvements of 1.25%. Where appropriate, these are adjusted to take account of the scheme's actual experience.

The assumption for transfers and the BPO has been updated based on actual experience and actuarial advice.

Other assumptions have been set on advice from the actuary, having regard to the latest trends in scheme experience and the assumptions used in the most recent funding valuation. The rate of increase of pensions in payment is based on the rules of the scheme, combined with the inflation assumption where the increase is capped.

22 POST-RETIREMENT BENEFITS – CONTINUED

Assumptions for overseas schemes are less significant and are based on advice from local actuaries. The principal assumptions are:

	2021	2020
Discount rate	2.20%	1.80%
Inflation assumption	2.10%	1.90%
Long-term healthcare cost trend rate	4.75%	4.73%
Male life expectancy from age 65: current pensioner	20.7 years	20.8 years
future pensioner currently aged 45	22.5 years	22.4 years

Changes in present value of defined benefit obligations

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
At 1 January	(8,879)	(2,463)	(11,342)	(8,499)	(2,194)	(10,693)
Exchange differences	–	49	49	–	(5)	(5)
Current service cost	(4)	(60)	(64)	(147)	(65)	(212)
Past-service cost	15	33	48	308	(15)	293
Finance cost	(137)	(41)	(178)	(148)	(53)	(201)
Contributions by employees	–	(2)	(2)	(2)	(3)	(5)
Benefits paid out [1]	768	101	869	816	100	916
Disposal of businesses	–	12	12	–	–	–
Actuarial gains/(losses)	227	169	396	(1,629)	(225)	(1,854)
Transfers	–	(2)	(2)	–	(3)	(3)
Settlement	–	–	–	422	–	422
At 31 December	(8,010)	(2,204)	(10,214)	(8,879)	(2,463)	(11,342)
Funded schemes	(8,010)	(863)	(8,873)	(8,879)	(895)	(9,774)
Unfunded schemes	–	(1,341)	(1,341)	–	(1,568)	(1,568)
The defined benefit obligations are in respect of:						
Active plan participants [2]	(3,451)	(1,193)	(4,644)	(4,369)	(1,362)	(5,731)
Deferred plan participants	(2,258)	(176)	(2,434)	(2,750)	(197)	(2,947)
Pensioners	(2,301)	(835)	(3,136)	(1,760)	(904)	(2,664)
Weighted average duration of obligations (years)	22	15	21	23	16	22

[1] Benefits paid out includes amounts paid to members transferring out of the scheme. This has increased in 2020 and 2021 as a result of the voluntary severance programme.
[2] Although the UK scheme closed to future accrual on 31 December 2020, members who became deferred as a result of the closure and remain employed by the Group retain some additional benefits compared with other deferred members. The obligations for these members are shown as active plan participants.

Changes in fair value of scheme assets

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
At 1 January	9,762	894	10,656	9,640	845	10,485
Exchange differences	–	12	12	–	(27)	(27)
Administrative expenses	(6)	(1)	(7)	(6)	(2)	(8)
Financing	153	22	175	174	27	201
Return on plan assets excluding financing	(112)	(30)	(142)	1,166	92	1,258
Contributions by employer [1]	99	63	162	24	56	80
Contributions by employees	–	2	2	2	3	5
Benefits paid out	(768)	(101)	(869)	(816)	(100)	(916)
Settlement	–	–	–	(422)	–	(422)
At 31 December	9,128	861	9,989	9,762	894	10,656
Total return on scheme assets	41	(8)	33	1,340	119	1,459

[1] During the year, contributions by the employer of £99m to the UK scheme were deferred payments paid during the year but related to pensionable service for the prior year.

22 POST-RETIREMENT BENEFITS – CONTINUED

Fair value of scheme assets at 31 December

	2021			2020		
	UK schemes £m	Overseas schemes £m	Total £m	UK schemes £m	Overseas schemes £m	Total £m
Sovereign debt	5,756	217	5,973	7,220	276	7,496
Derivatives on sovereign debt	–	–	–	–	–	–
Corporate debt instruments	3,122	389	3,511	2,878	521	3,399
Interest rate swaps	54	–	54	52	–	52
Inflation swaps	106	–	106	(55)	–	(55)
Cash and similar instruments [1]	(811)	144	(667)	(1,156)	10	(1,146)
Liability driven investment (LDI) portfolios [2]	8,227	750	8,977	8,939	807	9,746
Listed equities	–	101	101	–	71	71
Unlisted equities	54	–	54	64	–	64
Synthetic equities [3]	43	4	47	41	12	53
Sovereign debt	–	4	4	–	–	–
Corporate debt instruments	802	–	802	709	–	709
Cash	–	2	2	–	6	6
Other	2	–	2	9	(2)	7
At 31 December	9,128	861	9,989	9,762	894	10,656

[1] UK cash and similar instruments include repurchase agreements on UK Government bonds amounting to £(1,087)m (2020: £(1,539)m). The latest maturity date for these short-term borrowings is September 2023.
[2] A portfolio of gilt and swap contracts, backed by investment-grade credit instruments and diversified liquidity funds, that is designed to hedge the majority of the interest rate and inflation risks associated with the schemes' obligations.
[3] Portfolios of swap contracts designed to provide investment returns in line with global equity markets. The maximum exposure (notional value and accrued returns) on the portfolios was £550m (2020: £727m).

The investment strategy for the UK scheme is controlled by the Trustee in consultation with the Group. The scheme assets do not directly include any of the Group's own financial instruments, nor any property occupied by, or other assets used by, the Group. At 31 December 2021, there was no indirect holding of the Group's financial instruments (2020: none).

Future contributions

The Group expects to contribute approximately £66m to its defined benefit schemes in 2022 (2021: £160m): UK: nil, Overseas: £66m (2020: UK: £100m, Overseas: £60m).

In the UK, cash funding is based on a statutory triennial funding valuation process. This process includes a negotiation between the Group and the Trustee on the actuarial assumptions used to value the liabilities (Technical Provisions); assumptions which may differ from those used for accounting set out on page 174. The assumptions used to value Technical Provisions must be prudent rather than a best estimate of the liability. Most notably, the Technical Provision discount rate is currently based upon UK Government yields plus a margin (0.5% at the 31 March 2020 valuation) rather than being based on yields of AA corporate bonds. Following the triennial valuation process, a Schedule of Contributions (SoC) must be agreed which sets out the agreed rate of cash contributions and any contributions from the employer to eliminate a deficit. The most recent valuation, as at 31 March 2020, agreed by the Trustee in June 2021, showed that the UK scheme was estimated to be 105% funded on the Technical Provisions basis. This funding level reflected the short-term market impact of the COVID-19 pandemic. Funding has now returned to pre-pandemic levels and was estimated to be 112% at 31 December 2021. Following the closure of the scheme to future accrual on 31 December 2020, no contributions will be made in respect of future accrual and no deficit reduction contributions are required. The 2021 contributions included above are in respect of 2020 accrual, the payment of some of which were deferred in agreement with the Trustee as a result of the COVID-19 pandemic. All cash due has been paid in full. The current SoC includes an arrangement for potential contributions during 2024 to 2027 (capped at £145m in total) if the Technical Provisions funding position is below 107% at 31 March 2023.

22 POST-RETIREMENT BENEFITS – CONTINUED

Sensitivities

The calculations of the defined benefit obligations are sensitive to the assumptions set out on pages 174 and 175. The following table summarises how the estimated impact of a change in a significant assumption would affect the UK defined benefit obligation at 31 December 2021, while holding all other assumptions constant. This sensitivity analysis may not be representative of the actual change in the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

For the most significant funded schemes, the investment strategies hedge the risks from interest rates and inflation measured on a proxy solvency basis.

For the UK scheme, the interest rate and inflation hedging is currently based on UK Government bond yields without any adjustment for any credit spread. The sensitivity analysis set out below have been determined based on a method that estimates the impact on the defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period.

		2021 £m	2020 £m
Reduction in the discount rate of 0.25% [1]	Obligation	**(460)**	(530)
	Plan assets (LDI portfolio)	**484**	602
Increase in inflation of 0.25% [1]	Obligation	**(210)**	(290)
	Plan assets (LDI portfolio)	**147**	267
Increase of 1% in transfer value assumption	Obligations	**(55)**	(67)
Increase of 5% of transfers instead of BPO	Obligations	**(30)**	(45)
One year increase in life expectancy	Obligations	**(365)**	(455)

[1] The differences between the sensitivities on obligations and plan assets arise largely due to differences in the methods used to value the obligations for accounting purposes and the adopted proxy solvency basis.

23 SHARE CAPITAL

	Non-equity		Equity	
	Special Share of £1	Nominal value £m	Ordinary shares of 20p each Millions	Nominal value £m
Issued and fully paid				
At 1 January 2020	1	–	1,931	386
Shares issued on rights issue	–	–	6,437	1,288
At 31 December 2020	1	–	8,368	1,674
At 31 December 2021	**1**	**–**	**8,368**	**1,674**

The rights attaching to each class of share are set out on page 217.

In accordance with IAS 32 *Financial Instruments: Presentation*, the Company's non-cumulative redeemable preference shares (C Shares) are classified as financial liabilities. Accordingly, movements in C Shares are included in note 20.

24 SHARE-BASED PAYMENTS

Effect of share-based payment transactions on the Group's results and financial position

	2021 £m	2020 £m
Total expense recognised for equity-settled share-based payments transactions	28	27
Total credit recognised for cash-settled share-based payments transactions	–	(2)
Share-based payments recognised in the consolidated income statement	28	25
Liability for cash-settled share-based payment transactions	–	–

A description of the share-based payment plans is included in the Directors' Remuneration Report on pages 87 to 104.

Movements in the Group's share-based payment plans during the year

	ShareSave		LTIP	DSBP
	Number Millions	Weighted average exercise price Pence [1]	Number Millions	Number Millions
Outstanding at 1 January 2020	31.9	693	13.2	0.4
Granted	–	–	23.0	0.3
Forfeited	(15.9)	237	(2.8)	–
Exercised	–	–	(3.2)	(0.2)
Changes as a result of the rights issue [1]	33.6	239	37.4	0.9
Outstanding at 1 January 2021	**49.6**	**239**	**67.6**	**1.4**
Granted	**56.8**	**97**	**33.8**	**0.1**
Forfeited	**(31.3)**	**239**	**(14.3)**	**(0.1)**
Exercised	**–**	**–**	**(10.1)**	**(0.6)**
Outstanding at 31 December 2021	**75.1**	**132**	**77.0**	**0.8**
Exercisable at 31 December 2021	**–**	**–**	**–**	**–**
Exercisable at 31 December 2020	**–**	**–**	**–**	**–**

[1] The weighted average exercise price for share movements during 2020 was re-based following the rights issue in November 2020.

The weighted average share price at the date share options were exercised was 119p (2020: 203p). The closing price at 31 December 2021 was 123p (2020: 111p).

The weighted average remaining contractual life for the share options as at 31 December 2021 was two years (2020: two years).

Fair values of share-based payment plans

The weighted average fair value per share of equity-settled share-based payment plans granted during the year, estimated at the date of grant, are as follows:

	2021	2020
LTIP	**104p**	388p
LTIP (ELT & Board)	**n/a**	354p
ShareSave – three-year grant	**67p**	n/a
DSBP	**105p**	490p

LTIP

The fair value of shares awarded is calculated using a pricing model that takes account of the non-entitlement to dividends (or equivalent) during the vesting period and the market-based performance condition based on expectations about volatility and the correlation of share price returns in the group of FTSE 100 companies and which incorporates into the valuation the interdependency between share price performance and TSR vesting. This adjustment decreases the fair value of the award relative to the share price at the date of grant.

ShareSave

The fair value of the options granted is calculated using a pricing model that assumes that participants will exercise their options at the beginning of the six-month window if the share price is greater than the exercise price. Otherwise it assumes that options are held until the expiration of their contractual term. This results in an expected life that falls somewhere between the start and end of the exercise window.

Deferred Share Bonus Plan (DSBP)

The fair value of shares awarded under DSBP is calculated as the share price on the date of the award, excluding expected dividends (or equivalent).

25 CONTINGENT LIABILITIES

Contingent liabilities in respect of customer financing commitments are described in note 21.

In January 2017, after full cooperation, the Company concluded deferred prosecution agreements (DPA) with the SFO and the US Department of Justice (DoJ) and a leniency agreement with the MPF, the Brazilian federal prosecutors. The terms of both DPAs have now expired; the DPA with the DoJ was dismissed by the US District Court on 19 May 2020 and the SFO filed notice of discontinuance of proceedings with the UK Court on 18 January 2022. Certain authorities are investigating members of the Group for matters relating to misconduct in relation to historical matters. The Group is responding appropriately. Action may be taken by further authorities against the Company or individuals. In addition, the Group could still be affected by actions from customers and customers' financiers. The Directors are not currently aware of any matters that are likely to lead to a material financial loss over and above the penalties imposed to date, but cannot anticipate all the possible actions that may be taken or their potential consequences.

Contingent liabilities exist in respect of guarantees provided by the Group in the ordinary course of business for product delivery, commitments made for future service demand in respect of maintenance, repair and overhaul, and performance and reliability. The Group has, in the normal course of business, entered into arrangements in respect of export finance, performance bonds, countertrade obligations and minor miscellaneous items. Various Group undertakings are parties to legal actions and claims (including with tax authorities) which arise in the ordinary course of business, some of which are for substantial amounts. As a consequence of the insolvency of an insurer as previously reported, the Group is no longer fully insured against known and potential claims from employees who worked for certain of the Group's UK based businesses for a period prior to the acquisition of those businesses by the Group. While the outcome of some of these matters cannot precisely be foreseen, the Directors do not expect any of these arrangements, legal actions or claims, after allowing for provisions already made, to result in significant loss to the Group.

26 RELATED PARTY TRANSACTIONS

	2021 £m	2020 £m
Sales of goods and services to joint ventures and associates [1]	3,548	3,768
Purchases of goods and services from joint ventures and associates [1]	(3,677)	(4,292)
Lease payments to joint ventures and associates	(225)	(226)
Guarantees of joint arrangements' and associates' borrowings	1	3
Guarantees of non-wholly owned subsidiaries' borrowings	3	3
Dividends received from joint ventures and associates	27	60
Other income received from joint ventures and associates	3	3

[1] Sales of goods and services to joint ventures and associates and purchases of goods and services from joint ventures and associates are included at the average exchange rate, consistent with the statutory income statement.

Included in sales of goods and services to joint ventures and associates are sales of spare engines amounting to £157m (2020: £102m). Profit recognised in the year on such sales amounted to £47m (2020: £91m), including profit on current year sales and recognition of profit deferred on similar sales in previous years. Cash receipts relating to the sale of spare engines amounted to £181m (2020: £193m).

The aggregated balances with joint ventures are shown in notes 14 and 19. Transactions with Group pension schemes are shown in note 22.

In the course of normal operations, related party transactions entered into by the Group have been contracted on an arm's-length basis.

Key management personnel are deemed to be the Directors (pages 71 to 73) and the members of the Executive Team (described on page 70). Remuneration for key management personnel is shown below:

	2021 £m	2020 £m
Salaries and short-term benefits	20	7
Post-retirement schemes	–	–
Share-based payments	4	1
	24	8

More detailed information regarding the Directors' remuneration, shareholdings, pension entitlements, share options and other long-term incentive plans is shown in the Directors' Remuneration Report on pages 87 to 104. The charge for share-based payments above is based on when the award is charged to the income statement in accordance with IFRS 2 *Share-Based Payments*, rather than when the shares vest, which is the basis used in the Directors' Remuneration Report.

27 DISPOSALS, ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS

Disposals

On 28 February 2020, the Group announced the decision to carry out a strategic review of Bergen Engines AS, the Group's medium-speed gas and diesel engine business. Bergen Engines AS formed part of the Power Systems business and from 31 December 2020 it has been classified as a disposal group held for sale. During the year to 31 December 2021, an impairment charge of £9m was recognised against the disposal group as a result of a change in the anticipated proceeds. On 31 December 2021, the Group completed the sale of Bergen Engines AS to Langley Holdings plc for a value of €91m. In accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates*, the Group has recycled the cumulative currency translation reserve through the income statement in 2021.

On 7 December 2020 the Group signed an agreement for the sale of Civil Nuclear Instrumentation & Control business to Framatome and consequently, in accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*, the business was classified as a disposal group held for sale at 31 December 2020. During the year to 31 December 2021, no impairment charge was recognised. On 5 November 2021, the Group completed the sale to Framatome for a value of £85m. In accordance with IAS 21, the Group has recycled the cumulative currency translation reserve through the income statement in 2021.

	Bergen Engines £m	Civil Nuclear £m	Total subsidiaries £m
Proceeds			
Cash consideration	77	85	162
Cash and cash equivalents disposed	(29)	(14)	(43)
Net cash consideration per cash flow statement	48	71	119
Disposal costs paid	(9)	(3)	(12)
Cash inflow per cash flow statement	39	68	107
Intangible assets	–	16	16
Property, plant and equipment	–	6	6
Right-of-use assets	–	7	7
Deferred tax assets	3	5	8
Inventory	81	17	98
Trade receivables and other assets	70	41	111
Current tax (liabilities)/assets	(1)	3	2
Lease liabilities	(3)	(5)	(8)
Trade payables and other liabilities	(99)	(74)	(173)
Provisions for liabilities and charges	(17)	(4)	(21)
Post-retirement scheme deficits	–	(12)	(12)
Less: Net assets disposed	34	–	34
Profit on disposal before disposal costs and continuing obligations	14	71	85
Cumulative currency translation (loss)/gain	(1)	2	1
Disposal costs	(20)	(3)	(23)
(Loss)/profit before taxation	(7)	70	63

Disposal completed in prior periods

On 1 June 2018, the Group sold its L'Orange business, part of Rolls-Royce Power Systems, to Woodward Inc. for €673m. Under the sale agreement, the cash consideration may be adjusted by up to +/-€44m, based on L'Orange aftermarket sales over the five-year period to 31 May 2023. A liability of €28m is recognised for amounts that are now expected to be payable in relation to the years 2022 and 2023 (2020: €29m liability in relation to the years 2021-2023). Cash of €9m has been paid during the year with an increase in the liability of €8m (£7m) reflected as an adjustment to sales proceeds. The maximum adjustment to sales proceeds has now been provided for in all future years to 2023.

Reconciliation of profit/(loss) to the income statement:

	Total £m
Profit on disposal of businesses (see above)	63
Adjustment to L'Orange sales proceeds	(7)
Profit on acquisition & disposal of businesses per income statement	56

Reconciliation of cash flow on disposal of businesses to the cash flow statement:

	Total £m
Net consideration on disposal of businesses (see above)	107
Cash outflow on disposals completed in prior periods	(8)
Cash flow on disposal of businesses per cash flow statement	99

27 DISPOSALS, ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS – CONTINUED

Businesses held for sale

On 27 August 2020, the Group announced its intention to sell ITP Aero. During the period to 30 June 2021, the Hucknall site with associated fabrications activities, that were previously reported as part of the Civil Aerospace segment, were transferred to ITP Aero (see note 2 for more detail) and other preparatory work had been performed such that as at 30 June 2021 the business was classified as a disposal group held for sale. On 27 September 2021, the Group signed an agreement for the sale of ITP Aero to Bain Capital for £1.3bn and consequently, in accordance with IFRS 5, the business continues to be classified as a disposal group held for sale at 31 December 2021. The assets of ITP Aero have been assessed for impairment in line with the requirements of IFRS 5 and no impairment is required at 31 December 2021. ITP Aero had an additional £153m of cash which was held by another Group company at 31 December 2021 and consequently is not included in the disposal group as the resulting intra-group balances are eliminated on consolidation. On completion, such cash is expected to be included in the disposal group. In addition, the Group records significant adjustments to eliminate the impact of ITP Aero margin within onerous contract provisions within Civil Aerospace. Certain consolidation adjustments are not included in the balances held for sale but will be derecognised upon the sale of ITP Aero and the related income statement charge will be recognised as part of the profit on disposal.

On 13 September 2021, the Group signed an agreement with Equitix Investment Management Limited to dispose its 23.1% shareholding in AirTanker Holdings Limited for a cash consideration of £189m. The sale completed on 9 February 2022. In accordance with IFRS 5, the Group has classified £47m of the AirTanker assets as held for sale at 31 December 2021.

At 31 December 2021, the Group recognised property, plant and equipment and the deferred income of a related grant as held for sale in line with IFRS 5. These assets relate to the Group's site rationalisation activities.

The table below summarises the categories of assets and liabilities classified as held for sale at 31 December 2021 and 2020.

	2021			2020		
	ITP Aero £m	Other [1] £m	Total £m	Bergen Engines £m	Civil Nuclear £m	Total £m
Intangible assets	872	–	872	–	16	16
Property, plant and equipment	313	26	339	3	4	7
Right-of-use assets	12	–	12	2	7	9
Investment in associates and joint ventures	1	34	35	–	–	–
Deferred tax assets	167	–	167	2	4	6
Inventory	222	–	222	97	14	111
Trade receivables and other assets	342	14	356	50	38	88
Cash and cash equivalents	25	–	25	25	26	51
Assets held for sale	1,954	74	2,028	179	109	288
Trade payables and other liabilities	(540)	(7)	(547)	(100)	(84)	(184)
Provisions for liabilities and charges	(22)	–	(22)	(11)	(7)	(18)
Borrowings and lease liabilities	(72)	–	(72)	(4)	(7)	(11)
Deferred tax liabilities	(82)	–	(82)	(2)	–	(2)
Post-retirement scheme deficits	–	–	–	–	(13)	(13)
Liabilities associated with assets held for sale	(716)	(7)	(723)	(117)	(111)	(228)
Net assets/(liabilities) held for sale	1,238	67	1,305	62	(2)	60

[1] Other assets and liabilities held for sale comprise: investment in joint venture and accrued interest with Airtanker Holdings Limited; and assets and associated government grant, related to the Group's site rationalisation activities.

Discontinued operations

ITP Aero represents a separate major line of business and is classified as a disposal group held for sale. Therefore, in line with IFRS 5, ITP Aero has been classified as a discontinued operation. The financial performance and cash flow information presented reflects the operations for the year that have been classified as discontinued operations.

	2021 £m	2020 £m
Revenue [1]	365	333
Operating loss [1]	(4)	(109)
Profit/(loss) before taxation [1]	2	(111)
Income tax credit	34	43
Profit/(loss) for the year from discontinued operations on ordinary activities	36	(68)
Costs of disposal on discontinued operations [2]	(39)	–
Loss for the year from discontinued operations	(3)	(68)
Net cash inflow from operating activities [2]	12	40
Net cash outflow from investing activities	(32)	(39)
Net cash outflow from financing activities	(25)	(22)
Exchange gain/(losses)	4	(4)
Net change in cash and cash equivalents	(41)	(25)

[1] Profit/(loss) from discontinued operations on ordinary activities is presented net of intercompany trading eliminations, related consolidation adjustments and amortisation of intangible assets arising on previous acquisition (prior to classification as held for sale).
[2] Cash flows from operating activities include £39m costs of disposal paid during the year to 31 December 2021 that are not a movement in the cash balance of the disposal group as they were borne centrally.

28 DERIVATION OF SUMMARY FUNDS FLOW STATEMENT

	2021		2020		
	£m	£m	£m	£m	Source
Underlying operating profit/(loss) (see note 2)		414		(2,008)	
Operating loss from discontinued operations (see note 27)		(43)		(109)	
Amortisation and impairment of intangible assets	290		902		Cash flow statement (CFS)
Depreciation and impairment of property, plant and equipment	462		821		CFS
Depreciation and impairment of right-of-use assets	257		732		CFS
Adjustment to residual value guarantees in lease liabilities	(4)		(102)		CFS
Impairment of joint ventures, associates and other investments	7		24		Note 12
Reversal of non-underlying impairments of non-current assets	9		(1,244)		Reversal of underlying adjustment (note 2)
Acquisition accounting	(50)		(85)		Reversal of underlying adjustment (note 2)
Depreciation, amortisation and impairment		971		1,048	
Additions of intangible assets		(185)		(316)	CFS less exceptional restructuring (see below)
Purchases of property, plant and equipment		(311)		(579)	CFS less exceptional restructuring (see below)
Lease payments (capital plus interest)		(403)		(379)	CFS (capital and interest payments adjusted for foreign exchange (FX))
(Increase)/decrease in inventories		(169)		588	CFS
Movement in receivables/payables	(469)		(2,297)		CFS adjusted for the impact of exceptional programme charges and exceptional restructuring shown on the basis of the FX rate achieved on settled derivative contracts
Movement in contract balances (excluding Civil LTSA)	(289)		(263)		CFS adjusted for the impact of exceptional programme charges and FX and excluding Civil LTSAs (shown separately below)
Underlying movement in Civil Aerospace LTSA contract balances	66		479		Movement in Civil LTSA balances within movement of contract balances in CFS less impact of FX
Revaluation of trading assets (excluding exceptional items)	32		219		Adjustment to reflect the impact of the FX contracts held on receivables/payables
Realised derivatives in financing	85		226		Realised cash flows on FX contracts not included in underlying operating profit less cash flows on settlement of excess derivative contracts
Movement on receivables/payables/contract balances		(575)		(1,636)	
Movement on provisions		(136)		(195)	CFS adjusted for the impact of exceptional programme charges and anticipated recoveries, exceptional restructuring and FX contracts held
Net interest received and paid		(197)		(75)	CFS
Fees paid on undrawn facilities		(62)		(97)	CFS
Cash flows on settlement of excess derivative contracts		(452)		(202)	CFS
Cash flows on financial instruments net of realised losses included in operating profit		(85)		(105)	Cash flows on other financial instruments (CFS) not allocated to lease payments or exceptional programme expenditure adjusted for the impact of FX not held for trading
Other		68		(49)	Principally disposals of non-current assets, additions and disposals of other investments, joint venture trading and the effect of share-based payments
Trading cash flow		(1,165)		(4,114)	
Trading cash flow from continuing operations		***(1,211)***		*(4,198)*	
Contributions to defined benefit schemes (in excess of)/less than underlying operating profit charge		(92)		160	CFS
Tax		(185)		(231)	CFS
Free cash flow		(1,442)		(4,185)	
Free cash flow from continuing operations		***(1,485)***		*(4,255)*	

28 DERIVATION OF SUMMARY FUNDS FLOW STATEMENT – CONTINUED

	2021		2020		
	£m	£m	£m	£m	Source
Free cash flow		**(1,442)**		(4,185)	
Net cash flow from changes in borrowings and lease liabilities	**666**		1,630		CFS excluding repayment of debt acquired.
(Decrease)/increase in short-term investments	**(8)**		6		CFS
Movement in net debt from cash flows		**658**		1,636	
Exclude: Capital element of lease repayments	**374**		284		CFS
Movement in net debt from cash flows (excluding lease liabilities)		**1,032**		1,920	
Shareholder payments		**(4)**		(92)	CFS (includes dividends to NCI)
Proceeds of rights issue (net of expenses and rights taken by employee share trust)		**–**		1,972	CFS
Acquisition of businesses	**–**		(130)		CFS
Disposal of businesses	**99**		23		CFS
Other acquisition and disposals	**(50)**		(12)		£50m related to costs incurred on central M&A activity.
Changes in Group structure		**49**		(119)	
Exceptional restructuring costs		**(231)**		(323)	£168m related to severance costs and £63m capital expenditure (2020: £268m and £55m, respectively)
Financial penalties paid		**(156)**		(135)	CFS
Other		**(23)**		(33)	Cash outflow on M&A spend and timing of cash flows on a prior period disposal.
Change in cash and cash equivalents		**(775)**		(995)	

The comparative information for the year ended 31 December 2020 has been re-presented to be on a comparable basis with the presentation adopted at the year ended 31 December 2021. There is no change to trading or group free cash flow. In summary foreign exchange transactions have been re-presented within line items to be consistent with presentation throughout the financial statements.

Free cash flow is a measure of financial performance of the business' cash flow to see what is available for distribution among those stakeholders funding the business (including debt holders and shareholders). Free cash flow is calculated as trading cash flow less recurring tax and post-employment benefit expenses. It excludes payments made to shareholders, amounts spent or received on activity related to business acquisitions or disposals, financial penalties paid, exceptional restructuring costs and foreign exchange changes on net funds. The Board considers that free cash flow reflects cash generated from the Group's underlying trading.

Trading cash flow is defined as free cash flow (as defined above) before the deduction of recurring tax and post-employment benefit expenses.

COMPANY BALANCE SHEET

At 31 December 2021

	Notes	2021 £m	2020 £m
ASSETS			
Investments – subsidiary undertakings	2	**14,716**	14,688
Trade receivables and other assets	3	**1**	–
Current assets		**1**	–
TOTAL ASSETS		**14,717**	14,688
LIABILITIES			
Trade payables and other liabilities	4	**(335)**	(331)
Other financial liabilities	5	**(25)**	(28)
Current liabilities		**(360)**	(359)
NET ASSETS	7	**14,357**	14,329
EQUITY			
Called-up share capital	6	**1,674**	1,674
Share premium		**1,012**	1,012
Merger reserve		**6,962**	6,962
Capital redemption reserve		**2,747**	2,744
Other reserve		**303**	275
Retained earnings		**1,659**	1,662
TOTAL EQUITY		**14,357**	14,329

The Company has elected to take the exemption under section 408 of the Companies Act 2006 from presenting the parent company income statement. The result for the Company for the year was nil (2020: loss of £1m).

The Financial Statements on pages 184 to 189 were approved by the Board on 24 February 2022 and signed on its behalf by:

Warren East Chief Executive

Panos Kakoullis Chief Financial Officer

Company's registered number: 7524813

COMPANY STATEMENT OF CHANGES IN EQUITY

For the year ended 31 December 2021

	Attributable to ordinary shareholders						
	Share capital £m	Share premium £m	Merger reserve [1] £m	Capital redemption reserve £m	Other reserve [2] £m	Retained earnings [3,4] £m	Total equity £m
At 1 January 2020	386	319	7,051	2,652	248	1,765	12,421
Loss for the year	–	–	–	–	–	(1)	(1)
Arising on issues of ordinary shares							
– Rights issue [5]	1,288	693	–	–	–	(10)	1,971
Issue of C Shares	–	–	(89)	–	–	1	(88)
Redemption of C Shares	–	–	–	92	–	(92)	–
Ordinary shares purchased	–	–	–	–	–	(1)	(1)
Share-based payments – direct to equity	–	–	–	–	27	–	27
At 1 January 2021	**1,674**	**1,012**	**6,962**	**2,744**	**275**	**1,662**	**14,329**
Redemption of C Shares	–	–	–	3	–	(3)	–
Share-based payments – direct to equity	–	–	–	–	28	–	28
At 31 December 2021	**1,674**	**1,012**	**6,962**	**2,747**	**303**	**1,659**	**14,357**

[1] The Company's merger reserve was created as a result of a High Court approved scheme of arrangement in 2011, when the Company became the holding company for the Rolls-Royce Group.
[2] Other reserve represents the value of the share-based payments in respect of employees of subsidiary undertakings for which payment has not been received.
[3] The reserves, which are distributable to the Company's equity shareholders, are determined with reference to the Companies Act 2006 and requires judgement in determining the amount available for distribution, subject to the restrictions explained in note 17 of the Consolidated Financial Statements. Further guidance is given in the Institute of Chartered Accountants in England and Wales technical release 02/17BL in relation to what profits can be treated as distributable. At 31 December 2021, all the Company's retained earnings are distributable, however, the available amount may be different at the point any future distributions are made.
[4] At 31 December 2021, 29,405,191 ordinary shares with a net book value of £65m (2020: 39,866,717 ordinary shares with a net book value of £89m) were held for the purpose of share-based payment plans and included in accumulated losses. During the year, 10,667,095 ordinary shares with a net book value of £24m (2020: 3,458,865 ordinary shares with a net book value of £29m) vested in share-based payment plans. During the year, the Company acquired none (2020: 85,724) of its ordinary shares via reinvestment of dividends received on its own shares and purchased none (2020: 30,763,282) of its ordinary shares through purchases on the London Stock Exchange.
[5] On 12 November 2020, the Company completed a rights issue to existing shareholders on the basis of ten ordinary shares for every three fully-paid ordinary shares held. As a result, 6,436,601,676 ordinary shares with an aggregate nominal value of £1,288m were issued for cash consideration of £2,060m. Transaction costs of £79m were incurred resulting in £693m being recognised in share premium.

1 ACCOUNTING POLICIES

Basis of accounting

Rolls-Royce Holdings plc (the Company) is a public company limited by shares incorporated and domiciled in England in the United Kingdom. These Financial Statements have been prepared in accordance with Financial Reporting Standard 101 *Reduced Disclosure Framework* on the historical cost basis.

These financial statements have been prepared on a going concern basis. Further details are given in the Going Concern Statement on pages 58 to 59. After due consideration, the Directors consider that the Group has sufficient liquidity headroom to continue in operational existence for a period of at least 18 months from the date of this report and there are no material uncertainties that may cast doubt on the Company's going concern status, accordingly they are satisfied that it is appropriate to adopt the going concern basis of accounting in preparing the Company Financial Statements.

In accordance with the Companies Act 2006, the Company Financial Statements have been prepared in accordance with UK-adopted international accounting standards. Where necessary, amendments are made in these Financial Statements in order to comply with Companies Act 2006 and to take advantage of the exemptions available under FRS 101 in respect of the following disclosures:

- a cash flow statement and related notes;
- comparative period reconciliation for investments and financial liabilities;
- comparative period reconciliation for share capital;
- the effects of new, but not yet effective accounting standards; and
- the requirements of IAS 24 *Related Party Transactions* and has, therefore, not disclosed transactions between the Company and its wholly-owned subsidiaries.

The accounting policies set out below have, unless otherwise stated, been applied consistently to all periods presented in these Financial Statements.

There were no changes to accounting standards that had a material impact on these Financial Statements.

The Company's Financial Statements are presented in sterling, which is the Company's functional currency.

As permitted by section 408 of the Companies Act 2006, a separate income statement for the Company has not been included in these Financial Statements. As permitted by the audit fee disclosure regulations, disclosure of non-audit fees information is not included in respect of the Company.

Key areas of judgement and sources of estimation uncertainty

The preparation of financial statements requires the use of certain critical accounting estimates. It also requires the Directors to exercise their judgement in the process of applying the accounting policies. The Directors have not identified any critical estimates where there is a significant risk of material change in the next 12 months at 31 December 2021.

Key areas of judgements – carrying value of investments in subsidiary undertakings

The carrying value of the investment in subsidiary undertakings is reviewed for indicators of impairment on an annual basis. Where such indicators are present, a quantified impairment test would be required and the value in use calculated based upon a discounted cash flow methodology using the most recent forecasts prepared by management of the Rolls-Royce Holdings plc group. At 31 December 2021, the Directors assessed the impact of new potential indicators of impairment and concluded that there was no risk of impairment. In making this judgement, the Directors considered the headroom determined in the impairment review performed at 31 December 2020 and whether developments in the year could have materially eroded the headroom. As part of this assessment, the Directors considered the:

- performance of the Group in the year compared to the forecasts used in the 2020 impairment model;
- latest forecast of the Group's performance over the next five years compared to those used in the 2020 impairment model;
- improvement in the Group's share price since December 2020;
- results of completed and agreed disposals in the year;
- establishment of the small modular reactors business and continued development of electrical opportunities; and
- movements in the cost of capital which has moderately decreased.

When making these considerations, the Group has assessed the impact of climate change by quantifying the potential impact of carbon prices, commodity prices and aviation and engine demand on the headroom determined in 2020. The assumptions are consistent with those detailed in note 1 of the Consolidated Financial Statements. As a result of this assessment, the Directors did not identify any new potential indicators of impairment and therefore, no impairment test was performed.

Significant accounting policies

Investments in subsidiary undertakings

Investments included in fixed assets are investments in subsidiary companies and these are held at historical cost less impairments which is considered annually by the Directors.

Trade receivables

Trade receivables are recognised initially at the transaction price. They are subsequently measured at amortised cost using the effective interest method, less provision for impairment. A provision for the impairment of trade receivables is established when there is objective evidence that the Company will not be able to collect all amounts due according to the original terms of the receivables. The Company applies the IFRS 9 *Financial Instruments* simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables.

1 ACCOUNTING POLICIES – CONTINUED

Trade payables
Trade payables are recognised initially at the transaction price and subsequently measured at amortised cost using the effective interest method.

Financial instruments
In accordance with IAS 32 *Financial Instruments: Presentation*, the Company's C Shares are classified as financial liabilities and held at amortised cost from the date of issue until redeemed.

Equity
Ordinary shares are classified as equity. Equity instruments are measured at the fair value of the cash or other resources received or receivable, net of the direct costs of issuing the equity instruments. The cost of issuing ordinary shares are charged to the share premium account.

Share-based payments
As described in the Directors' Remuneration Report on pages 87 to 104, the Company grants awards of its own shares to employees of its subsidiary undertakings (see note 24 of the Consolidated Financial Statements). The costs of share-based payments in respect of these awards are accounted for, by the Company, as an additional investment in its subsidiary undertakings. The costs are determined in accordance with IFRS 2 *Share-based Payment*. Any payments made by the subsidiary undertakings in respect of these arrangements are treated as a return of this investment.

2 INVESTMENTS–SUBSIDIARY UNDERTAKINGS

	£m
Cost:	
At 1 January 2021	14,688
Cost of share-based payments in respect of employees of subsidiary undertakings less receipts from subsidiaries in respect of those payments	28
At 31 December 2021	14,716

Details of the Company's subsidiary undertakings and joint venture and associates undertakings are listed on pages 190 and 195.

The carrying value of the Company's investments in subsidiary undertakings has been reviewed for new indicators of impairment in accordance with IAS 36 *Impairment of Assets*. No indicators of impairment were identified at 31 December 2021.

In the prior year, the recoverable amount was determined based on value in use which required the determination of appropriate assumptions (which were sources of estimation uncertainty) in relation to the cash flow forecasts (including the impact of climate change), the long-term growth rate to be applied and the risk-adjusted discount rate used to discount the estimated cash flows to present value. The considerations of the impact of climate change are included in note 1 of the Consolidated Financial Statements. The Directors determined that no impairment charge was required and an increase in the discount rate used from c. 9% to c. 10% would have caused the carrying amount of the Company's investment to equal its recoverable amount. As per note 1, there has been a moderate decrease in the cost of capital during 2021.

3 TRADE AND OTHER RECEIVABLES

	2021 £m	2020 £m
Other receivables	1	–

4 TRADE AND OTHER PAYABLES

	2021 £m	2020 £m
Amounts owed to subsidiary undertakings	335	331

Amounts owed to subsidiary undertakings are interest-free and repayable on demand.

5 FINANCIAL LIABILITIES

C Shares

Movements during the year were as follows:

	C Shares of 0.1p Millions	Nominal value £m
At 1 January 2021	27,540	28
Redeemed	(2,612)	(3)
At 31 December 2021	24,928	25

The rights attaching to C Shares are set out on page 217.

6 SHARE CAPITAL

	Non-equity			Equity	
	Special Share of £1	Preference shares of £1 each	Nominal value £m	Ordinary shares of 20p each Millions	Nominal value £m
Issued and fully paid					
At 1 January 2021	1	–	–	8,368	1,674
At 31 December 2021	1	–	–	8,368	1,674

The rights attaching to each class of share are set out on page 217.

In accordance with IAS 32, the Company's non-cumulative redeemable preference shares (C Shares) are classified as financial liabilities. Accordingly, movements in C Shares are included in note 5.

7 RECONCILIATION OF NET ASSETS BETWEEN ROLLS-ROYCE HOLDINGS PLC GROUP AND COMPANY

As at 31 December 2021, Rolls-Royce Holdings plc consolidated group had net liabilities of £4.6bn (2020: £4.9bn) compared with £14.4bn (2020: £14.3bn) of net assets of the Company. The Company is a holding company and does not trade in its own right. The Company was incorporated in 2011 and became the Rolls-Royce holding company through a Scheme of Arrangement. On becoming the Rolls-Royce holding company, the value of the Company's investment in subsidiaries was based on the market capitalisation of the Rolls-Royce group at that time. There was an increase in the investment as a result of a capital injection to Rolls-Royce Group Limited during 2020. The Group's Consolidated Financial Statements are prepared on a historical cost basis except where UK adopted international accounting standards requires a valuation basis to be applied (see page 186 for further details). As different principles are applied in preparing the Company and consolidated group balance sheets there is a difference in the financial position reported. Examples of such differences include the following items that are in the Consolidated balance sheet but not reflected in the Company's balance sheet: liabilities of £8,836m as a result of IFRS 15; and financial liabilities of £3,039m arising from the recognition at fair value of foreign exchange derivatives held to manage exposure on the Group's future trading.

8 CONTINGENT LIABILITIES

Where the Company enters into financial guarantee contracts to guarantee the indebtedness of other companies within its group, these guarantee contracts are considered to be contingent liabilities until such time as it becomes probable that the Company will be required to make a payment under the guarantee.

At 31 December 2021, these guarantees amounted to £10,458m (2020: £10,522m) of which total drawn is £5,958m (2020: £5,022m).

9 OTHER INFORMATION

Employees
The Company had no employees in 2021 (2020: none).

Share-based payments
Shares in the Company have been granted to employees of the Group as part of share-based payment plans, and are charged in the employing company.

Emoluments of Directors
The remuneration of the Directors of the Company is shown below, further information is in the Directors' Remuneration Report on pages 87 to 104.

The total amount of remuneration paid to Directors for the year ended 31 December 2021 was £6,920,000 (2020: £2,690,000). £3,840,000 of this was attributed to the highest paid Director (2020: £889,000). A cash allowance in lieu of company contributions to a pensions scheme was also paid to three Directors (2020: two), which totalled £185,000 (2020: £364,000). No Directors exercised share options during the year (2020: none) nor received vested shares under the Long-Term Incentive Plan (2020: none).

No Director accrued any retirement benefits in the year (2020: none).

SUBSIDIARIES

As at 31 December 2021, the companies listed below and on the following pages are indirectly held by Rolls-Royce Holdings plc except Rolls-Royce Group Limited which is 100% directly owned by Rolls-Royce Holdings plc. The financial year end of each company is 31 December unless otherwise indicated.

Company name	Address	Class of shares	% of class held
Aeromaritime America, Inc.	M&H Agent Services, Inc., 1850 North Central Avenue, Suite 2100, Phoenix, Arizona 85004, United States	Common	100
Aeromaritime Mediterranean Limited	7 Industrial Estate, Hal Far, Birzebbuga, BBG 3000, Malta	Ordinary	100
Aerospace Transmission Technologies GmbH [1]	Adelheidstrasse 40, D-88046, Friedrichshafen, Germany	Capital Stock	50
Amalgamated Power Engineering Limited [2]	London [3]	Deferred Ordinary	100 100
Bristol Siddeley Engines Limited [2]	London [3]	Ordinary	100
Brown Brothers & Company Limited [2]	Taxiway, Hillend Industrial Estate, Dalgety Bay, Dunfermline, Fife, KY11 9JT, Scotland	Ordinary	100
C.A. Parsons & Company Limited [2]	London [3]	Ordinary	100
Derby Specialist Fabrications Limited [2]	London [3]	Ordinary	100
Europea Microfusioni Aerospaziali S.p.A.	Zona Industriale AS1, 83040 Morra de Sanctis, Avellino, Italy	Ordinary	100
Heaton Power Limited [2]	London [3]	Ordinary	100
Industria de Tuberías Aeronáuticas México S.A. de C.V.	Acceso IV, No.6B, Zona Industrial Benito Juárez, Querétaro, 76120, Mexico	Class A	100
Industria de Tuberías Aeronáuticas S.A.U.	Pabellón Industrial, Torrelarrgoiti, Parcela 5H, Naves 7 a 10, Zamudia, Vizcaya, Spain	Ordinary	100
Industria de Turbo Propulsores S.A.U.	Parque Technológico Edificio 300, 48170 Zamudio, Vizcaya, Spain	Ordinary	100
ITP Aero UK Limited	The Whittle Estate, Cambridge Road, Whetstone, Leicester, LE8 6LH, England	Ordinary	100
ITP Engines UK Limited	The Whittle Estate, Cambridge Road, Whetstone, Leicester, LE8 6LH, England	Ordinary	100
ITP Externals India Private Ltd	Plot 60/A, IDA Gandhi Nagar, Hyderabad, 500037, India	Ordinary	100
ITP Externals S.L.U.	Pabellón Industrial, Polígono Ugaldeguren I, PIIIA, Pab 1–2 Zamudio, Vizcaya, Spain	Ordinary	100
ITP Ingeniería y Fabricación S.A. de C.V.	Acceso IV, No.6D, Zona Industrial Benito Juárez, Querétaro, 76120, Mexico	Class A Class B	100 100
ITP México Fabricación S.A. de C.V.	Acceso IV, No.6, Zona Industrial Benito Juárez, Querétaro, 76120, Mexico	Class A	100
ITP México S.A. de C.V.	Acceso IV, No.6, Zona Industrial Benito Juárez, Querétaro, 76120, Mexico	Fixed capital B Variable capital B	100 100
ITP Next Generation Turbines S.L.U.	Parque Technológico Edificio 300, 48170 Zamudio, Vizcaya, Spain	Ordinary	100
John Thompson Cochran Limited [2]	Taxiway, Hillend Industrial Estate, Dalgety Bay, Dunfermline, Fife, KY11 9JT, Scotland	6% Cumulative Preference Ordinary	100 100
Karl Maybach-Hilfe GmbH	Maybachplatz 1, 88045, Friedrichshafen, Germany	Capital Stock	100
Kinolt FZE [4]	Warehouse Number FZLIU10BD09, Liu 10, BD09 Jafza South Jebel Ali Free Zone, PO Box 263346, Dubai, United Arab Emirates	Ordinary	100
Kinolt Immo SA	Rue de l'Avenir 61, 4460, Grace-Hollogne, Belgium	Ordinary	100
Kinolt Immobilien SA	Rue de l'Avenir 61, 4460, Grace-Hollogne, Belgium	Ordinary	100
Kinolt LLC [4]	Electrozavodskaya str, 33, bld.5, floor 4, room VII, office 12, Moscow, 107076, Russia	Ordinary	100

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[2] Dormant entity.
[3] Kings Place, 90 York Way, London, N1 9FX, England.
[4] Entity in liquidation.
[5] Though the interest held is 49%, the Company controls the entity (see note 1 to the Consolidated Financial Statements) and, as a result, consolidates the entity and records a non-controlling interest.
[6] Reporting year end is 31 March.
[7] Moor Lane, Derby, Derbyshire, DE24 8BJ, England.
[8] Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19809, United States.
[9] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ended 31 December 2021. Rolls-Royce plc will issue a guarantee pursuant to s479A in relation to the liabilities of the entity.
[10] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ending 31 March 2022. Rolls-Royce plc will issue a guarantee pursuant to S479A in relation to the liabilities of the entity.
[11] The entity is not included in the consolidation as Rolls-Royce plc does not have a beneficial interest in the net assets of the entity.
[12] The entity is accounted for as a joint operation (see note 1 to the Consolidated Financial Statements).

Company name	Address	Class of shares	% of class held
Kinolt Trading and Contracting LLC [5]	REGUS Service Office, Office No. 1034, Shoumoukh Tower, 10th Floor, Tower B, C-Ring Road, Al Sadd, PO Box 207207, Doha, Qatar	Ordinary	49
Kinolt Sistemas de UPS Limitada	Alameda dos Maracatins 780-2502, Indianopolis 04089-001, Sao Paulo, Brazil	Ordinary	100
Kinolt Sistemas de UPS SpA	Bucarest No 17 Oficina, No 33, Previdencia, Santiago, Chile	Ordinary	100
Kinolt UK Limited	101/102 Cirencester Business Park, Love Lane, Cirencester, GL7 1XD, United Kingdom	Ordinary	100
LLC Rolls-Royce Solutions Rus	Shabolovka Street 2, 119049, Moscow, Russian Federation	Ordinary	100
Manse Opus Management Company Limited [6]	Third Floor Queensberry House, 3 Old Burlington Street, London, United Kingdom, W1S 3AE	Limited by guarantee	33
MTU India Private Limited [6]	6th Floor, RMZ Galleria, S/Y No. 144 Bengaluru, Bangalore, Kamataka 560,064, India	Ordinary	100
MTU Polska Sp. z o.o.	Ul. Lekka 3., Lokal U4. Raum, PLZ: 01-910, Ort: Warszawa, Poland	Ordinary	100
NEI International Combustion Limited [2]	London [3]	Ordinary	100
NEI Mining Equipment Limited [2]	London [3]	Ordinary	100
NEI Nuclear Systems Limited [2]	London [3]	Ordinary	100
NEI Parsons Limited [2]	London [3]	Ordinary	100
NEI Peebles Limited [2]	London [3]	Ordinary	100
NEI Power Projects Limited [2]	London [3]	Ordinary	100
Nightingale Insurance Limited	PO Box 33, Dorey Court, Admiral Park, St Peter Port, GY1 4AT, Guernsey	Ordinary	100
No-Break Power Limited [2]	Unit 29 Birches Industrial Estate, East Grinstead, England, RH19 1XZ	Ordinary	100
Power Jets (Research and Development) Limited [2]	The Whittle Estate, Cambridge Road, Whetstone, Leicester, LE8 6LH, England	Ordinary	100
Powerfield Limited [2]	Derby [7]	Ordinary	100
Precision Casting Bilbao S.A.U.	Calle El Barracón 1, Baracaldo, Vizcaya, 48910, Spain	Ordinary	100
PT Rolls-Royce	Secure Building Blok B, Jl. Raya Protokol Halim, Perdanakusuma, Jakarta, 13610, Indonesia	Ordinary	100
PT Rolls Royce Solutions Indonesia	Secure Building Blok B, Jl. Raya Protokol Halim, Perdanakusuma, Jakarta, 13610, Indonesia	Ordinary	100
Rolls-Royce (Ireland) Unlimited Company [2]	Ulster International Finance, 1st Floor IFSC House, IFSC, Dublin 1, Ireland	Ordinary	100
Rolls-Royce (Thailand) Limited	4, 4.5 Level 12, Suite 1299, Rajdamri Road, Pathumwan, Bangkok, 10330, Thailand	Ordinary	100
Rolls-Royce Aero Engine Services Limited [2]	London [3]	Ordinary	100
Rolls-Royce Australia Pty Limited	Level 1, 60 Martin Place, Sydney NSW 2000, Australia	Ordinary	100
Rolls-Royce Australia Services Pty Limited	Level 1, 60 Martin Place, Sydney NSW 2000, Australia	Ordinary	100
Rolls-Royce Brasil Limitada	Rua Jose Versolato, No. 111, Torre B, Sala 2502, Centro, São Bernando do Campo, Sao Paulo, CEP 09750-730, Brazil	Quotas	100
Rolls-Royce Canada Limited	9500 Côte de Liesse, Lachine, Québec H8T 1A2, Canada	Common Stock	100
Rolls-Royce Chile SpA	Alcantra 200 office 601, Piso 6, C.O, 7550159 Las Condes, Santiago, Chile	Ordinary	100
Rolls-Royce China Holding Limited	305 Indigo Building 1, 20 Jiuxianqiao Road, Beijing, 100016, China	Registered Capital	100
Rolls-Royce Commercial Aero Engines Limited [2]	London [3]	Ordinary	100
Rolls-Royce Control Systems Holdings Co [2]	Wilmington [8]	Common Stock	100
Rolls-Royce Controls and Data Services Limited [2]	London [3]	Ordinary	100
Rolls-Royce Controls and Data Services (NZ) Limited	c/o Deloitte, 80 Queen Street, Auckland Central, Auckland 1010, New Zealand	Ordinary	100
Rolls-Royce Controls and Data Services (UK) Limited	Derby [7]	Ordinary	100
Rolls-Royce Corporation	Wilmington [8]	Common Stock	100
Rolls-Royce Crosspointe LLC	Wilmington [8]	Partnership (no equity)	100

Company name	Address	Class of shares	% of class held
Rolls-Royce Defense Products and Solutions, Inc.	Wilmington [8]	Common Stock	100
Rolls-Royce Defense Services, Inc.	Wilmington [8]	Common Stock	100
Rolls-Royce Deutschland Ltd & Co KG	Amtsgericht Potsdam, Blankenfelde-Mahlow, Germany	Ordinary	100
Rolls-Royce Electrical Norway AS	Jarleveien 8A, 7041, Trondheim 500, Norway	Ordinary	100
Rolls-Royce Energy Angola, Limitada [2]	Rua Rei Katyavala, Edificio Rei Katyavala, Entrada B, Piso 8, Luanda, Angola	Quota	100
Rolls-Royce Energy Systems Inc. [2]	Wilmington [8]	Common Stock	100
Rolls-Royce Engine Services Holdings Co.	Wilmington [8]	Common Stock	100
Rolls-Royce Engine Services Limitada Inc. [4]	Bldg. 06 Berthaphil Compound, Jose Abad Santos Avenue, Clark Special Economic Zone, Clark, Pampanga, Philippines	Capital Stock	100
Rolls-Royce Erste Beteiligungs GmbH	Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany	Capital Stock	100
Rolls-Royce Finance Company Limited [2]	London [3]	Deferred Ordinary	100
Rolls-Royce Finance Holdings Co.	Wilmington [8]	Common Stock	100
Rolls-Royce Fuel Cell Systems Limited [9]	Derby [7]	Ordinary	100
Rolls-Royce General Partner (Ireland) Limited	29 Earlshot Terrace, Dublin 2, Ireland	Ordinary	100
Rolls-Royce General Partner Limited [2]	London [3]	Ordinary	100
Rolls-Royce Group Limited	London [3]	Ordinary Ordinary A	100
Rolls-Royce High Temperature Composites, Inc.	Corporation Service Company, 2710 Gateway Oaks Drive, Suite 150N, Sacramento, California 95833, United States	Ordinary	100
Rolls-Royce Holdings Canada Inc.	9500 Côte de Liesse, Lachine, Québec H8T 1A2, Canada	Common C	100
Rolls-Royce Hungary Kft	Gizella U. 51–57, 1143 Budapest, Hungary	Cash shares	100
Rolls-Royce India Limited [2, 6, 10]	Derby [8]	Ordinary	100
Rolls-Royce India Private Limited [6]	Birla Tower West, 2nd Floor 25, Barakhamba Road, New Delhi, 110001, India	Equity	100
Rolls-Royce Industrial & Marine Power Limited [2]	London [3]	Ordinary	100
Rolls-Royce Industrial Power (India) Limited [2, 6]	Derby [7]	Ordinary	100
Rolls-Royce Industrial Power Engineering (Overseas Projects) Limited	Derby [7]	Ordinary	100
Rolls-Royce Industries Limited [9]	Derby [7]	Ordinary	100
Rolls-Royce International Limited	Derby [7]	Ordinary	100
Rolls-Royce Japan Co., Limited	31st Floor, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-Ku, Tokyo, 100-6031, Japan	Ordinary	100
Rolls-Royce Leasing Limited	Derby [7]	Ordinary	100
Rolls-Royce Malaysia Sdn. Bhd.	C-2-3A TTDI Plaza, Jalan Wan Kadir 3, Taman Tun Dr Ismail, 6000 Kuala Lumpur, Malaysia	Ordinary	100
Rolls-Royce Marine North America, Inc.	Wilmington [8]	Common Stock	100
Rolls-Royce Military Aero Engines Limited [2, 6, 10]	London [3]	Ordinary	100
Rolls-Royce New Zealand Limited	c/o Deloitte, 80 Queen Street, Auckland Central, Auckland 1010, New Zealand	Ordinary	100
Rolls-Royce North America (USA) Holdings Co.	Wilmington [8]	Common Stock	100
Rolls-Royce North America Holdings, Inc.	Wilmington [8]	Common Stock	100

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[4] Entity in liquidation.
[5] Though the interest held is 49%, the Company controls the entity (see note 1 to the Consolidated Financial Statements) and, as a result, consolidates the entity and records a non-controlling interest.
[6] Reporting year end is 31 March.
[7] Moor Lane, Derby, Derbyshire, DE24 8BJ, England.
[8] Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19809, United States.
[9] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ended 31 December 2021. Rolls-Royce plc will issue a guarantee pursuant to s479A in relation to the liabilities of the entity.
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Company name	Address	Class of shares	% of class held
Rolls-Royce North America Ventures, Inc.	Wilmington [8]	Common Stock	100
Rolls-Royce North America, Inc.	Wilmington [8]	Common Stock	100
Rolls-Royce North American Technologies, Inc.	Wilmington [8]	Common Stock	100
Rolls-Royce Oman LLC	Bait Al Reem, Business Office #131, Building No 81, Way No 3409, Block No 234, Al Thaqafa Street, Al Khuwair, PO Box 20, Postal Code 103, Oman	Ordinary	100
Rolls-Royce Operations (India) Private Limited [2, 6]	Birla Tower West, 2nd Floor, 25 Barakhamba Road, New Delhi, 110001, India	Ordinary	100
Rolls-Royce Overseas Holdings Limited	Derby [7]	Ordinary Ordinary A	100
Rolls-Royce Overseas Investments Limited	Derby [7]	Ordinary	100
Rolls-Royce Placements Limited	London [3]	Ordinary	100
Rolls-Royce plc	London [3]	Ordinary	100
Rolls-Royce Power Engineering plc	Derby [7]	Ordinary	100
Rolls-Royce Power Systems AG	Maybachplatz 1, 88045, Friedrichshafen, Germany	Ordinary	100
Rolls-Royce Retirement Savings Trust Limited [2, 6]	Derby [7]	Ordinary	100
Rolls-Royce Saudi Arabia Limited	PO Box 88545, Riyadh, 11672, Saudi Arabia	Cash shares	100
Rolls-Royce Singapore Pte. Limited	6 Shenton Way, #33-00 OUE, Downtown Singapore 068809, Singapore	Ordinary	100
Rolls-Royce SMR Limited	Derby [7]	Ordinary	91.2
Rolls-Royce Solutions (Suzhou) Co. Ltd	9 Long Yun Road, Suzhou Industrial Park, Suzhou 215024, Jiang Su, China	Ordinary	100
Rolls-Royce Solutions Africa (Pty) Limited	36 Marconi Street, Montague Gardens, Cape Town, 7441, South Africa	Capital Stock	100
Rolls-Royce Solutions America Inc.	Wilmington [8]	Ordinary	100
Rolls-Royce Solutions Asia Pte. Limited	10 Tukang Innovation Drive, Singapore 618302	Ordinary	100
Rolls-Royce Solutions Augsburg GmbH	Dasinger Strasse 11, 86165, Augsburg, Germany	Capital Stock	100
Rolls-Royce Solutions Benelux B.V.	Merwedestraat 86, 3313 CS, Dordrecht, Netherlands	Ordinary	100
Rolls-Royce Solutions Berlin GmbH	Villa Rathenau, Wilhelminenhofstrasse 75, 12459 Berlin, Germany	Common Seed Preferred Series A Preferred	47.7 100 100
Rolls-Royce Solutions Brasil Limitada	Via Anhanguera, KM 29203, 05276-000 Sao Paulo – SP, Brazil	Ordinary	100
Rolls-Royce Solutions Enerji Deniz Ve Savunma Anonim Şirketi	Hatira Sokak, No. 5, Ömerli Mahellesi, 34555 Arnavutköy, Istanbul, Turkey	Ordinary	100
Rolls-Royce Solutions France S.A.S.	Immeuble Colorado, 8/10 rue de Rosa Luxembourg-Parc des Bellevues 95610, Erangy-sur-Oise, France	Ordinary	100
Rolls-Royce Solutions GmbH	Maybachplatz 1, 88045, Friedrichshafen, Germany	Capital Stock	100
Rolls-Royce Solutions Hong Kong Limited	No.8 Hart Avenue, Unit D, 8th Floor, Tsim Sha Tsui, Kowloon, Hong Kong	Ordinary	100
Rolls-Royce Solutions Ibérica s.l.u.	Calle Copérnico 26–28, 28823 Coslada, Madrid, Spain	Ordinary	100
Rolls-Royce Solutions Israel Limited	4 Ha'Alon Street, South Building, Third Floor, 4059300 Kfar Neter, Israel	Ordinary	100
Rolls-Royce Solutions Italia S.r.l.	Via Aurelia Nord, 328, 19021 Arcola (SP), Italy	Capital Stock	100
Rolls-Royce Solutions Japan Co. Limited	Resorttrust Building 4-14-3, Nishitenma Kita-ku, Osaka 530-0047, Japan	Ordinary	100
Rolls-Royce Solutions Korea Limited	22nd Floor, Olive Tower, 41 Sejongdaero 9 gil, Junggu, 100-737 Seoul, Republic of Korea	Ordinary	100
Rolls-Royce Solutions Liège Holding S.A.	Rue de l'Avenir 61, 4460, Grace-Hollogne, Belgium	Ordinary	100
Rolls-Royce Solutions Liège S.A.	Rue de l'Avenir 61, 4460, Grace-Hollogne, Belgium	Ordinary	100
Rolls-Royce Solutions Magdeburg GmbH	Friedrich-List-Strasse 8, 39122 Magdeburg, Germany	Capital Stock	100
Rolls-Royce Solutions Middle East FZE	S3B5SR06, Jebel Ali Free Zone, South P.O. Box 61141, Dubai, United Arab Emirates	Ordinary	100
Rolls-Royce Solutions Ruhstorf GmbH	Rotthofer Strasse 8, 94099 Ruhstorf a.d. Rott, Germany	Capital Stock	100
Rolls-Royce Solutions South Africa (Pty) Limited	36 Marconi Street, Montague Gardens, Cape Town, 7441, South Africa	Ordinary	100

Company name	Address	Class of shares	% of class held
Rolls-Royce Solutions UK Limited	Derby [7]	Ordinary	100
Rolls-Royce Solutions Willich GmbH	Konrad-Zuse-Str. 3, 47877, Willich, Germany	Ordinary	100
Rolls-Royce Sp z.o.o.	Opolska 100 31-323, Krakow, Poland	Ordinary	100
Rolls-Royce Submarines Limited	Atlantic House, Raynesway, Derby, DE21 7BE, Derbyshire, England	Ordinary	100
Rolls-Royce Technical Support Sarl	Centreda I, Avenue Didier Daurat, 31700 Blagnac, Toulouse, France	Ordinary	100
Rolls-Royce Total Care Services Limited [9]	Derby [7]	Ordinary	100
Rolls Royce Turkey Güç Çözümleri San. ve Tic. Ltd.Şti.	Levazim Mahellesi, Koru Sokagi, Zorlu Center, No. 2 Teras Evler T2 D:204, Zincirlikuyu, Besiktas, Istanbul 34340, Turkey	Cash shares	100
Rolls-Royce UK Pension Fund Trustees Limited [2]	Derby [7]	Ordinary	100
Rolls-Royce Zweite Beteiligungs GmbH	Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany	Capital Stock	100
Ross Ceramics Limited	Derby [7]	Ordinary	100
Servowatch Systems Limited	Endeavour House, Benbridge Industrial Estate, Holloway Road, Heybridge, Maldon, Essex, CM9 4ER, United Kingdom	Ordinary	100
Sharing in Growth UK Limited [11]	Derby [7]	Limited by guarantee	100
Spare IPG 20 Limited [2]	London [3]	Ordinary	100
Spare IPG 21 Limited [2]	London [3]	Ordinary	100
Spare IPG 24 Limited [2]	London [3]	Ordinary	100
Spare IPG 32 Limited [2]	London [3]	7.25% Cumulative Preference Ordinary	100
Spare IPG 4 Limited [2]	London [3]	Ordinary	100
The Bushing Company Limited [2]	London [3]	Ordinary	100
Timec 1487 Limited [2]	London [3]	Ordinary	100
Turbine Surface Technologies Limited [11]	Derby [7]	Ordinary A Ordinary B	Nil 100
Turborreactores S.A. de C.V.	Acceso IV, No.6C, Zona Industrial Benito Juárez, Querétaro, 76120, Mexico	Class A Class B	100
Vessel Lifter, Inc. [2]	Corporation Service Company, 1201 Hays Street, Tallahassee, Florida 32301, United States	Common Stock	100
Vinters Defence Systems Limited [2]	London [3]	Ordinary	100
Vinters Engineering Limited	Derby [7]	Ordinary	100
Vinters International Limited [9]	Derby [7]	Ordinary	100
Vinters Limited [9]	Derby [7]	Ordinary	100
Vinters-Armstrongs (Engineers) Limited [2]	London [3]	Ordinary	100
Vinters-Armstrongs Limited [2]	London [3]	Ordinary B	100
Yocova PTE. Ltd.	6 Shenton Way, #33-00 OUE, Downtown Singapore 068809, Singapore	Ordinary	100

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[9] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ended 31 December 2021. Rolls-Royce plc will issue a guarantee pursuant to s479A in relation to the liabilities of the entity.
[10] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ending 31 March 2022. Rolls-Royce plc will issue a guarantee pursuant to S479A in relation to the liabilities of the entity.
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[12] The entity is accounted for as a joint operation (see note 1 to the Consolidated Financial Statements).

JOINT VENTURES AND ASSOCIATES

Company name	Address	Class of shares	% of class held	Group interest held %
Aero Gearbox International SAS [12]	18 Boulevard Louis Sequin, 92700 Colombes, France	Ordinary	50	50
Airtanker Holdings Limited	Airtanker Hub, RAF Brize Norton, Carterton, Oxfordshire, OX18 3LX, England	Ordinary	23	23
Airtanker Services Limited	Airtanker Hub, RAF Brize Norton, Carterton, Oxfordshire, OX18 3LX, England	Ordinary	23.5	23.5
Alpha Leasing (US) (No.2) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Leasing (US) (No.4) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Leasing (US) (No.5) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Leasing (US) (No.6) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Leasing (US) (No.7) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Leasing (US) (No.8) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Leasing (US) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Alpha Partners Leasing Limited	1 Brewer's Green, London, SW1H 0RH, England	Ordinary A	100	50
CFMS Limited	43 Queen Square, Bristol, BS1 4QP, England	Limited by guarantee	–	50
Clarke Chapman Portia Port Services Limited	Maritime Centre, Port of Liverpool, Liverpool, L21 1LA, England	Ordinary A	100	50
Consorcio Español para el Desarrollo Industrial del Helicóptero de Ataque Tigre, A.I.E.	Avda. de Aragón 404, 28022 Madrid, Spain	Partnership (no equity held)	–	50
Consorcio Español para el Desarrollo Industrial del Programa Eurofighter, A.I.E.	Paseo de John Lennon, s/n, edificio T22, 2ª planta, Getafe, Madrid, Spain	Partnership (no equity held)	–	50
Egypt Aero Management Services (in liquidation)	EgyptAir Engine Workshop, Cairo International Airport, Cairo, Egypt	Ordinary	50	50
EPI Europrop International GmbH	Pelkovenstr. 147, 80992 München, Germany	Capital Stock	44	44
Eurojet Turbo GmbH	Lilienthalstrasse 2b, 85399 Halbergmoos, Germany	Ordinary	46	46
Force MTU Power Systems Private Limited	Mumbai Pune Road, Akurdi, Pune, Maharashtra 411035, India	Capital Stock	49	49
Genistics Holdings Limited	Derby [7]	Ordinary A	100	50
Global Aerospace Centre for Icing and Environmental Research Inc. [12]	1000 Marie-Victorin Boulevard, Longueuil Québec J4G 1A1, Canada	Ordinary	50	50
Hong Kong Aero Engine Services Limited	33rd Floor, One Pacific Place, 88 Queensway, Hong Kong	Ordinary	50	50
International Aerospace Manufacturing Private Limited [6,12]	Survey No. 3 Kempapura Village, Varthur Hobli, Bangalore, KA 560037, India	Ordinary	50	50
Light Helicopter Turbine Engine Company (unincorporated partnership)	Suite 119, 9238 Madison Boulevard, Madison, Alabama 35758, United States	Partnership (no equity held)	–	50
MEST Co., Limited	97 Bukjeonggongdan 2-gil, Yangsan-si, Gyeongsangnam-do, 50571, Republic of Korea	Normal	46.8	46.8
Metlase Limited	Unipart House, Garsington Road, Cowley, Oxford, OX4 2PG, England	Ordinary B	100	20
MTU Cooltech Power Systems Co., Limited	Building No. 2, No. 1633 Tianchen Road, Qingpu District, Shanghai, China	Equity	50	50
MTU Power Systems Sdn. Bhd.	Level 10 Menara LGB, 1 Jalan Wan Kadir Taman Tun Dr Ismail 6000 Kuala Lumpur, Malaysia	Ordinary A	100	49
MTU Turbomeca Rolls-Royce ITP GmbH	Am Söldnermoos 17, 85399 Hallbergmoos, Germany	Capital Stock	50	50

Company name	Address	Class of shares	% of class held	Group interest held %
MTU Turbomeca Rolls-Royce GmbH	Am Söldnermoos 17, 85399 Hallbergmoos, Germany	Capital Stock	33.3	33.3
MTU Yuchai Power Company Limited	No 7 Danan Road, Yuzhou, Yulin, Guangxi, China, 537005, China	Capital Stock	50	50
N3 Engine Overhaul Services GmbH & Co KG	Gerhard-Höltje-Strasse 1, D-99310, Arnstadt, Germany	Capital Stock	50	50
N3 Engine Overhaul Services Verwaltungsgesellschaft Mbh	Gerhard-Höltje-Strasse 1, D-99310, Arnstadt, Germany	Capital Stock	50	50
Rolls Laval Heat Exchangers Limited [2]	Derby [7]	Ordinary	50	50
Rolls-Royce & Partners Finance (US) (No 2) LLC	Wilmington [8]	Partnership (no equity held)	–	50
Rolls-Royce & Partners Finance (US) LLC	Wilmington [8]	Partnership (no equity held)	–	50
SAFYRR Propulsion Limited [2]	Derby [7]	B Shares	100	50
Shanxi North MTU Diesel Co. Limited	No.97 Daqing West Road, Datong City, Shanxi Province, China	Ordinary	49	49
Singapore Aero Engine Services Private Limited	11 Calshot Road, 509932, Singapore	Ordinary	50	50
Taec Ucak Motor Sanayi AS	Buyukdere Caddesi, Prof. Ahmet Kemal Aru, Sokagi Kaleseramik, Binasi Levent No. 4, Besiktas, Istanbul, Turkey	Cash Shares	49	49
Techjet Aerofoils Limited [12]	Tefen Industrial Zone, PO Box 16, 24959, Israel	Ordinary A Ordinary B	50 50	50
Texas Aero Engine Services LLC [2]	The Corporation Trust Company, 1209, Orange Street, Wilmington, Delaware 19801, United States	Partnership (no equity held)	–	50
TRT Limited	Derby [7]	Ordinary B	100	50
Turbo-Union GmbH	Lilienthalstrasse 2b, 85399 Halbergmoos, Germany	Capital Stock	40.0	40.0
United Battery Management GmbH	Wilhelminenhofstr. 76/77, 12459, Berlin, Germany	Ordinary	30	25.7
Xian XR Aero Components Co., Limited [12]	Xujiawan, Beijiao, Po Box 13, Xian 710021, Shaanxi, China	Ordinary	49	49

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[3] Kings Place, 90 York Way, London, N1 9FX, England.
[4] Entity in liquidation.
[5] Though the interest held is 49%, the Company controls the entity (see note 1 to the Consolidated Financial Statements) and, as a result, consolidates the entity and records a non-controlling interest.
[6] Reporting year end is 31 March.
[7] Moor Lane, Derby, Derbyshire, DE24 8BJ, England.
[8] Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19809, United States.
[9] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ended 31 December 2021. Rolls-Royce plc will issue a guarantee pursuant to s479A in relation to the liabilities of the entity.
[10] Entity to take advantage of s479A Companies Act 2006 (s479A) audit exemption for the year ending 31 March 2022. Rolls-Royce plc will issue a guarantee pursuant to S479A in relation to the liabilities of the entity.
[11] The entity is not included in the consolidation as Rolls-Royce plc does not have a beneficial interest in the net assets of the entity.
[12] The entity is accounted for as a joint operation (see note 1 to the Consolidated Financial Statements).

INDEPENDENT AUDITORS' REPORT

INDEPENDENT AUDITORS' REPORT TO THE MEMBERS OF ROLLS-ROYCE HOLDINGS PLC

Report on the audit of the financial statements

Opinion

In our opinion:

- Rolls-Royce Holdings plc's consolidated financial statements and company financial statements (the "financial statements") give a true and fair view of the state of the group's and of the company's affairs as at 31 December 2021 and of the group's profit and the group's cash flows for the year then ended;
- the consolidated financial statements have been properly prepared in accordance with UK-adopted international accounting standards;
- the company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law); and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual Report, which comprise: the consolidated and company balance sheets as at 31 December 2021; the consolidated income statement and consolidated statement of comprehensive income, the consolidated cash flow statement, and the consolidated and company statements of changes in equity for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

Our opinion is consistent with our reporting to the Audit Committee.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

During the period, we identified that we had been involved in the administrative preparation and filing of a subsidiary company's annual return under local company law, which is a prohibited service under paragraph 5.40 of the FRC's Ethical Standard. The service related to an immaterial subsidiary that did not form part of our evidence in respect of the group audit.

We confirm that based on our assessment of the breach, nature and scope of the service and the subsequent action taken, the provision of this service has not compromised our professional judgement or integrity and as such believe that an objective, reasonable and informed third party in possession of these facts would conclude that our integrity and objectivity has not been impaired and accordingly we remain independent for the purposes of the audit.

Other than the matter referred to above, to the best of our knowledge and belief, we declare that no non-audit services prohibited by the FRC's Ethical Standard were provided to the group or the company.

Other than those disclosed in note 7 to the consolidated financial statements, we have provided no non-audit services to the company or its controlled undertakings in the period under audit.

Our audit approach

Context

There is significant interest from stakeholders including members about how climate change will affect the group's businesses and its future financial performance. The Sustainability section of the Strategic Report describes the group's decarbonisation strategy and explains how climate change could have a significant impact on the group's businesses but also provides a number of significant opportunities. The group has publicly set out its 2030 net carbon zero from operations (excluding product testing and development) and net zero 2050 commitments and has a strategy aligned to meeting these albeit the pathway to the 2050 net zero target is not fully developed.

A number of financial risks could arise from both the physical and transitional risks due to climate change. Management, assisted by an independent expert, has evaluated these as disclosed in the Sustainability section of the Strategic Report. This, with further analysis has then informed the evaluation of financial risks that have been reflected by management in the preparation of the financial statements, or where appropriate allowed it to conclude there is no material impact. The future financial impacts are clearly uncertain given the timeframe involved and their dependency on how Governments, global markets, corporations and society respond to the issue of climate change. Accordingly, financial statements cannot capture all possible future outcomes as these are not yet known.

As part of our audit we understood the process management and its expert on climate change undertook to support the disclosures made within the Sustainability section of the Strategic Report (including the group's TCFD disclosures) and its assessment of the impact on the financial statements. Using our knowledge of the business and with assistance from our internal climate and valuation experts, we evaluated management's risk assessment, its estimates as described in note 1 of the consolidated financial statements and resulting disclosures where significant.

The key areas of the financial statements where management evaluated that climate change has a potential significant impact, taking into account the group's 2030 and 2050 commitments, are:

— Long term contract accounting in the UK Civil business (including contract loss provisions);

— The recoverability of deferred tax assets in the UK; and

— The recoverability of the carrying value of goodwill and certain intangible assets and the company's investments in subsidiary undertakings on the company balance sheet.

Where significant further details of how climate change has been considered in the above areas and our audit response is given in the key audit matters that follow. The impact of climate change in respect of the impairment assessments for goodwill and certain intangible assets did not give rise to an impairment or result in the assessment being sensitive to reasonably possible changes in key assumptions in those assessments including a sensitivity to reflect the impact of the group's 1.5°C scenario aligned to the Paris Agreement that has been used in its TCFD disclosures. We also considered the impact of climate change in the Directors' assessments of going concern and viability and the associated disclosures in the going concern and viability statements within the Strategic Report.

Overview

Audit scope

— Following our assessment of the risks of material misstatement of the consolidated financial statements we subjected 37 individual components (including three joint ventures) to full scope audits for group purposes, which following an element of sub-consolidation, equates to 16 group reporting opinions. In addition, targeted specified procedures were performed for eight components.

— In addition, the group engagement team audited the company and other centralised functions including those covering the group treasury operations, corporate costs, corporate taxation, post-retirement benefits, and certain goodwill and intangible asset impairment assessments. The group engagement team performed audit procedures over the group consolidation and financial statements disclosures and performed group level analytical procedures over out of scope components.

— The components on which full scope audits, targeted specified procedures and centralised work was performed accounted for 93% of revenue from continuing and discontinued operations, 82% of loss before tax from continuing and discontinued operations and 89% of total assets.

— Central audit testing was performed where appropriate for reporting components in group audit scope who are supported by the group's Finance Service Centres (FSCs).

— As part of the group audit supervision process, the group engagement team performed 13 virtual file reviews, which included meetings on approach and conclusions with the component teams and review of their audit files and final deliverables. In person site visits to component teams in the UK and US and a virtual site visit to a component team in Germany were also performed.

Key audit matters

— Long-term contract accounting and associated provisions (group)

— Deferred tax asset recognition and recoverability (group)

— Translation of foreign-currency denominated transactions and balances (group)

— Presentation and accuracy of underlying results and disclosure of other one-off items (including exceptional items) (group)

— Determination of ITP Aero disposal group (group)

— Accounting treatment and related consolidation adjustments for Civil engine sales to related entities (group)

— Recoverability of the company's investment in subsidiary undertakings (company)

Materiality

- Overall group materiality: £80m (2020: £70m) based on approximately 0.6% of four year average underlying revenues from continuing and discontinued operations.
- Overall company materiality: £147m (2020: £147m) based on approximately 1.0% of total assets.
- Performance materiality: £60m (2020: £53m) (group) and £110m (2020: £110m) (company).

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

This is not a complete list of all risks identified by our audit.

Determination of the ITP Aero disposal group and the accounting treatment and related consolidation adjustments for Civil engine sales to related entities are new key audit matters this year. Recoverability of accounts receivable and contract assets, recoverability of intangible programme assets, ability of the group and company to continue as a going concern and impact of the COVID-19 pandemic, which were key audit matters last year, are no longer included because of developments in the industry and the outlook since 2020. The group recorded £481m of impairments to development expenditure in the year ended 31 December 2020 which included those programmes most sensitive to changes in forecasts. Following additional liquidity raised by the group in the year and the timing of the next debt maturity, we did not consider the ability of the company or group to continue as a going concern to be a key audit matter. Notwithstanding this, we audited management's assessment as detailed in the relevant section below. We have captured the impact of COVID-19, where applicable, separately in the individual key audit matters below. Otherwise, the key audit matters below are consistent with last year.

Key audit matter	How our audit addressed the key audit matter
Long-term contract accounting and associated provisions (group) *Audit Committee report and note 1 to the consolidated financial statements – Accounting policies – Revenue recognition* The Civil Aerospace and Defence businesses operate primarily with long-term customer contracts that span multiple periods. These long-term contracts require a number of assumptions to be made in order to determine the expected lifetime revenue and costs of the contract and the amounts of revenue and profit that are recognised in each reporting period. Small adjustments can have a significant impact on the results of an individual financial year. In addition, changes to the operating condition of engines such as changes in route structure can result in different performance assumptions and hence cost profiles which impact the expected profitability of a contract. For Defence, long term contracts tend to be for a fixed price or based on a cost plus or target cost reimbursement for qualifying costs and there are also some flying hours arrangements. For Civil Aerospace aftermarket contracts, cash is earned based on engine flying hours, which requires management to estimate future engine flying hours (EFH) and associated pricing in order to arrive at the total income expected over the life of a contract. There remains uncertainty over the speed and shape of recovery in EFH for large engines. The group expects international passenger traffic to reach 2019 levels in late 2024.	We focused our work on a number of contracts where we consider there to be the highest degree of management judgement or estimation and designed specific procedures over the long-term contract accounting targeted at the associated risks. We also sample tested the remaining population of contracts. This approach was applied in the Civil Aerospace and Defence businesses and was substantive in nature. The audit procedures performed included: – We attended meetings with Civil Aerospace and Defence engine programme and customer contract managers in order to understand the operational matters impacting the performance of specific contracts and any amendments to contractual arrangements required by changes to underlying expectations of performance; – We obtained and read the relevant sections of a sample of contracts to understand the key terms including performance obligations and pricing structures; – We assessed how management had forecast the speed and shape of the recovery of engine flying hours including by considering the downside scenarios modelled and comparing the assumptions to industry data; – We challenged management's judgments and associated risk adjustments relating to the risk of customer default and insolvency, the risk of airlines parking more mature aircraft as a result of COVID-19 and climate change concerns and the ability for contractual protection clauses to be enforced across the customer portfolio; – We re-performed the calculations used to determine the degree of completion for a sample of contracts and this was also used in assessing the magnitude of any catch-up adjustments;

Key audit matter	How our audit addressed the key audit matter
Long-term contract accounting and associated provisions (group) continued In addition, the profitability of aftermarket contracts typically assumes that there will be cost improvements over the lifetime (15–25 years) of the programmes. Significant judgement needs to be applied in determining time-on-wing, whether incremental costs should be treated as wastage or are part of the ongoing cost of servicing a contract, future exchange rates used to translate foreign currency income and costs and other operating parameters used to calculate the projected life cycle. These future costs are also risk adjusted to take into account forecasting accuracy which represents an additional judgement. At the development stage of a programme, agreements are entered into with certain Civil suppliers to share in the risk and rewards of the contracts (Risk and Revenue Sharing Partners – 'RRSP'). This can involve upfront participation fees from the RRSP that are amortised over the engine production phase. In addition, specified revenue and costs are recorded in the consolidated income statement net of the RRSP's share. The nature of the Civil Aerospace business gives rise to a number of contractual guarantees, warranties and potential claims, including the in-service issues of the Trent 1000 programme. The accounting for these can be complex and judgemental and may impact the consolidated income statement immediately or over the life of the contract. The valuation of provisions for the associated amounts may be judgemental and needs to be considered on a contract by contract basis. Management has engaged a third party expert to model the potential impact of climate change on its forecasts and has incorporated these estimates into the long-term contract models. This included an assessment of the impact on aviation demand, the potential impact of carbon prices on the group's direct emissions and those of its suppliers, and the potential impact of climate change on commodity prices in cost estimates. The impact of climate change on long-term contracts is highly uncertain and requires estimates on carbon prices, the cost and speed of decarbonisation, the ability of the group and its suppliers to pass on incremental costs.	— We compared the previously forecast results of a sample of contracts with the actual results to assess the performance of the contract and the historical accuracy of forecasting; — We verified a sample of costs incurred to third party documentation in order to test the assessment of the forecast costs to complete; — We assessed the assumptions relating to life cycle cost reductions to determine the likelihood of realisation and where relevant the speed at which they would be achieved, including the impact on the number of shop visits, validating these assumptions directly with the senior programme engineers; — We obtained support for the risk adjustments made in respect of future costs and challenged management's assumptions through assessment against historical performance, known technical issues and the stage of completion of the programme; — Where disruption has resulted in payments to customers we validated the settlement to contractual agreements, considered the terms of previous settlements, correspondence with customers, the forecast period of further aircraft being on the ground and the completeness of this liability; — We challenged the assessment of provisions for loss making or onerous contracts to determine the completeness of the unavoidable costs to fulfil the contractual obligations including an assessment of the discount rates used and how management has considered the potential impact of climate change; — We assessed the sensitivity of the Trent 1000 provision to reasonable changes in estimates, particularly in respect of the repair and overhaul facility capacity, technical cost creep on the known issues and cost outturns against previous provisions, in determining whether the provision was sufficient; — We read and understood the key terms of a sample of RRSP contracts to assess whether revenue and costs had been appropriately reflected, net of the share attributable to the RRSP in the consolidated income statement; — With assistance from our valuation experts, we considered the appropriateness of the key assumptions used by management's expert to model the impact of climate change, including the reasonableness of the carbon and commodity price forecasts. We validated management's assertions on the ability of suppliers and the group to pass on incremental costs by reviewing a sample of supplier and customer contracts for price change mechanisms. Where appropriate we performed independent sensitivity analysis to determine to what extent reasonably possible changes in these assumptions could result in material changes to the revenue recorded in the year and assessed the appropriateness of the associated disclosures; — We considered whether there were any indicators of management override of controls or bias in arriving at their reported position; and — We also assessed the adequacy of disclosures in note 1 of the key judgements and estimates involved in long-term contract accounting. Based on the work performed, we concur that management's estimates for long-term contract accounting and associated provisions and its disclosures of the key estimates and judgements involved are materially appropriate.

Key audit matter	How our audit addressed the key audit matter
Deferred tax asset recognition and recoverability (group) *Audit Committee report, note 1 to the consolidated financial statements – Accounting policies – Taxation and note 5 to the consolidated financial statements – Taxation* The recognition and recoverability of deferred tax assets in Rolls-Royce plc is a significant judgement. Rolls-Royce plc has recognised significant deferred tax assets on the basis of expected future levels of profitability. The magnitude of the assets recognised, which largely increased in the year as a result of the substantial enactment of the change in UK corporation tax rate from 19% to 25% from 1 April 2023, necessitates the need for a number of assumptions in assessing the future levels of profitability in the UK over an extended period. The additional UK loss recorded for 2021, along with the existence of tax losses brought forward and other deductible temporary differences in Rolls-Royce plc, combined with the impact of COVID-19 and climate change on future forecasts, presents a heightened risk that deferred tax assets previously recognised may not be recoverable. Since the recognised deferred tax asset is recoverable over a long period, management has reflected its assessment of the impact of climate change within the model forecasting probable taxable profits. This incorporates multiple assumptions including future carbon prices, commodity prices, the impact on aviation demand, the cost and speed of decarbonisation and the ability of suppliers and Rolls-Royce plc to pass on price changes. To assess the impact of inherent uncertainty it has performed sensitivities over key estimates.	We evaluated management's methodology for assessing the recognition and recoverability of deferred tax assets, including the ability to offset certain deferred tax liabilities and deferred tax assets. Where recognition is supported by the availability of sufficient probable taxable profits in future periods against which the asset can be utilised in future periods, our evaluation of these future profits considered both the business model and the applicable UK tax legislation. We tested the increase in the opening UK deferred tax asset balance as a result of the increase in the UK corporation tax rate. We assessed the future profit forecasts and the underpinning assumptions including management's risk weighting of profit forecasts in Rolls-Royce plc and tested the reasonableness of the assumptions and forecasts for periods beyond the normal five year forecasting horizon. Where applicable we assessed the consistency of the forecasts used to justify the recognition of deferred tax assets to those used elsewhere in the business, including for long-term contract accounting, impairment assessments, or for the Directors' viability and going concern statements. We also assessed the risk adjustments applied by management to these profit forecasts to future periods that are significantly further in time than the group's normal five year forecasting process and considered whether these appropriately reflect the estimation risk in the longer term forecasts. We challenged management to incorporate climate change as part of their probability weighted scenarios to forecast probable profit levels. As described in the long-term contract accounting and associated provisions key audit matter, this included deploying valuation experts to assess the reasonableness of carbon pricing and commodity assumptions, as well as the comparison of forecast aviation demand to third party sources. We considered the likelihood that the group and its suppliers would be able to pass on incremental climate related costs in the short, medium and longer term and verified that management's forecasts included the costs arising from the group's stated commitment to reach net zero for direct emissions by 2030. We requested that management perform additional sensitivity analysis to understand whether reasonably possible changes to these assumptions could lead to a material change in the recognised asset and where appropriate ensured that adequate disclosure was provided. We assessed the treatment of the losses that are realised or unrealised on the group's hedge book and whether they were treated appropriately and how they are recovered using the same profit forecasts. We also assessed the adequacy of disclosures over this area, particularly the impact of changes in key estimates of the asset recognised and this has been disclosed in notes 1 and 5. We did not identify any material uncorrected exceptions from our audit work.

Key audit matter	How our audit addressed the key audit matter
Translation of foreign-currency denominated transactions and balances (group) *Note 1 to the consolidated financial statements – Accounting policies – Foreign currency translation* Foreign exchange rate movements influence the reported consolidated income statement, the consolidated cash flow statement and the consolidated balance sheet. One of the group's primary accounting systems that is used by a number of its subsidiaries translates transactions and balances denominated in foreign currencies at a fixed budget rate for management information purposes. Foreign currency denominated transactions and balances are then re-translated to actual average and closing spot rates through manual adjustments. Due to the manual nature of the process and significance of the recurring adjustments needed there is a risk that transactions and balances denominated in foreign currencies are incorrectly translated in the consolidated financial statements.	In addition to our testing in other areas of the various financial statement line items, we performed the following specific audit procedures over this area: — Obtained an understanding of the process employed by management to correctly record the translation of foreign currency balances and transactions; — Tested on a sample basis the manual calculations of the adjustment needed to correctly record the translation of the foreign currency denominated transactions and balances; — Sampled balances and transactions requiring adjustment by source currency and tested to source data and assessed the completeness of these balances and transactions; — Created an independent expectation of the gain/loss on the translation of monetary assets and liabilities based on the movements in the group's key exchange rates and associated balances in the year; — Agreed the exchange rates used in management's translation adjustments to an independent source; and — For each adjustment sampled, assessed whether the foreign currency denominated balance or transaction was translated at the appropriate exchange rate depending on its nature. There were no material uncorrected exceptions from our audit work.
Presentation and accuracy of underlying results and disclosure of other one-off items (including exceptional items) (group) *Note 1 to the consolidated financial statements – Accounting policies – Presentation of underlying results, note 2 to the consolidated financial statements – Segmental analysis and note 28 to the consolidated financial statements – Derivation of summary of funds flow statement* In addition to the performance measures prescribed by International Financial Reporting Standards, the group also presents its results on an underlying basis, as the Directors believe this better reflects the performance of the group during the year. The group also presents a free cash flow metric which the Directors believe reflects the cash generated from underlying trading; this differs from the cash flows presented in the consolidated cash flow statement. The underlying results differ from the reported statutory results and are used extensively to explain performance to the shareholders. Alternative performance measures can provide investors with a better understanding of the group's performance if consistently calculated, properly used and presented. However, when improperly used and presented, these non-GAAP measures can mislead investors and may mask the real financial performance and position. There is judgement on whether items should be excluded from underlying profit or free cash flow.	We considered the judgements taken by management to determine what should be treated as a one-off or exceptional item and the translation of foreign currency amounts and obtained corroborative evidence for these. We also considered whether there were items that were recorded within underlying profit that are exceptional in nature and should be reported as an exceptional item. No such material items were identified. As part of this assessment we challenged management's rationale for the designation of certain items as exceptional or one-off and assessed such items against the group's accounting policy, considering the nature and value of those items. Within underlying results, foreign currency transactions are presented at rates achieved on derivative contracts hedging the net operating cash flows of the group and monetary assets and liabilities are retranslated at rates forecast to be achieved on derivative contracts when the associated cash flows occur. We agreed these forecast rates to the profile of the derivatives that are expected to mature in the future and tested their application to the relevant monetary assets and liabilities. We audited the reconciling items between the underlying profit before tax and free cash flow disclosed in note 28 including verifying that the items adjusted for are consistent with the prior period. We also considered whether free cash flow contains material one-off items which require further disclosure.

Key audit matter	How our audit addressed the key audit matter
Presentation and accuracy of underlying results and disclosure of other one-off items (including exceptional items) (group) continued A key adjustment between the statutory results and the underlying results relates to the foreign exchange rates used to translate foreign currency transactions and balances. The underlying results reflect the achieved rate on foreign currency derivative contracts settled in the period and retranslates assets and liabilities at the foreign currency rates at which they are expected to be realised or settled in the future. As the group can influence which derivative contracts are settled in each reporting period it has the ability to influence the achieved rate and hence the underlying results. This risk is more limited for free cash flow as there are a small number of items that are excluded from free cash flows. During the year, the group excluded a number of items from underlying profit before tax including £105m of credits from the net release of onerous contracts and Trent 1000 provisions and a net £45m of credits associated with lower restructuring costs.	We assessed the appropriateness and completeness of the disclosures of the impact of one-off or non-underlying items primarily in notes 1, 2, 4 and 28 to the consolidated financial statements and found them to be appropriate. This included assessing the explanations management provided on the reconciling items between underlying performance and statutory performance in note 2. We also assessed the appropriateness of excluding the results of ITP Aero from underlying profit, reflecting the internal reporting of the group and considered the associated disclosure explaining the change. Overall we found that the classification judgements made by management were in line with their policy for underlying results and exceptional items, had been consistently applied and there are no material uncorrected misstatements resulting from our testing.
Determination of ITP Aero disposal group (group) *Note 1 to the consolidated financial statements – Accounting policies – Discontinued operations and note 27 to the consolidated financial statements – Assets held for sale and discontinued operations* Following the group's announcement of the planned sale of ITP Aero, the business was classified as a discontinued operation held for sale. This resulted in the assets and liabilities being recognised as held for sale within the consolidated balance sheet and the results being presented within the loss from discontinued operations line on the consolidated income statement. There remains significant trading between ITP Aero and the rest of the group which is required to be eliminated when arriving at the group's results. Whether these adjustments should be classified within balances held for sale is judgemental and dependent on the structure of the business post disposal. Further, additional adjustments were required to be recorded in 2021 to reflect commercial restructuring between ITP Aero and the rest of the group prior to disposal.	We assessed the appropriateness of classifying ITP Aero as a discontinued operation held for sale based on the progress of the sale. This included validating management's judgement on the likelihood of the disposal through reviewing the sales agreement and understanding the status of the transaction, including the required regulatory approval. We have considered the restructuring made to contractual arrangements by the group prior to the sale of ITP Aero, including the transfer of businesses to the disposal group. We validated that these changes and the impact of intra-group trading had been appropriately eliminated in arriving at the consolidated results for the group. We also validated management's judgement that the impact of intra-group trading should be eliminated against the results of the discontinued operation, which most closely reflects the relationship the continuing group will have with ITP Aero following its sale. We assessed the adequacy of the disclosures in the notes to the consolidated financial statements explaining this change. We found them, along with the classifications, to be materially appropriate in the context of the consolidated financial statements when taken as a whole.

Key audit matter	How our audit addressed the key audit matter
Accounting treatment and related consolidation adjustments for Civil engine sales to related entities (group) *Audit Committee report and note 1 to the consolidated financial statements – Accounting policies – Revenue recognition* The group has historically made engine sales to related entities. In 2021, a new related entity was established, which will provide in some instances spare engine capacity to the group to support its installed fleet. A limited number of engine sales were made to this related entity in the year, which are expected to increase in the future. In order for revenue to be recognised on engine sales to related entities, these entities cannot be controlled by Rolls-Royce and control of the engines must have passed from the company and its subsidiaries to the related entity. There is significant judgement whether this is the case based on the terms of the sale, any ongoing arrangement and the structure of the entity. Accounting standards require the group's share of unrealised profit on sales to related entities to be eliminated and therefore the value of sales and the related unrealised profit need to be accurately reflected within the group's consolidation adjustments.	We considered management's assessment of whether the related entity was controlled by Rolls-Royce by reference to its articles of association, the indirect shareholding and the influence that Rolls-Royce has over the direction and strategy of the entity. We obtained and reviewed the engine sales contract and the capacity agreement setting out the ongoing arrangement between Rolls-Royce and the new related entity, as well as management's assessment of whether control of the engines and transfer of risks and reward of ownership, can be demonstrated. In assessing this, we considered: — The rights of the related entity to choose how engines are utilised and any commitments of the ongoing capacity agreement; — The commercial structure of the ongoing arrangement including commitments made and penalty arrangements; and — Whether Rolls-Royce remained exposed to risks associated with engine ownership following the sale including non-utilisation of engines, the risk to movements in the end of life engine value, the risk to damage or misuse to the engine and whether Rolls-Royce is committed to buy back the engines. We also considered whether there are any side agreements between Rolls-Royce and the related entity which may alter the main contract arrangements through our enquiries with management, review of meeting minutes and our audit procedures in other areas and did not identify any such arrangements. We verified that the group's share of unrealised profit from engine sales to related entities has been appropriately eliminated from the group's profit in the year. We reviewed the group's disclosure of the engine sales to related entities including the key judgement disclosed in note 1 and transactions with related parties disclosed in note 26 and found these to be appropriate. As a result of our work we did not identify any material exceptions from the treatment or disclosure of engine sales to related entities.
Recoverability of the company's investment in subsidiary undertakings (company) *Note 1 to the company financial statements - Accounting policies and note 2 to the company financial statements – Investments – Subsidiary Undertakings* Investments in subsidiaries of £14,716m (2020: £14,688m) are accounted for at cost less provision for impairment in the company balance sheet at 31 December 2021. Investments are tested for impairment if impairment indicators exist. If such indicators exist, the recoverable amounts of the investments in subsidiaries are estimated in order to determine the extent of the impairment loss, if any. Any such impairment loss is recognised in the income statement. A review for indicators of impairment was performed by management focusing on developments since the last quantitative impairment test performed in 2020. This included considering the latest available forecasts, movements in the cost of capital and developments in the group in the year. Management also quantified the potential impact of climate change on the group's future cash flows including a consideration of the impact of the group's 1.5°C scenario aligned to the Paris Agreement that has been used in its TCFD disclosures. Management's assessment identified no impairment triggers and that a further quantitative impairment test in 2021 was not required with the carrying value remaining fully recoverable.	We evaluated management's determination of whether any indicators of impairment existed. While the investment carrying value exceeded the market capitalisation of the group at 31 December 2021, the market capitalisation has increased in the year. We considered what would be a reasonable control premium that could be applied to the market capitalisation by reference of those achieved in past transactions of similar sized companies and the extent to which this bridges the gap between the market capitalisation and the carrying value. In addition, in auditing management's assessment, we: — Reconciled the group's latest cash flows to those audited as part of other key audit matters and compared them to those estimated in the 31 December 2020 impairment model; — Considered the developments in the group in the year including the establishment of Rolls-Royce Small Modular Reactors (SMR) business. We considered the value of this business implied by the minority investments committed in the year; and — Assessed the appropriateness of the group's cost of capital, which has decreased in the year, through deploying our valuation expert.

Key audit matter	How our audit addressed the key audit matter
Recoverability of the company's investment in subsidiary undertakings (company) continued	We validated the key assumptions included within management's assessment of the impact of climate change on the group's cash flows which was compared to the headroom determined in the 2020 impairment model. This included consideration of the costs of the group's 2030 commitment and with the assistance of our valuation experts assessing the reasonableness of management's assumptions on future carbon prices and changes in commodity prices. We performed sensitivities over other key assumptions and concluded that their potential impact on the headroom determined in the quantitative impairment test in 2020, would not have resulted in an impairment and therefore agree with management's conclusion that no impairment triggers exist. We reviewed the company's disclosure in note 1 to the company financial statements over the key judgement on whether an indicator of impairment was present at 31 December 2021 and found this to be appropriate. As a result of our work, we did not identify any material exceptions from management's judgement that no factors have occurred in 2021 which indicated that the headroom determined as part of the 2020 impairment test would have been significantly eroded to warrant a further impairment test at 31 December 2021.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the group and the company, the accounting processes and controls, and the industry in which they operate.

Our scoping is based on the group's consolidation structure. We define a component as a single reporting unit which feeds into the group consolidation. Of the group's 433 reporting components, 37 individual components (including three joint ventures) were subject to full scope audits for group purposes, which following an element of consolidation, equates to 16 group reporting opinions. In addition, targeted specified procedures were performed for eight components.

The group operates Finance Service Centres (FSCs) to bulk process financial transactions in Derby (UK), Indianapolis (US) and Bengaluru (India). Based on our assessment it is not possible to fully test revenue and profit centrally as certain key processes, such as long-term contracting, remain within the business due to their nature and are not handled by the FSCs.

Our audit covered 93% of revenue from continuing and discontinued operations, 82% of loss before tax from continuing and discontinued operations and 89% of total assets. All entities that contribute in excess of 1% of the group's revenue were included in full scope.

Further specific audit procedures over central functions, the group consolidation and areas of significant judgement (including corporate costs, corporate taxation, certain goodwill and intangible asset impairment assessments, treasury and post-retirement benefits) were directly led by the group engagement team.

Where work was performed by component auditors, we determined the level of involvement we needed to have in the audit work at those reporting units to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the consolidated financial statements.

We issued formal written instructions to all component auditors setting out the audit work to be performed by each of them and maintained regular communication with the component auditors throughout the audit cycle. These interactions included attending certain component clearance meetings and holding regular conference calls, as well as reviewing and assessing any matters reported. The group engagement team also reviewed selected audit working papers for certain component teams to evaluate the sufficiency of audit evidence obtained and fully understand the matters arising from the component audits.

In addition, senior members of the group engagement team visited component teams in the UK, US and Germany. These visits were in-person for the UK and US and virtual in Germany due to COVID-19 pandemic related restrictions. They included meetings with the component auditor and attendance at component clearance meetings.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Financial statements – group	Financial statements – company
Overall materiality	£80m (2020: £70m).	£147m (2020: £147m).
How we determined it	Based on approximately 0.6% of four year average underlying revenues from continuing and discontinued operations	Based on approximately 1.0% of total assets
Rationale for benchmark applied	We have consistently used underlying revenue to determine materiality as opposed to a profit based benchmark. This is because there is considerable volatility in profit before tax as a result of revenue recognition under IFRS 15 and from the fair value movement in the group's derivatives. Underlying revenue continues to be a key performance metric for the group and is much less volatile than the profit metric. However, from 2020 COVID-19 introduced additional volatility that impacted benchmarks. To mitigate this we have used a four year average underlying revenue measure to calculate materiality. ITP Aero, which is classified as a discontinued operation, contributed a full year's results and remained part of the group at 31 December 2021. Therefore, in our view, it is appropriate to continue to take the results of this business into account when determining our materiality.	We determined our materiality based on total assets, which is more applicable than a performance-related measure as the company is an investment holding company for the group. The higher company materiality level was used for the purposes of testing balances not relevant to the group audit, such as investments in subsidiary undertakings and intercompany balances.

For each component in the scope of our group audit, we allocated a materiality that is less than our overall group materiality. The range of materiality allocated across components was between £5m and £74m. Certain components were audited to a local statutory audit materiality that was also less than our overall group materiality.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% (2020: 75%) of overall materiality, amounting to £60m (2020: £53m) for the group financial statements and £110m (2020: £110m) for the company financial statements.

In determining the performance materiality, we considered a number of factors - the history of misstatements, risk assessment and aggregation risk and the effectiveness of controls - and concluded that an amount at the upper end of our normal range was appropriate.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above £3m (group audit) (2020: £3m) and £7m (company audit) (2020: £7m) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the group's and the company's ability to continue to adopt the going concern basis of accounting included:

- Testing the model used for management's going concern assessment which is primarily a liquidity assessment given there are no significant financial covenants in its committed debt facilities. Management's assessment covered the 18 months to August 2023. We focussed on this period and also considered the forecast liquidity in the subsequent four months to the end of 2023.
- Management's base case forecasts are based on its normal budget and forecasting process for each of its businesses for the next five years. We understood and assessed this process by business including the assumptions used for 2022 and 2023 and assessed whether there was adequate support for these assumptions. We also considered the reasonableness of the monthly phasing of cash flows. A similar assessment was performed of the downside cash flows, including understanding of the scenarios modelled by management, how they were quantified and the resultant monthly phasing of the downside cash flow forecasts.
- We read and understood the key terms of all committed debt facilities to understand any terms, covenants or undertakings that may impact the availability of the facility.

- Using our knowledge from the audit and assessment of previous forecasting accuracy we calculated our own sensitivities to apply to management's cash flow forecasts. We overlaid these on management's forecasts to arrive at our own view of management's downside forecasts. This included consideration of management's assessment of the impact of climate change and the likelihood of any downside risks crystallising in the period to August 2023.
- We assessed the adequacy of disclosures in the Going Concern statement and statements in note 1 of the consolidated and company financial statements and found these appropriately reflect the key areas of uncertainty identified.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's and the company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group's and the company's ability to continue as a going concern.

In relation to the directors' reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information, which includes reporting based on the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic report and Directors' report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic report and Directors' report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic report and Directors' report for the year ended 31 December 2021 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the group and company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic report and Directors' report.

Directors' Remuneration

In our opinion, the part of the Remuneration Committee Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Corporate governance statement

The Listing Rules require us to review the directors' statements in relation to going concern, longer-term viability and that part of the corporate governance statement relating to the company's compliance with the provisions of the UK Corporate Governance Code specified for our review. Our additional responsibilities with respect to the corporate governance statement as other information are described in the Reporting on other information section of this report.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit, and we have nothing material to add or draw attention to in relation to:

- The directors' confirmation that they have carried out a robust assessment of the emerging and principal risks;
- The disclosures in the Annual Report that describe those principal risks, what procedures are in place to identify emerging risks and an explanation of how these are being managed or mitigated;
- The directors' statement in the financial statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them, and their identification of any material uncertainties to the group's and company's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- The directors' explanation as to their assessment of the group's and company's prospects, the period this assessment covers and why the period is appropriate; and
- The directors' statement as to whether they have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over the period of its assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Our review of the directors' statement regarding the longer-term viability of the group was substantially less in scope than an audit and only consisted of making inquiries and considering the directors' process supporting their statement; checking that the statement is in alignment with the relevant provisions of the UK Corporate Governance Code; and considering whether the statement is consistent with the financial statements and our knowledge and understanding of the group and company and their environment obtained in the course of the audit.

In addition, based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit:

- The directors' statement that they consider the Annual Report, taken as a whole, is fair, balanced and understandable, and provides the information necessary for the members to assess the group's and company's position, performance, business model and strategy;
- The section of the Annual Report that describes the review of effectiveness of risk management and internal control systems; and
- The section of the Annual Report describing the work of the Audit Committee.

We have nothing to report in respect of our responsibility to report when the directors' statement relating to the company's compliance with the Code does not properly disclose a departure from a relevant provision of the Code specified under the Listing Rules for review by the auditors.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors' responsibilities in respect of the Financial Statements, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group's and the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the group and industry, we identified that the principal risks of non-compliance with laws and regulations related to the UK Corporate Governance Code, the Listing Rules of the UK Financial Conduct Authority, tax compliance legislation, the regulations of country aviation authorities such as the Civil Aviation Authority, import and export restrictions (including International Traffic in Arms Regulations), and the UK Bribery Act, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Companies Act 2006 and tax legislation. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to : (1) posting inappropriate journal entries to manipulate financial results; (2) management bias in accounting estimates such as long-term contract accounting and associated provisions and deferred tax asset recognition; (3) the sale of Civil engines to related entities for no clear commercial purpose or above market prices; and (4) inappropriately including or excluding transactions from the group's underlying or free cash flow alternative performance metrics. The group engagement team shared this risk assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the group engagement team and/or component auditors included:

- Discussions throughout the year with management, internal audit, the group's internal and external legal counsel, and the head of ethics and compliance, including consideration of known or suspected instances of non-compliance with laws and regulation and fraud;
- Reading the minutes of the group's Safety, Ethics & Sustainability committee and assessment of 'speak-up' matters reported through the group's Ethics Line and the results of management's investigation of such matters;
- Reading the minutes of Board meetings to identify any inconsistencies with other information provided by management;
- Reviewing legal expense accounts to identify significant legal spend that may be indicative of non-compliance with laws and regulations;
- Challenging assumptions and judgements made by management in determining significant accounting estimates (because of the risk of management bias), in particular in relation to long-term contract accounting and associated provisions and the recoverability of deferred tax assets (see related key audit matters above);
- Testing the purpose and the pricing of sales of spare engines to related entities;
- Understanding and evaluating changes in processes and controls as a result of the COVID-19 pandemic;
- Identifying and testing unusual journal entries, in particular journal entries posted with unusual account combinations, and testing all material consolidation journals; and
- Challenging why certain items are excluded or included from underlying profit or free cash flow.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not obtained all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the company financial statements and the part of the Remuneration Committee Report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the Audit Committee, we were appointed by the members on 3 May 2018 to audit the financial statements for the year ended 31 December 2018 and subsequent financial periods. The period of total uninterrupted engagement is four years, covering the years ended 31 December 2018 to 31 December 2021.

Other matter

As required by the Financial Conduct Authority Disclosure Guidance and Transparency Rule 4.1.14R, these financial statements form part of the ESEF-prepared annual financial report filed on the National Storage Mechanism of the Financial Conduct Authority in accordance with the ESEF Regulatory Technical Standard ('ESEF RTS'). This auditors' report provides no assurance over whether the annual financial report has been prepared using the single electronic format specified in the ESEF RTS.

Ian Chambers (Senior Statutory Auditor)
for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London
24 February 2022

SUSTAINABILITY ASSURANCE STATEMENT

Independent Limited Assurance Statement

To the stakeholders of Rolls-Royce Holdings plc

Introduction and objectives of work

Bureau Veritas UK Limited (Bureau Veritas) has been engaged by Rolls-Royce Holdings plc (Rolls-Royce) to provide limited assurance over selected sustainability performance indicators for inclusion in its 2021 Annual Report and website. This Assurance Statement applies to the related information included within the scope of work described below.

Scope of work

The scope of our work was limited to assurance over the following information included within Rolls-Royce's 2021 Annual Report ('the Report') for the period 1st of January to the 31st of December 2021 (the 'Selected Information'):

- Total Energy consumption;
- Total Scope 1 & 2 greenhouse gases (GHG) emissions (location based);
- Total waste;
- Total Reportable Injuries;
- Number of people reached through the Science, Technology, Engineering and Mathematics (STEM) education outreach programmes; and
- Employee engagement score - 'grand mean' and increase compared to 2020.

Reporting criteria

The Selected Information are reported according to the Rolls-Royce "Basis of Reporting", a copy of which is available from http://rolls-royce.com/sustainability.

Limitations and exclusions

Excluded from the scope of our work is verification of any information relating to:

- Activities outside the defined verification period;
- Financial data taken from the Report which are audited by an external financial auditor;
- The appropriateness of the reporting criteria; and
- Other information included in Rolls-Royce's Report;

This limited assurance engagement relies on a risk based selected sample of sustainability data and the associated limitations that this entails. The scope of a limited assurance engagement is substantially less than for reasonable assurance both in terms of the risk assessment procedures and in performing the procedures to address the identified risks. This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

Responsibilities

This preparation and presentation of the Selected Information in the Report are the sole responsibility of the management of Rolls-Royce.

Bureau Veritas was not involved in the drafting of the Report or of the Reporting Criteria. Our responsibilities were to:

- obtain limited assurance about whether the Selected Information has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- report our conclusions to the management of Rolls-Royce.

Assessment Standard

We performed our work to a limited level of assurance in accordance with the International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after December 15, 2015), and in accordance with International Standard on Assurance Engagements 3410 – 'Assurance Engagements on Greenhouse Gas Statements' ('ISAE 3410'), issued by the International Auditing and Assurance Standards Board.

Summary of work performed

As part of its independent verification, Bureau Veritas undertook the following activities remotely:

1. Conducted interviews with relevant personnel of Rolls-Royce;
2. Carried out nine virtual site audits, selected employing a risk-based approach, in the United Kingdom, Germany, Italy, the Netherlands, Singapore, Brazil and Indonesia;
3. Reviewed the data collection and consolidation processes used to compile the Selected Information, including assessing assumptions made, the data scope and reporting boundaries;
4. Reviewed documentary evidence produced by Rolls-Royce;
5. Agreed a sample of the Selected Information to the corresponding source documentation;
6. Re-performed aggregation calculations of the Selected Information; and
7. Report our conclusions and recommendation in a formal Management Report to Rolls-Royce.

Conclusion

On the basis of our methodology and the activities described above, nothing has come to our attention to indicate that the Selected Information has not been properly prepared, in all material respects, in accordance with the Reporting Criteria.

It should be noted that there were data gaps with regards to: energy facility data for Civil Nuclear Grenoble; natural gas data from MTU Friedrichshafen. The gaps were not considered material (with respect to the Basis of Reporting) to the whole and that the data will be restated in 2022 accordingly.

Statement of Independence, Integrity and Competence

Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with over 185 years history. Its assurance team has extensive experience in conducting verification over environmental, social, ethical and health and safety information, systems and processes.

Bureau Veritas operates a certified Quality Management System which complies with the requirements of ISO 9001:2015, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Bureau Veritas has implemented and applies a Code of Ethics, which meets the requirements of the International Federation of Inspections Agencies (IFIA) across the business to ensure that its employees maintain integrity, objectivity, professional competence and due care, confidentiality, professional behaviour and high ethical standards in their day-to-day business activities.

The assurance team for this work does not have any involvement in any other Bureau Veritas projects with Rolls-Royce.

BUREAU VERITAS

Bureau Veritas UK Limited
London
23 February 2022

Certificate of Registration can be provided on request
International Federation of Inspection Agencies – Compliance Code – Third Edition

GREENHOUSE GAS EMISSIONS

In 2021, our total gross greenhouse gas (GHG) emissions were 393,000 tonnes of carbon dioxide equivalent (tCO_2e). This represents a decrease of 8% compared with 426,000 tCO_2e in 2020.

Aspect	tCO_2e	2017	2018	2019	2020	2021
Emissions from activities for which the company own or control including the combustion of fuel and operation of facilities. [Direct GHG Emissions (Scope 1)]	Global (excluding UK)	158,442	160,179	164,507	157,215	**150,988**
	UK	99,454	84,868	92,355	86,116	**65,800**
Emissions from the purchase of electricity, heat, steam and cooling purchased for our own use. [Indirect GHG Emissions (Scope 2) location-based]	Global (excluding UK)	154,846	152,797	141,335	116,900	**121,222**
	UK	122,635	100,808	86,803	65,909	**55,320**
Total gross GHG emissions	Global (excluding UK)	313,288	312,976	305,842	274,115	**272,210**
	UK	222,089	185,676	179,158	152,025	**121,120**
Energy consumption used to calculate above emissions- kWh	Global (excluding UK)	1,160,297,295	1,184,321,753	1,180,296,329	1,063,819,977	**1,011,759,540**
	UK	810,019,730	761,816,226	775,039,189	685,752,411	**566,815,284**
Intensity Ratio (total GHG emissions per £m revenue)	Total	38.6	34.2	30.3	37.1	**34.9**
Emissions from the purchase of electricity, heat, steam and cooling purchased for our own use. [Indirect GHG Emissions (Scope 2) market-based]	Global (excluding UK)	0	0	303	2,023	**191**
	UK	0	4	1,833	2,043	**1,878**
Outside of Scopes	Global (excluding UK)	0	0	0	0	**0**
	UK	0	0	20,743	45,213	**22,841**
Additional Supporting Information						
Electricity purchased from renewable sources – kWh	Global (including UK)	0	0	245,314,593	304,067,206	**283,164,576**
Energy generated on-site from renewable sources kWh	Global (including UK)	3,201,945	5,076,053	7,517,844	7,401,115	**2,424,931**

The above figures include 283,164,576 kWh of renewable energy purchases either backed by the Renewable Energy Guarantees of Origin (REGO) scheme in the UK or the Guarantees of Origin (GoO) from a relevant EU Member State. This energy is used by the majority of our facilities in the UK and Germany. The source in the UK includes a proportion of electricity that was generated by the combustion of biofuel. The associated emissions are included above under the location-based Scope 2 emissions (using grid average emission factors). They are also reported separately as market-based Scope 2 emissions (covering the emissions of nitrous oxide and methane) and Outside of Scopes (covering the emissions of carbon dioxide). This has resulted in a net reduction of 65,000 tonnes from our total GHG emissions. In addition, the above figures include 2,424,931 kWh of electricity and heat generated on-site from renewable energy sources, including solar panels and ground source heat pumps.

We include the reporting of fugitive emissions of hydrofluorocarbons (HFCs), associated with air conditioning equipment, into our GHG emissions figures. These include emissions from our facilities in the US and Canada only. We do not anticipate that emissions from other facilities will have a significant impact on the above figures.

With the exceptions noted above, we have reported on the underlying energy use and emission sources required under the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018. In accordance with these regulations, the above statement includes emissions associated with the ITP Aero business which was classified as a discontinued business on 30 June 2021, since Rolls-Royce remained responsible for its activities in 2021. All these sources fall within the scope of our Consolidated Financial Statements.

We have used the GHG Protocol Corporate Accounting and Reporting Standard (revised edition) as of 31 December 2014 utilising the operational control approach, supplemented by the GHG Reporting Guidance for the Aerospace Industry (version 3) and emission factors from the UK Government's GHG Conversion Factors for Company Reporting 2021. We report our emissions of: carbon dioxide; methane; nitrous oxide; hydrofluorocarbons and perfluorocarbons on a carbon dioxide equivalent basis. We had no emissions of sulphur hexafluoride or nitrogen trioxide.

Further details on our methodology for reporting and the criteria used can be found within our basis of reporting, available to download at rolls-royce.com.

OTHER FINANCIAL INFORMATION

Foreign exchange

Foreign exchange rate movements influence the reported income statement, the cash flow and closing net funds balance. The average and spot rates for the principal trading currencies of the Group are shown in the table below:

		2021	2020	Change
USD per GBP	Year-end spot rate	**1.35**	1.36	-1%
	Average spot rate	**1.38**	1.28	+8%
EUR per GBP	Year-end spot rate	**1.19**	1.11	+7%
	Average spot rate	**1.16**	1.13	+3%

The Group's global corporate income tax contribution

The Group's total corporation tax payments in 2021 were £185m. Around 90% of this was paid in the US, Germany, UK, Singapore and Canada which reflects the fact that the majority of the Group's business is undertaken, and employees are based, in these countries. The balance was paid in around 40 other countries.

In common with most multinational groups, the total of all profits and losses for corporate income tax purposes is not the same as the consolidated loss before tax reported on page 109. The main reasons for this are:

(i) the consolidated income statement is prepared under IFRS, whereas the corporate income tax profits and losses for each company are determined by local accounting rules;

(ii) accounting rules require certain income and costs relating to our commercial activities to be eliminated from, or added to, the aggregate of all the profits of the Group companies when preparing the consolidated income statement (consolidation adjustments); and

(iii) specific tax rules including exemptions or incentives as determined by the tax laws in each country.

In most cases, (i) and (ii) are only a matter of timing and therefore tax will be paid in an earlier or later year. The impact of (iii) will often be permanent depending on the relevant tax law. Further information on the tax position of the Group can be found as follows:

— Audit Committee Report (page 84) – updates were given to the Audit Committee during the year which covered key sources of estimation uncertainty, in particular the recognition of deferred tax assets;

— note 1 to the Consolidated Financial Statements (page 124) – Details of key areas of uncertainty and accounting policies for tax; and

— note 5 to the Consolidated Financial Statements (page 144 and 145) Details of the tax balances in the Consolidated Financial Statements together with a tax reconciliation. This explains the main drivers of the tax rate and the impact of our assessment on the recovery of UK deferred tax assets.

Information on the Group's approach to managing its tax affairs can be found at rolls-royce.com.

Investments and capital expenditure

The Group subjects all major investments and capital expenditure to a rigorous examination of risks and future cash flows to ensure that they create shareholder value. All major investments, including the launch of major programmes, require Board approval.

The Group has a portfolio of projects at different stages of their lifecycles. All of our major investments and projects are assessed using a range of financial metrics, including discounted cash flow and return on investment.

Financial risk management

The Board has established a structured approach to financial risk management. The Financial risk committee (Frc) is accountable for managing, reporting and mitigating the Group's financial risks and exposures. These risks include the Group's principal counterparty, currency, interest rate, commodity price, liquidity and credit rating risks outlined in more depth in note 20. The Frc is chaired by the Chief Financial Officer or group controller. The Group has a comprehensive financial risk policy that advocates the use of financial instruments to manage and hedge business operations risks that arise from movements in financial, commodities, credit or money markets. The Group's policy is not to engage in speculative financial transactions. The Frc sits quarterly to review and assess the key risks and agree any mitigating actions required.

Capital structure

£m	2021	2020
Total equity	**(4,636)**	(4,875)
Cash flow hedges	**45**	94
Group capital	**(4,591)**	(4,781)
Net debt	**(5,157)**	(3,576)

Operations are funded through various shareholders' funds, bank borrowings, bonds and notes. The capital structure of the Group reflects the judgement of the Board as to the appropriate balance of funding required. Funding is secured by the Group's continued access to the global debt markets. Borrowings are funded in various currencies using derivatives where appropriate to achieve a required currency and interest rate profile. The Board's objective is to retain sufficient financial investments and undrawn facilities to ensure that the Group can both meet its medium-term operational commitments and cope with unforeseen obligations and opportunities.

The Group holds cash and short-term investments which, together with the undrawn committed facilities, enable it to manage its liquidity risk.

During the year, the Group repaid £300m of commercial paper drawn under the Covid Commercial Finance Facility and a €750m bond at its maturity in June 2021. The Group also drew the £2,000m loan maturing 2025.

During 2021 the Group entered into a new £1,000m loan maturing 2026 (supported by an 80% guarantee from UK Export Finance).

The £2,500m revolving credit facility, the £1,000m UKEF-supported loan and £1,000m bank loan were undrawn at the period end.

At the year end, the Group retained aggregate liquidity of £7.1bn, including cash and cash equivalents of £2.6bn and undrawn borrowing facilities of £4.5bn.

The Group has no material debt maturities until 2024. The maturity profile of the borrowing facilities is regularly reviewed to ensure that refinancing levels are manageable in the context of the business and market conditions. There are no rating triggers in any borrowing facility that would require the facility to be accelerated or repaid due to an adverse movement in the Group's credit rating. The Group conducts some of its business through a number of joint ventures. A major proportion of the debt of these joint ventures is secured on the assets of the respective companies and is non-recourse to the Group. This debt is further outlined in note 12.

Credit rating

£m	Rating	Outlook
Moody's Investors Service	Ba3-	Negative
Standard & Poor's	BB-	Stable
Fitch	BB-	Stable

The Group subscribes to Moody's, Standard & Poor's and Fitch for independent long-term credit ratings with the ratings in the table above being applicable at the date of this report.

Accounting

The Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards (IFRS), as adopted by the UK.

No new accounting standards had a material impact in 2021. Other than Amendments to IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* – Onerous Contracts described on page 131, the Group does not consider that any standards, amendments or interpretations issued by the IASB, but not yet applicable will have a significant impact on the Consolidated Financial Statements in 2022.

RECONCILIATION OF ALTERNATIVE PERFORMANCE MEASURES (APMS) TO THEIR STATUTORY EQUIVALENT

Alternative performance measures (APMs)

Business performance is reviewed and managed on an underlying basis. These alternative performance measures reflect the economic substance of trading in the year, including the impact of the Group's foreign exchange activities. In addition, a number of other APMs are utilised to measure and monitor the Group's performance.

Definitions and reconciliations to the relevant statutory measure are included below.

Underlying results from continuing operations

Underlying results include underlying revenue, underlying operating profit and underlying EPS. Underlying results are presented by recording all relevant revenue and cost of sales transactions at the average exchange rate achieved on effective settled derivative contracts in the period that the cash flow occurs. Underlying results also exclude: the effect of acquisition accounting and business disposals, impairment of goodwill and other non-current assets where the reasons for the impairment are outside of normal operating activities, exceptional items and certain other items which are market driven and outside of managements control. Statutory results have been adjusted for discontinued operations and underlying results from continuing operations have been presented on the same basis. Further detail can be found in note 2 and note 27.

Revenue from continuing operations	Notes	2021 £m	2020 £m
Statutory revenue		11,218	11,491
Derivative & FX adjustments	2	(271)	(61)
Underlying revenue		10,947	11,430

Operating profit/(loss) from continuing operations			
Statutory operating profit/(loss)		513	(1,972)
Derivative & FX adjustments	2	40	(1,003)
Programme exceptional charges	2	(105)	(620)
Restructuring exceptional charges	2	(45)	470
Acquisition accounting & M&A	2	50	85
Impairments & asset write-offs	2	(9)	1,336
Pension past service credit	2	(47)	(308)
Other underlying adjustments	2	17	4
Underlying operating profit/(loss)		414	(2,008)

Basic EPS from continuing operations	Notes	2021 pence	2020 pence
Statutory basic EPS		1.48	(51.81)
Effect of underlying adjustments to profit/(loss) before tax	6	3.96	(19.94)
Related tax effects		(5.33)	4.27
Basic underlying EPS		0.11	(67.48)

Underlying results from discontinued operations

Results from discontinued operations	Notes	2021 £m	2020 £m
Profit/(loss) for the year from discontinued operations on ordinary activities	27	36	(68)
Costs of disposal on discontinued operations	27	(39)	–
Statutory loss from discontinued operations		(3)	(68)
Acquisition accounting & M&A		64	48
Derivative & FX adjustments		5	(3)
Impairments & asset write-offs		–	82
Restructuring exceptional charges		(1)	19
Related tax effects		(14)	(36)
Underlying profit from discontinued operations		51	42

Trading cash flow

Trading cash flow is defined as free cash flow (as defined on page 216) before the deduction of recurring tax and post-employment benefit expenses. Trading cash flow per segment is used as a measure of business performance for the relevant segments. For a reconciliation of group trading cash flow to free cash flow and reported cash flow, see note 28.

	Notes	2021 £m	2020 £m
Civil Aerospace		(1,670)	(4,510)
Defence		377	298
Power Systems		219	162
New Markets		(56)	(55)
Total reportable segments trading cash flow		(1,130)	(4,105)
Other businesses		(43)	(30)
Central and Inter-segment		(38)	(63)
Trading cash flow from continuing operations		(1,211)	(4,198)
Discontinued business		46	84
Trading cash flow		(1,165)	(4,114)
Underlying operating profit charge (exceeded by)/in excess of contributions to defined benefit schemes		(92)	160
Tax [1]		(185)	(231)
Free cash flow		(1,442)	(4,185)

[1] See page 112 for tax paid on statutory cash flow.

Free cash flow

Free cash flow is a measure of financial performance of the business' cash flow to see what is available for distribution among those stakeholders funding the business (including debt holders and shareholders). Free cash flow is the change in cash and cash equivalents excluding: transactions with ordinary shareholders; amounts spent or received on activity related to business acquisitions or disposals; financial penalties paid; exceptional restructuring payments; proceeds from increase in loans; and repayment of loans. Free cash flow from continuing operations has been presented to remove free cash flow from discontinued operations as defined in note 27. For further detail, see note 28.

	2021 £m	2020 £m
Statutory change in cash and cash equivalents	(775)	(995)
Net cash flow from changes in short-term investments, borrowings and lease liabilities	(658)	(1,636)
Movement in net debt from cash flows	(1,433)	(2,631)
Exclude: capital element of lease payments	(374)	(284)
Rights issue	–	(1,972)
Payments to shareholders	4	92
Business acquisitions & disposals	(49)	119
Penalties paid on agreements with investigating bodies	156	135
Restructuring exceptional cash flow	231	323
Other underlying adjustments	23	33
Free cash flow	(1,442)	(4,185)
Less: discontinued operations free cash flow [1]	(43)	(70)
Free cash flow from continuing operations	(1,485)	(4,255)

[1] Discontinued operations free cash excludes: transactions with parent company of £(15)m (2020: £103m), movements in borrowings of £22m (2020: £7m), exceptional restructuring costs of £8m (2020: £2m), M&A costs of £44m (2020: nil) and other of £29m (2020: £(21)m).

Free cash flow from cash flows from operating activities

In addition to the above, a reconciliation of free cash flow to the statutory cash flow from operating activities has been provided below:

	2021 £m	2020 £m
Statutory cash flows from operating activities	(259)	(3,009)
Capital expenditure (including investment from NCI and movement in joint ventures, associates and other investments)	(489)	(933)
Capital element of lease payments	(374)	(284)
Interest paid	(331)	(259)
Settlement of excess derivatives	(452)	(202)
Exceptional restructuring costs	231	323
M&A costs	50	12
Financial penalties paid	156	135
Other	26	32
Free cash flow	(1,442)	(4,185)
Discontinued operations free cash flow	(43)	(70)
Free cash flow from continuing operations	(1,485)	(4,255)

Gross R&D expenditure

R&D expenditure during the year excluding the impact of contributions and fees, including government funding, amortisation and impairment of capitalised costs and amounts capitalised during the year.

Gross R&D expenditure from continuing operations	Notes	2021 £m	2020 £m
Statutory research and development cost		(778)	(1,204)
Amortisation and impairment of capitalised cost	3	70	560
Capitalised as intangible assets		(105)	(228)
Contributions and fees		(366)	(353)
Gross R&D Expenditure		(1,179)	(1,225)

Key performance indicators

The following measures are key performance indicators and are calculated using alternative performance measures or statutory results. See below for calculation of these amounts.

Order backlog

Order backlog, also known as unrecognised revenue, is the amount of revenue on current contracts that is expected to be recognised in future periods. Civil Aerospace OE orders where the customer has retained the right to cancel (for deliveries in the next 7–12 months) are excluded. Further details are included in note 2 on page 136.

Self funded R&D as a proportion of underlying revenue

Self-funded cash expenditure on R&D before any capitalisation or amortisation relative to underlying revenue. Self-funded R&D and underlying revenue are presented for continuing operations in line with presentation in the statutory income statement. We expect to spend approximately 5% of underlying revenue on R&D although this proportion will fluctuate depending on the stage of development of current programmes. We expect this proportion will reduce modestly over the medium term.

	Notes	2021 £m	2020 £m
Gross R&D expenditure	3	(1,179)	(1,225)
Contributions and fees	3	366	353
Self funded R&D	3	(813)	(872)
Underlying revenue		10,947	11,430
		%	%
Self funded R&D as a % of underlying revenue		7.4	7.6

Capital expenditure as a proportion of underlying revenue

Cash purchases of PPE in the year relative to underlying revenue presented for continuing operations. All proposed investments are subject to rigorous review to ensure that they are consistent with forecast activity and will provide value for money. We measure annual capital expenditure as the cash purchases of property, plant and equipment acquired during the period; over the medium-term we expect a proportion of around 3-4%.

	2021 £m	2020 £m
Purchases of PPE (cash flow statement)	328	585
Less: capital expenditure from discontinued operations	(24)	(33)
Net capital expenditure	304	552
Underlying revenue	10,947	11,430
	%	%
Capital expenditure as a proportion of underlying revenue	2.8	4.8

DIRECTORS' REPORT

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Board of Directors

The Directors of the Company who were in office during the year and up to the date of signing the financial statements were Anita Frew, Warren East, Panos Kakoullis, Paul Adams, George Culmer, Irene Dorner, Beverly Goulet, Lee Hsien Yang, Nick Luff, Mike Manley, Wendy Mars, Sir Kevin Smith, and Dame Angela Strank. In addition, Lewis Booth, Sir Frank Chapman, Stephen Daintith, Sir Ian Davis and Jasmin Staiblin served as Directors during the year before stepping down from the Board. Their respective resignation dates can be found on page 76.

Directors' indemnities

The Directors have the benefit of an indemnity provision contained in the Articles. In addition, the Directors have been granted a qualifying third-party indemnity provision which was in force throughout the financial year and remains in force. Also, throughout the year, the Company purchased and maintained directors' and officers' liability insurance in respect of the Company and its subsidiaries and for their directors and officers.

Share price

During the year, the share price increased by 10% from 112p to 123p, compared to a 14% increase in the FTSE aerospace and defence sector and a 13% increase in the FTSE 100. The Company's share price ranged from 87p in both January and July 2021 to 150p in November 2021.

Share capital

On 31 December 2021, the Company's issued share capital comprised:

8,367,596,989	Ordinary shares	20p each
24,928,266,686	C Shares	0.1p each
1	Special Share	£1

The ordinary shares are listed on the London Stock Exchange.

The Company issues non-cumulative redeemable preference shares (C Shares) as an alternative to paying a cash dividend. Further information on payments to shareholders is on page 220.

Share class rights

The full share class rights are set out in the Company's Articles, which are available at rolls-royce.com. The rights are summarised below.

Ordinary shares

Each member has one vote for each ordinary share held. Holders of ordinary shares are entitled to: receive the Company's Annual Report; attend and speak at general meetings of the Company; appoint one or more proxies or, if they are corporations, corporate representatives; and exercise voting rights. Holders of ordinary shares may receive a bonus issue of C Shares or a dividend and on liquidation may share in the assets of the Company.

C Shares

C Shares have limited voting rights and attract a preferential dividend, paid on a twice-yearly basis. On a return of capital on a winding-up, the holders of C Shares shall be entitled, in priority to any payment to the holders of ordinary shares, to the repayment of the nominal capital paid-up or credited as paid-up on the C Shares held by them, together with a sum equal to the outstanding preferential dividend which will have been accrued but not paid until the date of return of capital.

The holders of C Shares are only entitled to attend, speak and vote at a general meeting if a resolution to wind up the Company is to be considered, in which case they may vote only on that resolution.

The Company has the option to redeem the C Shares compulsorily, at any time if: the aggregate number of C Shares in issue is less than 10% of the aggregate number of all C Shares issued on or prior to that time or the event of a capital restructuring of the Company; the introduction of a new holding company; the acquisition of the Company by another company; or a demerger from the Group.

Special Share
Certain rights attach to the special rights non-voting share (Special Share) issued to the UK Secretary of State for Business, Energy & Industrial Strategy (Special Shareholder). These rights are set out in the Articles. Subject to the provisions of the Companies Act 2006 (the Act), the Treasury Solicitor may redeem the Special Share at par value at any time. The Special Share confers no rights to dividends but in the event of a winding-up it shall be repaid at its nominal value in priority to any other shares.

Certain provisions of the Articles (in particular those relating to the foreign shareholding limit, disposals and the nationality of the Company's Directors) that relate to the rights attached to the Special Share may only be altered with the consent of the Special Shareholder. The Special Shareholder is not entitled to vote at any general meeting or any other meeting of any class of shareholders.

Restrictions on transfer of shares and limitations on holdings
There are no restrictions on transfer or limitations on the holding of the ordinary shares or C Shares other than under the Articles (as described here), under restrictions imposed by law or regulation (for example, insider trading laws) or pursuant to the Company's share dealing code. The Articles provide that the Company should be and remain under UK control. As such, an individual foreign shareholding limit is set at 15% of the aggregate votes attaching to the share capital of all classes (taken as a whole) and capable of being cast on a poll and to all other shares that the Directors determine are to be included in the calculation of that holding. The Special Share may only be issued to, held by and transferred to the Special Shareholder or their successor or nominee.

Shareholder agreements and consent requirements
No disposal may be made to a non-Group member which, alone or when aggregated with the same or a connected transaction, constitutes a disposal of the whole or a material part of either the nuclear propulsion business or the assets of the Group as a whole, without the consent of the Special Shareholder.

Authority to issue shares
At the 2021 AGM, an ordinary resolution was passed authorising the Directors to allot new ordinary shares up to a nominal value of £557,839,799 equivalent to one-third of the issued share capital of the Company. This resolution also authorised the Directors to allot up to two-thirds of the total issued share capital of the Company, but only in the case of a rights issue.

A further special resolution was passed to effect a disapplication of pre-emption rights for a maximum of 5% of the issued share capital of the Company.

These authorities are valid until the sooner of the 2022 AGM or 30 June 2022, and the Directors propose to renew each of them at the 2022 AGM to be held on 12 May 2022. The Board believes that these authorities will allow the Company to retain flexibility to respond to circumstances and opportunities as they arise.

Authority to purchase own shares
At the 2021 AGM, the Company was authorised by shareholders to purchase up to 836,759,698 of its own ordinary shares representing 10% of its issued ordinary share capital.

The authority for the Company to purchase its own shares expires at the sooner of the conclusion of the 2022 AGM or 30 June 2022. A resolution to renew the authority will be proposed at the 2022 meeting.

The Company did not purchase any of its own ordinary shares under this authority during 2021.

Deadlines for exercising voting rights
Electronic and paper proxy appointments, and voting instructions, must be received by the Registrar not less than 48 hours before a general meeting.

Voting rights for employee share plan shares
Shares are held in an employee benefit trust for the purpose of satisfying awards made under the various employee share plans. For shares held in a nominee capacity or if plan/trust rules provide the participant with the right to vote in respect of specifically allocated shares, the trustee votes in line with the participants' instructions. For shares that are not held absolutely on behalf of specific individuals, the general policy of the trustees, in accordance with investor protection guidelines, is to abstain from voting in respect of those shares.

Major shareholdings
At 31 December 2021, the following shareholders had notified an interest in the issued ordinary share capital of the Company in accordance with section 5.1.2 of the Disclosure and Transparency Rules:

Shareholder	Date of change in interest	% of issued ordinary share capital
Blackrock, Inc.	24 December 2021	5.03
Causeway Capital Management LLC	28 September 2021	6.95
Harris Associates L.P.	16 November 2020	4.99
The Capital Group Companies, Inc.	10 November 2020	8.69

As at 24 February 2022, the following changes had been notified:

- Causeway Capital Management LLC notified the Company that on 19 January 2022 their holding had increased to 7.05% of issued ordinary share capital.
- The Capital Group Companies, Inc. notified the Company that on 3 February 2022 their holding had decreased to 4.98% of issued ordinary share capital.

Changes to the Articles of Association

The Articles may be amended or new articles may be adopted by a special resolution of the shareholders of the Company, subject to the provisions of the Act.

Change of control

Contracts and joint venture agreements

There are a number of contracts and joint venture agreements which would allow the counterparties to terminate or alter those arrangements in the event of a change of control of the Company. These arrangements are commercially confidential and their disclosure could be seriously prejudicial to the Company.

Borrowings and other financial instruments

The Group has a number of borrowing facilities provided by various banks. These facilities generally include provisions which may require any outstanding borrowings to be repaid or the alteration or termination of the facility upon the occurrence of a change of control of the Company. At 31 December 2021, these facilities were 47% drawn (2020: 26%).

The Group has entered into a series of financial instruments to hedge its currency, interest rate and commodity exposures. These contracts provide for termination or alteration in the event that a change of control of the Company materially weakens the creditworthiness of the Group.

Employee share plans

In the event of a change of control of the Company, the effect on the employee share plans would be as follows:

- Incentive Plan – deferred share awards will normally vest immediately, and may be time pro-rated. The new controlling company might offer an award in exchange instead (normally on substantially equivalent terms to the existing award).
- ShareSave – options would become exercisable immediately. The new controlling company might offer an equivalent option in exchange for cancellation of the existing option.
- Share Purchase Plan (SPP) – consideration received as shares would be held within the SPP, if possible, otherwise the consideration would be treated as a disposal from the SPP.
- LTIP – awards would vest on the change of control, subject to the Remuneration Committee's judgement of performance and may be reduced pro rata to service in the vesting period. Any applicable holding period will cease in the event of a change in control.

Political donations

The Company's policy is that it does not, directly or through any subsidiary, make what are commonly regarded as donations to any political party. However, the Act defines political donations very broadly and so it is possible that normal business activities, such as sponsorship, subscriptions, payment of expenses, paid leave for employees fulfilling certain public duties and support for bodies representing the business community in policy review or reform, which might not be thought of as political expenditure in the usual sense, could be captured. Activities of this nature would not be thought of as political donations in the ordinary sense of those words. The resolution to be proposed at the 2022 AGM, authorising political donations and expenditure, is to ensure that the Group does not commit any technical breach of the Act.

During the year, expenses incurred by Rolls-Royce North America, Inc. in providing administrative support for the Rolls-Royce North America political action committee (PAC) was US$41,852 (2020: US$68,100). PACs are a common feature of the US political system and are governed by the Federal Election Campaign Act.

The PAC is independent of the Group and independent of any political party. The PAC funds are contributed voluntarily by employees and the Group cannot affect how they are applied, although under US law, the business expenses are paid by the employee's company. Such contributions do not count towards the limits for political donations and expenditure for which shareholder approval will be sought at this year's AGM to renew the authority given at the 2021 AGM.

Disclosures in the Strategic Report

The Board has taken advantage of section 414C(11) of the Act to include disclosures in the Strategic Report including:

- employee involvement;
- the employment of disabled people;
- the future development, performance and position of the Group; and
- research and development activities.

Information required by UK Listing Rule (LR) 9.8.4

There are no disclosures to be made under LR 9.8.4.

Management report

The Strategic Report and the Directors' Report together are the management report for the purposes of Rule 4.1.8R of the DTR.

By order of the Board
Pamela Coles
Chief Governance Officer
24 February 2022

SHAREHOLDER INFORMATION

Managing your shareholding

Your shareholding is managed by Computershare Investor Services plc (the Registrar). When making contact with the Registrar please quote your Shareholder Reference Number (SRN). This is a 10-digit number prefixed with the letter 'C' that can be found on the right-hand side of your share certificate or in any other shareholder correspondence.

You can manage your shareholding at investorcentre.co.uk, speak to the Registrar on +44 (0)370 703 0162 (8.30am to 5.30pm Monday to Friday) or you can write to the Registrar at Computershare Investor Services plc, The Pavilions, Bridgwater Road, Bristol, BS13 8AE.

If you hold your shares in a share dealing account (sometimes referred to as a nominee account) then you must contact your account provider with any questions about your shareholding.

Payments to shareholders

The Company makes payments to shareholders by issuing redeemable C Shares of 0.1p each. You can redeem C Shares for cash and either take the cash or reinvest the proceeds in the C Share Reinvestment Plan (CRIP) to purchase additional ordinary shares providing you complete a payment instruction form, which is available from the Registrar. Once you have submitted your payment instruction form, you will receive cash or additional ordinary shares each time the Company issues C Shares. If you choose to receive cash, we strongly recommend that you include your bank details on the payment instruction form and have payments credited directly to your bank account. This removes the risk of a cheque going astray and means that cleared payments will be credited to your bank account on the payment date.

Under the terms of certain of its recent loan facilities, the Company is restricted from declaring, making or paying distributions to shareholders on or prior to 31 December 2022 and then on from 1 January 2023 unless certain conditions are satisfied. The restrictions on distributions do not prevent shareholders from redeeming C Shares issued in January 2020 or prior to that.

Shareholders wishing to redeem their existing C Shares, or participate in the CRIP must lodge instructions with the Registrar to arrive no later than 5.00pm on 1 June 2022 (CREST holders must submit their election in CREST by 2.55pm). The payment of C Share redemption monies will be made on 5 July 2022 and the CRIP purchase will begin as soon as practicable after 5 July 2022.

Share dealing

The Registrar offers shareholders an internet dealing service at investorcentre.co.uk and a postal dealing service. Real-time dealing is available during market hours, 8.00am to 4.30pm, Monday to Friday excluding bank holidays. Orders can still be placed outside of market hours. The fee for internet and postal dealing is 1.4% of the transaction value subject to a minimum fee of £40. The fee for telephone dealing is 1% of the transaction value plus £50. Stamp duty of 0.5% is payable on all purchases. This service is only available to shareholders resident in certain jurisdictions. Before you can trade you must register to use the service. Other share dealing facilities are available but you should always use a firm regulated by the FCA (see fca.org.uk/register).

Your share certificate

Your share certificate is an important document. If you sell or transfer your shares you must make sure that you have a valid share certificate in the name of Rolls-Royce Holdings plc. If you place an instruction to sell your shares and cannot provide a valid share certificate, the transaction cannot be completed and you may be liable for any costs incurred by the broker. If you are unable to find your share certificate, please inform the Registrar immediately.

American Depositary Receipts (ADR)

ADR holders should contact the depositary, JP Morgan, by calling +1(800) 990 1135 (toll free within the US) or +1(651) 453 2128 (outside the US) or via adr.com/contact/jpmorgan.

Warning to shareholders – investment scams

We are aware that some of our shareholders have received unsolicited telephone calls or correspondence, offering to buy or sell their shares at very favourable terms. The callers can be very persuasive and extremely persistent and often have professional websites and telephone numbers to support their activities.

These callers will sometimes imply a connection to Rolls-Royce and provide incorrect or misleading information. This type of call should be treated as an investment scam - the safest thing to do is hang up.

You should always check that any firm contacting you about potential investment opportunities is properly authorised by the FCA. If you deal with an unauthorised firm you will not be eligible for compensation under the Financial Services Compensation Scheme. You can find out more about protecting yourself from investment scams by visiting the FCA's website at fca.org.uk/consumers, or by calling the FCA's consumer helpline on 0800 111 6768 (overseas callers dial +44 20 70661000). If you have already paid money to share fraudsters contact Action Fraud immediately on 0300 123 2040, whose website is actionfraud.police.uk.

Remember: if it sounds too good to be true it probably is.

Visit Rolls-Royce online

Visit rolls-royce.com to find out more about the latest financial results, the share price, payments to shareholders, the financial calendar and shareholder services.

Communication preferences

You can sign up to receive the latest news updates to your phone or email by visiting rolls-royce.com and registering for our alert service. If you do not wish to receive a hard copy Annual Report in future, please email webqueries@computershare.co.uk.

Analysis of ordinary shareholders at 31 December 2021

Type of holder	Number of shareholders	% of total shareholders	Number of shares	% of total shares
Individuals	165,527	98.04	208,277,962	2.49
Institutional and other investors	3,315	1.96	8,159,319,027	97.51
Total	168,842	100.00	8,367,596,989	100.00
Size of holding (number of ordinary shares)				
1 – 150	49,888	29.55	4,365,281	0.05
151 – 500	59,513	35.25	15,958,468	0.19
501 – 10,000	54,905	32.52	105,711,262	1.26
10,001 – 100,000	3,721	2.20	90,981,893	1.09
100,001 – 1,000,000	485	0.29	168,017,648	2.01
1,000,001 and over	330	0.20	7,982,562,437	95.40
Total	168,842	100.00	8,367,596,989	100.00

GLOSSARY

ABC	anti-bribery and corruption
ACARE	Advisory Council for Aviation Research and Innovation in Europe
AGM	annual general meeting
ALPS	Advanced Low Pressure System
AMRCs	Advanced Manufacturing Research Centres
AOG	aircraft on ground
APM	alternative performance measure
Articles	Articles of Association of Rolls-Royce Holdings plc
bps	basis points
Brexit	UK exit from the European Union
C Shares	non-cumulative redeemable preference shares
C&A	commercial and administrative
CEO	chief executive officer
CFO	chief financial officer
Our Code	Global Code of Conduct
the Code	UK Corporate Governance Code 2018
Company	Rolls-Royce Holdings plc
CPS	cash flow per share
CRIP	C Share reinvestment plan
D&I	diversity & inclusion
DJSI	Dow Jones Sustainability Index
DoJ	US Department of Justice
DPAs	deferred prosecution agreements
DTR	the FCA's Disclosure Guidance and Transparency Rules
EASA	European Aviation Safety Agency
EFH	engine flying hours
EIS	entry into service
ELG	Enterprise Leadership Group
EPS	earnings per share
ERG	employee resource group
ESG	environment, social and governance
EU	European Union
EUR	euro
EVTOL	electric vertical take-off and landing
FCA	Financial Conduct Authority
FCF	free cash flow
FRC	Financial Reporting Council
FTE	full time equivalent
FX	foreign exchange
GBP	Great British pound or pound sterling
GHG	greenhouse gas
Group	Rolls-Royce Holdings plc and its subsidiaries
HPT	high pressure turbine
HSE	health, safety and environment
IASB	International Accounting Standards Board
IFRS	International financial reporting standards
KPIs	key performance indicators
$ktCO_2e$	kilotonnes carbon dioxide equivalent
kW	kilowatts
LGBTQ+	lesbian, gay, bisexual, transgender and queer/questioning
LIBOR	London inter-bank offered rate
LRIP	low rate initial production
LTIP	long-term incentive plan
LTPR	long-term planning exchange rate
LTSA	long-term service agreement
M&A	mergers & acquisitions
MoU	memorandum of understanding
MRO	maintenance repair and overhaul
MW	megawatts
NCI	non-controlling interest
NED	Non-Executive Director
OCI	other comprehensive income
OE	original equipment
OECD	Organisation for Economic Co-operation and Development
OEM	original equipment manufacturer
P&L	profit and loss
PBT	profit before tax
PPE	property, plant and equipment
PSMS	product safety management system
PSP	performance share plan
R&D	research and development
R&T	research and technology
REACH	registration, evaluation, authorisation and restriction of chemicals
Registrar	Computershare Investor Services PLC
RMS	risk management system
RRMS	Rolls-Royce management system
RRSAs	risk and revenue sharing arrangements
SAF	sustainable aviation fuel
SID	Senior Independent Director
SFO	UK Serious Fraud Office
SMR	small modular reactors
STEM	science, technology, engineering and mathematics
TCFD	Taskforce on Climate-related Financial Disclosures
TRI	total reportable injuries
TSR	total shareholder return
USAF	United States Air Force
USD/US$	United States dollar
UTCs	University Technology Centres

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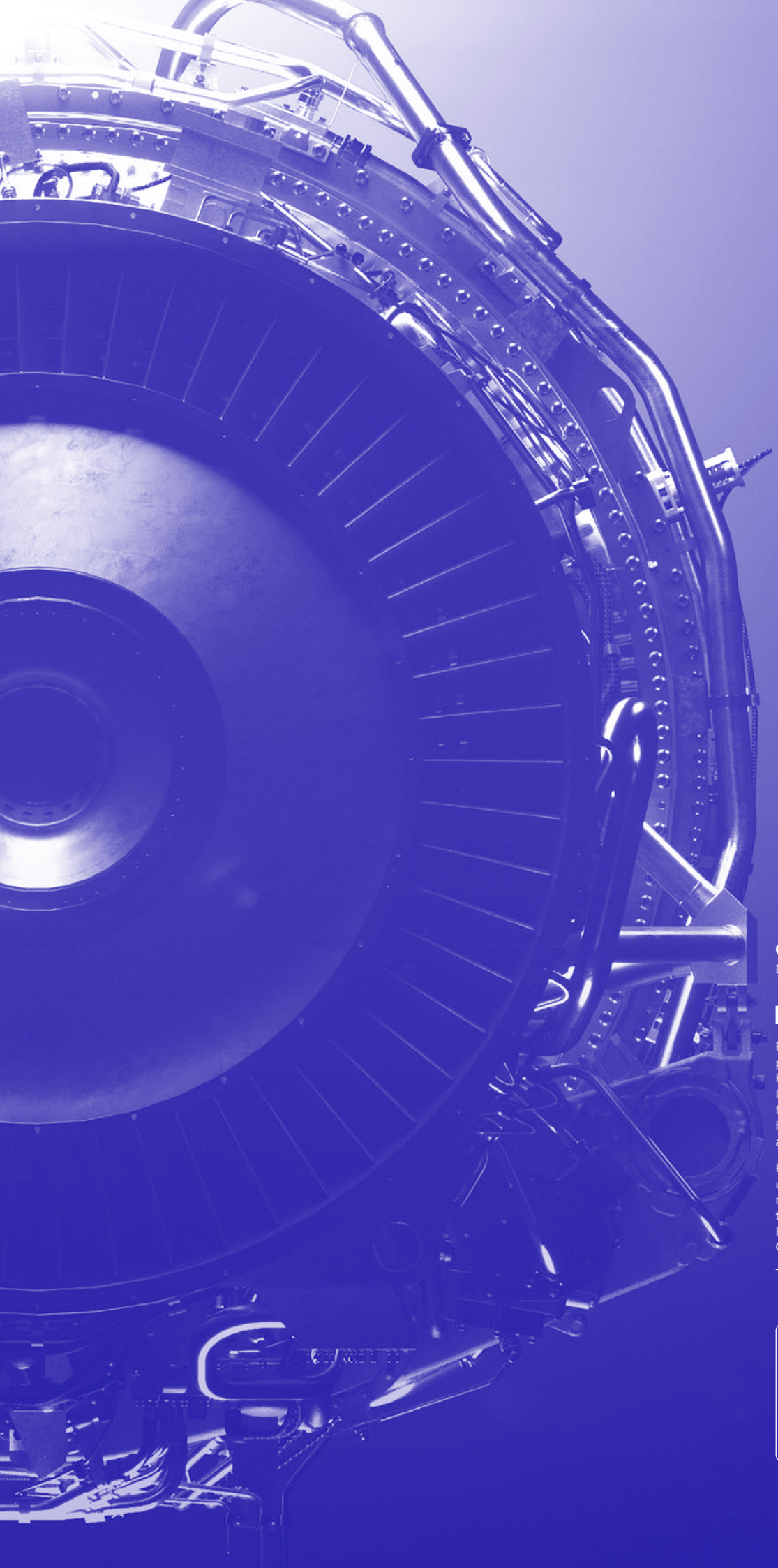

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