27 August 2020

ROLLS-ROYCE HOLDINGS PLC - 2020 Half Year Results

Decisive actions in response to COVID-19

- Significant H1 impact from COVID-19; timing and shape of industry recovery remains uncertain
- Successful execution of cost mitigations; £350m delivered in H1 towards £1bn 2020 target
- Fundamental restructuring of Civil Aerospace; > 4,000 group headcount reduction by 27 August
- Defence remained resilient; Power Systems experienced disruption in some end markets
- Rapid actions taken to strengthen liquidity; £6.1bn at end H1 and £2.0bn loan agreed in H2
- Targeting potential disposals to raise at least £2bn, including ITP Aero and other assets
- Reflecting uncertainties, reviewing a range of options to further strengthen our balance sheet

Warren East, Chief Executive said: "We ended 2019 with good operational and financial momentum. However, the COVID-19 pandemic has significantly affected our 2020 performance, with an unprecedented impact on the civil aviation sector with flights grounded across the world. We have responded rapidly to increase our liquidity, with £6.1bn at the end of H1 and a further £2.0bn term loan agreed in H2, to help weather the continued uncertainty around the timing and shape of the recovery in the civil aviation sector. We have made significant progress with our restructuring, which includes the largest reorganisation of our Civil Aerospace business in our history. This restructuring has caused us to take difficult decisions resulting in an unfortunate but necessary reduction in roles. These actions will significantly reduce our cost base, which combined with recovery in Power Systems and continued resilience in Defence, will help us to deliver significantly improved returns as the world recovers from the pandemic.

While our actions have helped to secure the Group's immediate future, we recognise the material uncertainties resulting from COVID-19 and the need to rebuild our balance sheet for the longer term. We have identified a number of potential disposals that are expected to generate proceeds of more than £2bn, including ITP Aero and a number of other assets. Furthermore, in light of ongoing uncertainty in the civil aviation sector, we are continuing to assess additional options to strengthen our balance sheet to enable us to emerge from the pandemic well placed to capitalise on the long-term opportunities in all our markets."

First Half Group financial summary

- Underlying revenue of £5.6bn, down 24%, and reported revenue of £5.8bn, down 26%.
- Underlying operating loss of £(1.7)bn including one-off charges of £(1.2)bn in Civil Aerospace, largely related to COVID-19.
- Reported operating loss of £(1.8)bn included £(1.1)bn impact from impairments and write offs and £(366)m restructuring charges partly offset by a £498m exceptional credit on the Trent 1000 programme, driven by COVID-19.
- US$10.3bn reduction in FX hedge book to US$26.2bn to reflect lower forecast US$ receipts; resulting in a £1.46bn underlying financing charge.
- Reported loss before tax of £(5.4)bn included £(2.6)bn non-cash loss from the revaluation of our FX hedge book; Underlying loss before tax of £(3.2)bn.
- Reported post-tax loss of £(5.4)bn; Underlying post-tax loss of £(3.3)bn.
- Free cash outflow of £(2.8)bn; 47% lower large engine flying hours and significant working capital outflows including £1.1bn negative impact from our choice to cease invoice discounting.
- Liquidity of £6.1bn comprising £4.2bn of cash at 30 June, and £1.9bn undrawn revolving credit facility (RCF). Additional £2.0bn undrawn term loan announced in July and finalised in August.
- Net debt of £(1.7)bn excl. lease liabilities (FY 2019 net cash of £1.4bn).
- Free cash outflow of approximately £(1)bn expected in H2 reflecting an acceleration of cost mitigations, resulting in approximately £(4)bn FY 2020 outflow.

H1 2020 Group financial performance

£ million	2020 H1 Reported	2020 H1 Underlying	2019 H1 Underlying	Organic[1] Underlying Change
Revenue	**5,824**	**5,561**	**7,353**	**(1,613)**
Gross (loss)/profit	**(687)**	**(967)**	**1,030**	**(1,959)**
Operating (loss)/profit	**(1,769)**	**(1,669)**	**203**	**(1,882)**
Gain on acquisition/disposal	2	–	–	–
Hedge book exchange losses [2]	(2,631)	(1,457)	–	(1,457)
Other financing costs	(969)	(118)	(110)	(7)
(Loss)/profit before tax	(5,367)	**(3,244)**	**93**	**(3,346)**
Tax	(11)	(82)	(121)	40
Underlying effective tax rate (%)	(0.2)%	(2.5)%	130.1%	–
(Loss) for the period	(5,378)	**(3,326)**	**(28)**	**(3,306)**
(Loss)/earnings per share (pence)	(280.06)	**(173.19)**	**(1.58)**	**(172.04)**

	2020 H1	2019 H1	Change
Group free cash flow (FCF)	**(2,801)**	**(429)**	**(2,372)**
Net cash/(debt) (ex. leases) [3]	**(1,732)**	**1,361**	**(3,093)**

[1] *Organic change at constant translational currency ('constant currency') applying FY 2019 average rates to H1 2020 and H1 2019 numbers and excluding M&A. All commentary is provided on an organic basis unless otherwise stated.*

[2] *Hedge book exchange losses in reported results reflects the mark-to-market charge and in underlying results reflects the cost of reducing the hedge book by $10.3bn, with £88m cash cost in the current period and £1,369m in future periods.*

[3] *2019 comparator shown at 31/12/2019*

H1 2020 Business unit financial performance

£ million	2020 H1 Underlying Revenue	Organic[1] change	2020 H1 Underlying operating (loss)/profit	Organic[1] change
Civil Aerospace	2,527	(1,496)	(1,826)	(1,810)
Power Systems [2]	1,250	(160)	22	(82)
Defence	1,553	35	210	33
ITP Aero	346	(112)	10	(23)
Corporate / eliminations	(206)	103	(79)	(1)
Core operating business [2]	**5,470**	**(1,630)**	**(1,663)**	**(1,883)**
Non-core business [2]	91		(6)	
Total Group	**5,561**	**(1,613)**	**(1,669)**	**(1,882)**

[1] *Organic change at constant translational currency ('constant currency') applying FY 2019 average rates to H1 2020 and H1 2019 numbers and excluding M&A. All commentary is provided on an organic basis unless otherwise stated.*

[2] *The underlying results for Power Systems for 30 June 2019 have been restated to reclassify Bergen Engines AS and the North America Civil Nuclear business as non-core.*

Impact of COVID-19 on H1 results

Although we started the year with positive momentum, the global COVID-19 pandemic severely impacted our H1 performance and medium-term forecasts. The most pronounced effect was seen in Civil Aerospace with large engine deliveries and flying hours both down around 50% in H1 including a 75% reduction in engine flying hours in Q2, however business jets and regional flying hours were more resilient. In Power Systems, which was less severely impacted than Civil Aerospace, industrial markets were suppressed, economic disruption and lower utilisation impacted demand for services while government marine was stable. Defence remained resilient with no material impact on results from the pandemic and delivered strong profit growth. ITP Aero was impacted by the same adverse industry trends as Civil Aerospace.

Underlying results: The £(3.2)bn underlying loss before tax primarily reflected the impact of COVID-19 on Civil Aerospace with lower aftermarket profit, under utilisation of operations, lower spare engine sales as well as £1.2bn of COVID-19 related contract catch-ups and one-time charges resulting from a reduction in forecast flying hours, a reassessment of the timing and parking of aircraft and the viability of airlines. Lower expected US$ receipts over the next seven years resulted in a £(1.46)bn underlying finance charge as we took the necessary decision to reduce the size of our hedge book by $10.3bn. In addition, we were net purchasers of US$ in H1 2020 and therefore unable to utilise our hedge book in the period. This resulted in the translation of our H1 2020 results at an effective GBP:US$ rate of 1.24. This compared to an effective GBP:US$ rate of 1.53 in H1 2019, when we utilised our hedge book to sell excess US$.

Reported results: Our reported results were further impacted by £(1.1)bn impairment charges and write-offs, £(0.4)bn exceptional restructuring charges and adverse FX fluctuations leading to a £(2.6)bn negative movement on the mark-to-market of the hedge book, partly offset by £0.5bn improvements in the expected in-service costs of Trent 1000 durability issues, which were all a consequence of COVID-19.

In response to the sudden market deterioration, we executed a number of specific mitigations to reduce our cash expenditure with an expected cash flow benefit of at least £1bn in 2020, of which approximately £350m was achieved in H1. These mitigations include minimising discretionary expenditure such as non-critical capital expenditure projects, reducing consulting spend, professional fees and sub-contractor costs and reducing salary costs across our global workforce including a 20% reduction for senior managers and executives. In addition, we launched a major restructuring of our Group, in particular our Civil Aerospace business, to remove at least 9,000 roles with forecast annualised pre-tax savings of over £1.3bn by the end of 2022. This, together with the expected recovery in engine flying hours, underpins our targeted recovery to positive free cash flow during H2 2021.

Throughout the pandemic we have worked hard to safeguard our people while ensuring our operations have been able to continue. We have implemented measures to protect against the spread of the virus at our sites around the world and increased our focus on employee mental health and wellbeing. Furthermore, we have been providing practical assistance to aid the recovery for the countries and communities in which we operate. This included launching the Emergent Alliance, a global community with more than 140 members that is using data analytics to assist the global economic recovery.

The Board decided that given the uncertain macro outlook they would no longer be recommending a final shareholder payment of 7.1 pence per share in respect of 2019, resulting in cash savings equivalent to £137m. For the same reasons, the Board has not approved an interim shareholder payment for 2020.

Fundamental restructuring of Civil Aerospace

Our Civil Aerospace division has seen an unprecedented reduction in activity due to COVID-19, with a material impact expected on demand into the medium term. We have acted swiftly in response to this crisis and on 20 May 2020 launched the largest reorganisation of Civil Aerospace in our history involving both a reduction in headcount and a consolidation of our global facility footprint.

We expect annualised pre-tax savings of at least £1.3bn across the Group by the end of 2022 from the restructuring programme, with approximately £700m of these savings directly related to headcount reduction and the rest from reduced expenditure across plant and property, capital and other indirect costs. The phasing of the expected £(800)m implementation cash costs will be approximately £(400)m in 2020, £(300)m in 2021 and £(100)m in 2022.

As previously announced, in order to adapt to the new level of demand from our customers, we are proposing a reduction of up to 8,000 roles from Civil Aerospace, approximately a third of the pre-COVID-19 total, and a further 1,000 mainly from our central functions, reflecting the reduced revenue base of the Group. By 27 August, more than 4,000 people had left the business, with at least 5,000 expected by the year-end, spread across the Group in UK, Germany, Singapore and other global locations. This includes more than 2,500 voluntary severance and early retirement agreements in the UK, substantially reducing the need for compulsory redundancies.

We are making significant progress on the consolidation of our manufacturing, enabling us to balance our capacity with the new levels of demand. This includes proposals to:

- Consolidate widebody engine assembly and test from three global sites to one in Derby, UK;
- Consolidate advanced Trent fan blade production from two global sites to one in Singapore;
- Focus our advanced disc and turbine blade machining in the UK, including the consolidation of advanced turbine blade machining from two global facilities to one in Derby; and
- Consolidate blisk production from three sites to two facilities in Derby and Oberursel, Germany.

As we reorganise our aerospace activities to reflect the expected market size post-COVID-19, we are also assessing significant changes in our make-versus-buy strategy, focusing on high value manufacturing, increasing the use of third parties for other components, and reducing overall capital intensity.

Near-term liquidity position

Following rapid management actions to reduce costs and secure additional liquidity, we started the second half with liquidity of £6.1bn (comprising £4.2bn cash at end H1 and a £1.9bn undrawn RCF) compared to £6.9bn at 31 December 2019. In addition, we now have a £2bn undrawn term loan, partly backed by the UK Export Finance (UKEF), announced in early July and finalised in August.

There is an inherent uncertainty over the severity, extent and duration of the disruption caused by the COVID-19 pandemic and therefore the timing of the recovery in our key markets, particularly in the civil aviation sector. In our base case scenario (further details on page 24), where there is assumed to be no second wave and we see a gradual recovery with Civil Aerospace returning to around 70% of the 2019 level in 2021 we consider that we will continue to operate within our current available committed borrowing facilities for the next 18 months. In this scenario, in order to provide sufficient liquidity headroom, we would replace the £1.9bn RCF following its expiry in October 2021, with replacement funding of a similar amount.

Based on our base case scenario we expect the following significant cash movements over the next 18 months:

- Anticipated H2 2020 free cash outflow of approximately £(1)bn and £(400)m further cash costs related to the restructuring programme;
- Targeted return to positive free cash generation during H2 2021. However, for the full year 2021 we still anticipate a free cash outflow, albeit at a significantly reduced level year-on-year;
- Expected additional cash costs in 2021 outside of FCF, including restructuring costs as well as the final DPA payment of £(148)m due to be settled in January 2021; and
- Debt maturities of approximately £3.2bn will take place between now and the end of 2021 comprising: £1.9bn additional RCF (currently undrawn), £0.3bn COVID-19 Corporate Financing Facility (CCFF) commercial paper, and two bonds of $500m and €750m respectively.

In the event of a severe but plausible downside scenario (further details on page 25) the projections indicate that we will continue to operate within our available committed borrowing facilities for the next 12 months. When considering a period of 18 months from the date of this report, to 28 February 2022, we would need to draw down on the £1.9bn RCF, which is repayable in October 2021. In order to fund operations and maintain a sufficient level of liquidity, replacement of the £1.9bn would be required, along with additional funding which could be achieved through some combination of debt, equity and the proceeds from business disposals.

We continue to monitor the recovery closely and are assessing steps to further protect our financial position.

Strengthening our balance sheet

The impact of COVID-19 has resulted in a significant near-term deterioration in the Group's net debt position. At 31 December 2019, the Group had a net cash position of £1.4bn, before lease liabilities of £(2.4)bn. This position benefited from £1.1bn of factored receivables that were outstanding at the end of 2019, a practice we ceased in the first half 2020. Net debt at the end of H1 2020 was £(1.7)bn, before lease liabilities of £(2.3)bn. Based on our market assumptions and despite the mitigating actions we are taking, we expect our net debt position to have significantly increased by the end of 2021.

A strong balance sheet is required for the markets in which we operate and strengthening our balance sheet remains our primary capital allocation priority. We view this as particularly important due to our long-term customer relationships and the cyclical nature of civil aviation. We remain committed to our ambition of an investment grade credit profile in the medium-term and aim to return to a net cash position.

With this in mind, we are already pursuing several actions to strengthen our balance sheet. We are implementing a range of initiatives to return to positive free cash flow during H2 2021, and to then deliver strong and sustained cash flow from FY2022 onwards. In addition, we are reviewing our portfolio to identify assets that are no longer key to our future strategy to raise proceeds of at least £2bn within the next 18 months. We have identified various assets for potential disposal, including ITP Aero, and the appropriate preparation work is under way. We will also explore options to increase the scope of ITP Aero's supply chain and manufacturing activities. Notwithstanding the outcome, ITP Aero is a key partner and we will retain a long-term relationship with the business across our Civil Aerospace and Defence programmes. We will pursue any disposals under a timeline and structure that maximises value for our shareholders. Any potential disposals are also, of course, dependent on market conditions.

In addition, we continue to review a range of funding options to further strengthen our balance sheet.

Positioned for improved financial performance

Our extensive self-help actions will enable us to emerge from the pandemic with a significantly changed Civil Aerospace business, which will have around a third smaller headcount compared with 2019 and leaner, less capital-intensive operations alongside a facility footprint that is concentrated on fewer sites globally. Furthermore, we are looking at new forms of industrial collaboration to deliver more compelling returns for shareholders. For example, we are actively exploring potential new forms of industrial partnership in relation to the UltraFan programme. This, taken together with the aftermarket returns generated by our young and extensive installed base of more than 5,000 large engines, positions us well to deliver significantly improved returns as the market recovers.

We have a resilient Defence business currently engaged in a number of new contract opportunities, which, if successful, will drive significant future long-term growth. Power Systems is well-positioned to benefit from the recovery and from continued demand for mission critical power. In H1 2020 we continued to pursue geographic opportunities and disciplined investment in expanding our product portfolio of sustainable technologies, whilst working actively to deliver cost efficiencies from our manufacturing cost base and footprint.

Our leaner Civil Aerospace business combined with the growth opportunities in Defence and Power Systems position us well to deliver significantly improved returns and gives us confidence in the fundamentals of our long-term future.

Outlook

Uncertainty remains high as a result of COVID-19, particularly around the easing of travel restrictions and the pace of economic recovery. Our recovery assumptions are based on a gradual recovery in civil aviation activity commencing towards the end of H2 2020. Most Power Systems end markets are currently expected to recover by the end of 2021 and revenues are expected to be back to 2019 levels in 2022. Defence performance is expected to remain resilient throughout the period.

Since the low point in April when large engine flying hours were down 80%, we have seen a modest recovery to between 70% and 75% down in May, June and July. An overview of our base case expectations for the key Civil Aerospace metrics is detailed below, while recognising there is material uncertainty around the future timing and shape of the recovery. In reaching these expectations we have considered current airframer build rates, industry and macroeconomic forecasts, together with bottom-up analysis of our fleet.

	H1 2020	FY 2020	FY 2021	FY 2022
Large engine flying hours (as % of 2019 levels)	53%	~45%	~70%	~90%
Large engine deliveries (including spare engines)	137	Around 250 per year		

Beyond 2022, we expect large engine deliveries to gradually increase, albeit remaining below 2019 levels until the middle of the decade.

For the purpose of the going concern analysis we have considered a base case scenario using the data set out above, and a severe but plausible downside scenario, further details on both are set out in note 1.

Financial guidance:

Our financial guidance reflects our current view of the most likely scenario in an uncertain current market environment. It is dependent on delivery of our restructuring programme benefits as well as the resumption in civil aviation activity detailed above.

- Underlying revenue in 2020 approximately 25-30% lower than the prior year.
- 2020 free cash outflow of approximately £(4)bn, reflecting the impact of COVID-19 on engine flying hours and other aftermarket activity in Civil Aerospace, the decision to cease invoice discounting (£1.1bn at FY19), and a large working capital outflow due to lower activity levels.
- Year-end 2020 liquidity of around £6bn, reflecting an H2 free cash outflow of around £(1)bn, restructuring costs of approximately £(400)m and repayment of a US$500m bond.
- FY 2020 net debt, excluding leases, approximately £(3.5)bn (FY 2019: £1.4bn net cash).

Beyond 2020:

- Targeting a return to positive free cash generation during H2 2021; FY 2021 free cash outflow at significantly reduced levels compared to FY 2020.
- Targeting a return to annual free cash flow of £750m as early as 2022.

The cash flow targets for 2021 and 2022 exclude the impact of potential disposals but are stated after the hedge book cash settlement costs, previously announced in July 2020, of approximately £300m in each of 2021 and 2022 (with the balance of £750m of cash settlement costs paid by 2026).

We are assessing a number of forecasting scenarios given the uncertain market environment. To the extent that market recovery is delayed, our 2021 and 2022 targets would also be delayed. Each percentage point variance to our large engine flying hour estimates has around a £30m impact on flying hour related cash receipts.

Summary

We have taken quick and decisive actions to address the unprecedented impact of COVID-19 on our business. We increased liquidity with £4.2bn new debt facilities and have taken rapid actions to save £1bn of in-year cash costs in 2020. Civil Aerospace is undergoing the largest restructuring in our corporate history. We are taking steps to rebuild our balance sheet so we can emerge well positioned to take the Group forward and capitalise on the long-term growth opportunities in our markets.

This announcement has been determined to contain inside information.
LEI: 213800EC7997ZBLZJH69

Enquiries:

Investors:		**Media**:	
Isabel Green	+44 7880 160976	Richard Wray	+44 7810 850055

Photographs and broadcast-standard video are available at www.rolls-royce.com.
A PDF copy of this report can be downloaded from www.rolls-royce.com/investors.

This Half Year Results announcement contains forward-looking statements. Any statements that express forecasts, expectations and projections are not guarantees of future performance and will not be updated. By their nature, these statements involve risk and uncertainty, and a number of factors could cause material differences to the actual results or developments. This report is intended to provide information to shareholders, is not designed to be relied upon by any other party, or for any other purpose and Rolls-Royce Holdings plc and its directors accept no liability to any other person other than under English law.

Results webcast and conference call
A webcast will be held at 09:00 (BST) today and details of how to join are provided below. Conference call details are also available for those who would prefer to dial-in. Downloadable materials will be available on the Investor Relations section of the Rolls-Royce website from the start of the event.

Webcast details
To register for the webcast, including Q&A participation, please visit the following link:
https://edge.media-server.com/mmc/p/3j9boxdv
Please use this same link to access the webcast replay which will be made available shortly after the event concludes.

Conference call details
UK dial-in: +44 (0) 203 009 5709
US dial-in: +1 646 787 1226
International dial-in for all participants: +44 (0) 203 009 5709
Participant passcode: 238 4596

Downloadable materials
Please visit the Investor Relations section of the Rolls-Royce website to download our Half Year Results materials: https://www.rolls-royce.com/investors/results-and-events.aspx

Group Trading Summary

The commentary and income statement below describes underlying performance, with percentage and absolute change figures presented on an organic basis, unless otherwise stated.

Summary income statement

£m	2020 H1	2019 H1	Change	Organic[1] change
Underlying revenue	**5,561**	**7,353**	**(1,792)**	**(1,613)**
Underlying OE revenue	2,850	3,407	**(557)**	**(484)**
Underlying services revenue	2,711	3,946	**(1,235)**	**(1,129)**
Underlying gross (loss)/profit	**(967)**	**1,030**	**(1,997)**	**(1,959)**
Gross margin %	(17.4)%	14.0%	(3140)bps	(3170)bps
Commercial and administrative costs	(458)	(553)	**95**	**55**
Research and development costs	(336)	(321)	**(15)**	**(21)**
Joint ventures and associates	92	47	**45**	**43**
Underlying operating (loss)/profit	**(1,669)**	**203**	**(1,872)**	**(1,882)**
Underlying operating margin	**(30.0)%**	**2.8%**	**(3280)bps**	**(3350)bps**
Financing costs	(1,575)	(110)	(1,465)	(1,464)
Underlying (loss)/profit before tax	**(3,244)**	**93**	**(3,337)**	**(3,346)**
Tax	(82)	(121)	**39**	**40**
Underlying effective tax rate	(2.5)%	130.1%	–	–
Underlying loss for the period	**(3,326)**	**(28)**	**(3,298)**	**(3,306)**
Underlying loss per share	**(173.19)**	**(1.58)**	**(171.61)**	**(172.04)**

[1] Organic change at constant translational currency ('constant currency') by applying FY 2019 average rates to H1 2020 and H1 2019 numbers excluding M&A. All commentary is provided on an organic basis unless otherwise stated.

Note: The year-on-year movement in the above results are significantly impacted by movements in the US Dollar FX rate. H1 2019 balances were translated at an achieved rate of £$1.53 close to the average rate of our hedge book, whereas H1 2020 balances are translated at £$1.24, due to not being able to utilise our hedge book in the period.

- **Revenues:** the £(1,613)m reduction reflected a significant fall in both OE and services due to the impact of COVID-19. The largest impact was in Civil Aerospace, down 37% year-on-year, due to a significant reduction in new engine deliveries as well as a £(866)m negative impact from LTSA contract catch-ups. ITP Aero revenues were down 24%, predominantly reflecting lower OE volumes for commercial aerospace. Power Systems revenues were down 11% driven by significant declines in the second quarter as the impact of COVID-19 increased, driven by support from government customers but weakness in industrial end markets. Defence was resilient, with revenues up 2%.
- **Gross loss:** the loss of £(967)m was predominantly driven by a £(1,562)m loss in Civil Aerospace, partly offset by positive contributions from Defence, Power Systems and ITP Aero. The substantial loss in Civil Aerospace includes the impact of approximately £(814)m of COVID-related negative LTSA catch-ups alongside lower aftermarket activity and the impact of fixed cost under-recovery.
- **R&D:** charge increased by 7% due to a significant reduction in capitalisation during the period, reflecting the maturity of key aero engine programmes. Cash self-funded R&D spend reduced by 12% during the period, reflecting our cost mitigation efforts to re-phase non-critical spending.
- **C&A costs:** fell by 11%, with significant efforts across the Group to reduce discretionary spending in response to COVID-19, including professional fees, consultancy spend and travel.
- **Operating loss:** the operating loss of £(1,669)m reflects the fall in gross profit and a higher R&D charge, partly offset by higher profit from joint ventures and associates and a reduction in C&A costs. The operating loss in Civil Aerospace of £(1,826)m was partly offset by a £210m contribution from Defence, with modest operating profit in Power Systems and ITP Aero.
- **Financing costs:** of £(1,575)m increased significantly (2019 H1: £(110)m). We reduced the size of our USD hedge book by $10.3bn in response to a lower medium-term outlook for US$ cash receipts following COVID-19. This action resulted in a £(1.46)bn charge taken within underlying financing costs in the period; this will have been historically accounted for in the reported costs.
- **Taxation:** The underlying tax charge was £(82)m (H1 2019: £(121)m), an underlying rate of (2.5)% compared to 130.1% in the prior year. The tax charge reflects the tax on profits in higher tax jurisdictions such as the US and Germany together with the fact that we have not recognised any deferred tax on UK losses in H1 2020 and some of the deferred tax on UK losses previously recognised has been de-recognised.

Group Funds Flow

Free cash flow

Group free cash outflow of £(2.8)bn deteriorated from a £(429)m outflow in H1 2019, reflecting the reduction in engine flying hour receipts and a substantial working capital related outflow that included a cessation of invoice discounting.

Summary funds flow statement [1]

£m	H1 2020	H1 2019	Change
Underlying operating (loss)/profit	**(1,669)**	203	(1,872)
Depreciation and amortisation	**499**	511	(12)
Lease payments (capital plus interest)	**(190)**	(184)	(6)
Additions of intangible assets	**(176)**	(274)	98
Purchases of property, plant and equipment	**(221)**	(348)	127
Increase in inventory	**(301)**	(433)	132
Movement in receivables/payables/contract balances (excluding Civil LTSA)	**(1,521)**	391	(1,912)
Civil Aerospace net LTSA balance change	**788**	128	660
Of which: underlying change	***(78)***	*120*	*(198)*
Of which: impact of contract catch-ups	***866***	*8*	*858*
Movement on provisions	**132**	(271)	403
Net interest received and paid	**(26)**	(45)	19
Cash flows on settlement of excess foreign exchange contracts	**(88)**	–	(88)
Cash flows on financial instruments net of realised losses included in operating profit	**(53)**	(33)	(20)
Other	**(35)**	25	(60)
Trading cash flow	**(2,861)**	(330)	(2,531)
Underlying operating profit charge in excess of contributions to defined benefit schemes	**94**	1	93
Tax	**(34)**	(100)	66
Free cash flow	**(2,801)**	(429)	(2,372)
Shareholder payments	**(90)**	(85)	(5)
Disposals and acquisitions of businesses	**2**	458	(456)
Exceptional restructuring costs	**(87)**	(66)	(21)
Penalties paid on agreements with investigating bodies	**(135)**	(102)	(33)
Difference in fair values of derivative contracts held for financing	**(89)**	(15)	(74)
Payments of lease principal less new leases and other non-cash adjustments to lease liabilities	**167**	53	114
Foreign exchange	**(2)**	(29)	27
Other	**(41)**	(6)	(35)
Change in net funds/(debt)	**(3,076)**	(221)	(2,855)

[1] The derivation of the summary funds flow statement above from the reported cash flow statement is included on page 48.

Key changes in the funds flow items are described below:

Additions of intangible assets

Intangible asset expenditure of £(176)m was incurred in H1 2020 (H1 2019: £(274)m), including £(152)m of R&D capitalisation (H1 2019: £(224)m). The reduction in R&D capitalisation was due to the increasing maturity of our new Civil Aerospace engine programmes, with R&D on the Trent 1000 and Pearl 15 engines no longer falling within the capitalisation window.

Purchases of property, plant and equipment

Investment of £(221)m in 2020 reduced by £127m (H1 2019: £(348)m) as a result of cash saving measures taken in response to the impact of the COVID-19 pandemic.

Increase in inventory
Inventory increased by £(301)m in H1 2020 (H1 2019: £(433)m increase). This was driven by Civil Aerospace, where there was an increase in the number of assembled engines held in inventory, reflecting the reduction in airframer delivery schedules and inventory built to support planned spare engine sales in the second half of the year.

Movement in receivables/payables/contract balances (excluding Civil LTSA)
The change in receivables/payables of £(1,521)m in H1 2020 reflected:

- £(1.1)bn increase in trade receivables driven by cessation of receivables discounting during H1 2020.
- The remaining £(0.4)bn was driven primarily by a reduction in trade payables in Civil Aerospace, including a reduction in the amounts owed to joint ventures and risk and revenue share partners (RRSPs), largely due to the significant reduction in manufacturing volumes as a result of COVID-19. In addition, there was a modest impact from lower OE deposits due to the reduction in large engine delivery levels.

Movement in underlying Civil net LTSA balance
The net LTSA balance represents deferred revenue and is a core part of our business model. It is the difference between the cash payments we receive from customers on our long-term service agreements and the revenue booked to-date on those contracts.

In H1 2020, due to the low levels of flying during the first half as a result of COVID-19 there was an underlying £78m reduction in the net LTSA balance. This was driven by widebody in particular, where cash receipts fell due to the lower flying activity, but shop visit volumes increased modestly year-on-year, driving revenue recognition. However, this underlying change was more than offset by the impact of contract catch-ups due to lower engine flying hours and an increased risk of parked aircraft and retirements in the medium term due to COVID-19. These catch-ups reduced revenues by £866m.

Movement on provisions
The movement in provisions was £132m in H1 2020 (H1 2019: £(271)m). This reflects a growth in the provision balance, with Trent 1000 provision utilisation during the period more than offset by new provisions charges taken in underlying operating profit, largely as a result of COVID-19. The new provisions taken include a £(309)m impact from the up-front recognition of future losses on loss-making Civil Aerospace contracts.

Interest
Net interest received and paid of £(26)m in H1 2020 was £19m lower than prior year (2019: £(45)m). This lower level of net interest paid is largely the result of the £1.1bn reduction in gross debt during 2019. From H2 2020, however, we anticipate an increase in net interest paid reflecting the additional debt taken during the first half in response to COVID-19.

Pensions
In H1 2020, cash pension contributions were £94m lower than the pensions charge on the income statement (H1 2019: £1m lower). This £93m year-on-year movement was largely driven by timing, reflecting some early payments made by the group during H2 2019 and the deferral of some payments into H2 2020.

Tax
The lower cash tax in H1 2020 of £(34)m (H1 2019: £(100)m) is mainly due to US tax payments being deferred to H2 2020 under COVID-19 tax measures.

Balance sheet

Summary balance sheet £m	30 June 2020	31 Dec 2019	Change
Intangible assets	**5,329**	5,442	(113)
Property, plant and equipment	**4,612**	4,803	(191)
Right-of-use assets	**1,540**	2,009	(469)
Investments – joint ventures and associates	**421**	402	19
Contract assets and liabilities	**(9,494)**	(8,745)	(749)
Working capital [1]	**792**	(1,136)	1,928
Provisions	**(2,653)**	(2,804)	151
Net debt [2]	**(4,069)**	(993)	(3,076)
Net financial assets and liabilities [2]	**(5,917)**	(3,277)	(2,640)
Net post-retirement scheme surplus/(deficit)	**240**	(208)	448
Tax	**1,050**	1,136	(86)
Held for sale	**–**	3	(3)
Other net assets and liabilities	**25**	14	11
Net liabilities	**(8,124)**	(3,354)	(4,770)
Other items			0
US$ hedge book (US$bn)	**26.2**	36.5	(10.3)
Civil Aerospace LTSA asset	**720**	1,086	(366)
Civil Aerospace LTSA liability	**(7,113)**	(6,783)	(330)
Civil Aerospace net LTSA liability	**(6,393)**	(5,697)	(696)

[1] Net working capital includes inventory, trade receivables and payables and similar assets and liabilities.
[2] Net debt includes £456m (2019: £243m) of the fair value of financial instruments which are held to hedge the fair value of borrowings.

Key drivers of balance sheet movements were:
Intangible assets: The net decrease of £(113)m included impairments of £(393)m, mostly related to the impact of COVID-19 on Civil Aerospace. Additions of £203m primarily related to programme development in Civil Aerospace and investment in software applications. There was a positive £223m FX impact and amortisation for the period was £(157)m.

Property, plant and equipment: The net decrease of £(191)m included impairments of £(247)m and depreciation of £(248)m partly offset by a positive £151m FX impact. Additions of £178m were £92m lower than the prior period as spending was limited to critical infrastructure projects.

Right of use assets: The net reduction of £(469)m was driven by impairment of £(319)m primarily of lease engines in Civil Aerospace (Trent 900 and 500). The depreciation charge was £194m.

Contract assets and liabilities: In H1 2020 the balance increased by £(749)m, mainly related to the Civil Aerospace LTSA balance. The movement in the Civil Aerospace LTSA balance included cumulative negative impact of catch-ups to LTSA revenue of £(866)m.

Working capital: Working capital increased by £1,928m, led by a significant increase in receivables due to cessation of invoice discounting during H1 2020 and a reduction in activity due to COVID-19. Inventory increased by £498m largely due to customer airframer rescheduling.

Provisions: The £151m decrease reflected the utilisation and release of £328m and £450m of Trent 1000 provisions respectively offset by £(329)m charges for the COVID-19 restructuring programme and an increase in the contract losses provision.

Net debt: Net debt (including leases) increased from £(993)m in FY 2019 to £(4,069)m at H1 2020. The change is primarily driven by free cash outflow of £(2,801)m.

Net financial assets and liabilities: These items principally relate to the fair value of foreign exchange, commodity and interest rate contracts. There was a movement of £(2.6)bn relating to an adverse mark-to-market movement on the FX hedge book.

US$ hedge book: The US hedge book at period end was $26.2bn and extends out to 2028. In the first half we acted to reduce the size of the hedge book by $10.3bn to reflect the deterioration in the medium-term outlook caused by COVID-19. Further market deterioration compared to our recovery expectations could lead to the need to close out additional hedges in the future.

Group Reported Results

Consistent with past practice, we provide both reported and underlying figures. As the Group does not generally hedge account for forecast transactions in accordance with IFRS 9 *Financial Instruments*, we believe underlying figures are more representative of the trading performance by excluding the impact of period-end mark-to-market adjustments. In particular, the USD:GBP hedge book has a significant impact on the reported results. In H1 2020, the USD:GBP spot rate moved from 1.32 to 1.23 while the EUR:GBP rate moved from 1.18 to 1.10 . Underlying performance also excludes the effect of acquisition accounting and business disposals, impairment of goodwill and other non-current and current assets, and exceptional items. These are included in arriving at reported results. The adjustments between the underlying income statement and the reported income statement are set out in Note 2 to the condensed consolidated financial statements. This basis of presentation has been applied consistently.

Reconciliation between underlying and reported results

	£m	**Revenue**		**(Loss)/profit before financing and tax**		**Net financing**	
	Half-year to 30 June	**2020**	2019	**2020**	2019	**2020**	2019
	Underlying performance	**5,561**	**7,353**	**(1,669)**	**203**	**(1,575)**	**(110)**
1	Impact of settled derivative contracts on trading transactions	263	530	664	80	(584)	(123)
2	Unrealised fair value changes on derivative contracts held for trading	–	–	(4)	(2)	(2,729)	(738)
3	Unrealised net losses on closing future over-hedged positions	–	–	–	–	1,369	–
4	Unrealised fair value change to derivative contracts held for financing	–	–	–	–	(88)	(15)
5	Exceptional programme credits/(charges)	–	–	498	(59)	(21)	–
6	Impact of discount rate changes	–	–	–	–	30	–
7	Exceptional restructuring charge	–	–	(366)	(69)	–	–
8	Impairments	–	–	(966)	–	–	–
9	Other write-offs	–	–	(99)	–	–	–
10	Pension past service credit	–	–	248	–	–	–
11	Effect of acquisition accounting	–	–	(66)	(71)	–	–
	Other	–	–	(9)	1	(2)	(6)
	Included in operating (loss)/profit	263	530	(100)	(120)	(2,025)	(882)
12	Gains arising on the acquisitions and disposals of businesses	–	–	2	118	–	–
	Total underlying adjustments	263	530	(98)	(2)	(2,025)	(882)
	Reported performance	**5,824**	**7,883**	**(1,767)**	**201**	**(3,600)**	**(992)**

The most significant items included in the reported income statement, but not in underlying, are summarised below.

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 £263m (H1 2019: £530m) and reduced loss before financing and taxation by £664m (H1 2019 increased profit by £80m). 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 response to the deterioration in the medium-term outlook caused by COVID-19 and the related reduction in anticipated net US Dollar cash inflows, the Group took action to reduce the size of the US Dollar hedge book by transacting offsetting foreign exchange forward contracts across 2020-2026, resulting in a £1,457m charge to underlying results. This comprised of £88m

cash costs incurred in the period and included within reported financing costs. The remaining £1,369m included in unrealised loss (shown above) is the net cost of closing out the over-hedged position in future years. The cost related to future years has been included as an underlying financing charge within the underlying performance. It is reversed in arriving at reported performance on the basis that, the cumulative fair value changes on these derivative contracts are recognised as they arise.

[4] Includes the losses on hedge ineffectiveness in the period of £(15)m (H1 2019: £(15)m) and net fair value losses of £(73)m (H1 2019: £nil) on any interest rate swaps not designated into hedging relationships for accounting purposes.

[5] In 2019, abnormal wastage costs were recorded in respect of the Trent 1000, related to remediation shop visit costs, customer disruption costs and contract losses. During the period to 30 June 2020, the total estimated Trent 1000 abnormal wastage costs have reduced by £498m as a result of COVID-19, made up of £321m (a gross provision release of £450m, offset by the impact of expected actual exchange rates and the share of the costs borne by RRSAs) related to remediation shop visit costs and customer disruption costs and an improvement of £177m in the position on contract losses.

[6] Discount rates have increased on exceptional contract loss provisions in relation to the Trent 900 and Trent 1000.

[7] At 30 June 2020, the Group recorded an exceptional restructuring charge of £(366)m following the announcement on 20 May 2020 to reshape and resize the Group due to the financial and operational impact of COVID-19 (see note 17 for more detail). At 30 June 2019, an exceptional restructuring charge of £(69)m was recognised, which included £(39)m in respect of the Group-wide restructuring programme announced in June 2018, along with other multiyear restructuring programmes across the Group.

[8] The Group has assessed the carrying value of its assets given the financial and operational impact of COVID-19 on the Group's future cash flow forecasts. Consequently, a number of impairments and write-offs have been recorded at 30 June 2020. Impairments comprise: intangible assets £(391)m, mainly related to programme intangibles; property, plant and equipment £(241)m (including £(145)m related to site rationalisation); right-of-use assets £(319)m, comprising engines of £(310)m and £(9)m of site rationalisation; and a £(15)m impairment on the carrying value of investments held.

[9] Other write-offs include £(110)m of participation fees in contract assets and £(4)m in provisions for site rationalisation, offset by £15m for RRSA deferred cost contributions in payables. These write-offs are primarily a result of the impact of COVID-19.

[10] The Group recorded an exceptional past service gain of £248m following changes to the pension benefits under the terms of the UK pension defined benefit scheme – see note 18. Of the £248m gain, £79m related to the restructuring described in footnote 7 above.

[11] The effect of acquisition accounting includes the amortisation of intangible assets arising on previous acquisitions.

[12] Gains arising on the acquisitions and disposals of businesses, included the acquisition of Qinous GmbH (increasing its shareholding from 24% to 100%), the sale of North America Civil Nuclear, the sale of Knowledge Management Systems business and the sale of Trigno Energy Srl. See note 21 for more details.

Tax affecting these adjustments resulted in a tax credit of £71m (H1 2019: £5m). The tax credits in H1 2020 and H1 2019 are low mainly due to the fact that we have not recognised any deferred tax on UK losses arising in those years. The tax credit of £71m in H1 2020 is made up of a credit of £187m relating to non-underlying adjustments in the year, a tax credit of £160m in respect of the change in the UK tax rate and a tax charge of £276m relating to the de-recognition of some of the deferred tax asset on UK losses previously recognised.

Civil Aerospace

£m	H1 2020	H1 2019	Change	Organic Change
Engine deliveries	**240**	**369**	**(35)%**	**(35)%**
Underlying revenue	**2,527**	**4,018**	**(37)%**	**(37)%**
Underlying OE revenue	1,198	1,570	**(24)%**	**(24)%**
Underlying services revenue	1,329	2,448	**(46)%**	**(46)%**
Underlying gross (loss)/profit	**(1,562)**	**276**	**(1,838)**	**(1,842)**
Gross margin %	(61.8)%	6.9%	(6870)bps	(6880)bps
Commercial and administrative costs	(172)	(185)	**(7)%**	**(8)%**
Research and development costs	(180)	(157)	**15%**	**15%**
Joint ventures and associates	88	45	**96%**	**91%**
Underlying operating loss	(1,826)	(21)	(1,805)	(1,810)
Underlying operating margin %	**(72.3)%**	**(0.5)%**	**(7180)bps**	**(7190)bps**

- The COVID-19 pandemic has severely impacted civil aviation, with most commercial flights around the world grounded from mid-March.
- 137 large engines (including spares) were delivered, (H1 2019: 257), consistent with around 250 deliveries expected in the full year. 103 business jet engines were delivered (H1 2019: 112).
- Flying hours from our large engines under long-term service agreements (LTSAs) reduced by 47%, totalling 4.0m in the period. Business jet and regional flights were less severely affected.
- Maintenance, repair and overhaul (MRO) activity to service our large engine LTSA installed base was modestly higher year-on-year with approximately 160 major service visits. This reflects our prior efforts to grow MRO visits as we entered 2020, as well as the natural time delay required to reduce activity, with lower shop visit volumes expected in H2.
- **Underlying Revenue** reduced by 37%, including a 24% reduction in OE revenue due to lower delivery volumes and a 46% reduction in services, driven primarily by negative LTSA contract catch-ups totalling £(866)m.
- **Underlying gross loss** of £(1,562)m, down from £276m of gross profit in 2019 principally reflected lower aftermarket profit, underutilisation of operations, lower spare engine sales and £1.2bn of largely COVID-19 related one-time charges which included:
  - LTSA catch-ups: £(814)m impact to profit from negative contract catch-ups, principally driven by a forecast reduction in engine flying hour receipts as a result of COVID-19;
  - Up-front recognition of future losses: also due largely to COVID-19, certain contracts have either become loss-making or have seen an increase in expected losses, resulting in a £(309)m charge, with the largest impact on the Trent 900 programme; and
  - £95m charge reflecting specific customer provisions and the deterioration of the market credit ratings of our customers in Civil Aerospace largely due to COVID-19.
- **C&A:** costs of £(172)m, down 8% due to management cost control actions.
- **R&D:** charge increased to £(180)m (2019 H1: £(157)m), driven by a fall in R&D capitalisation as new engine programmes mature, with R&D cash spend modestly lower.
- **Trent 1000:** Zero AoG related to Trent 1000 durability issues reached in June 2020. Additionally, there was a £498m exceptional provision reduction, reflecting a £321m net improvement in the outlook for future in-service cash costs, alongside a £177m improvement in expected future losses on our small number of loss making contracts both due to the impact of COVID-19 on industry activity. During H1 in-service cash costs on Trent 1000 were £(135)m.
- **Outlook:** as outlined in our ‘base case’ scenario, we anticipate a gradual recovery in flying activity with large engine flying hours declining by approximately 55% in 2020 before recovering to approximately 70% of 2019 levels by 2021 and approximately 90% by 2022. We expect large engine deliveries to remain stable at around 250 per year across 2020-22. Due to this improvement in flying hours, alongside our major reorganisation of the Civil Aerospace cost base, we anticipate a significant improvement in Civil Aerospace performance from 2021, with a return to positive cash generation during 2022.

Power Systems

£m	H1 2020	H1 2019	Change	Organic change
Underlying revenue	**1,250**	**1,408**	**(11)%**	**(11)%**
Underlying OE revenue	823	923	(11)%	(11)%
Underlying services revenue	427	485	(12)%	(12)%
Underlying gross profit	**265**	**370**	**(28)%**	**(28)%**
Gross margin %	21.2%	26.3%	(510)bps	(510)bps
Commercial and administrative costs	(154)	(176)	(13)%	(12)%
Research and development costs	(89)	(89)	–	1%
Joint ventures and associates	–	(1)	–	–
Underlying operating profit	**22**	**104**	**(79)%**	**(79)%**
Underlying operating margin %	**1.8%**	**7.4%**	**(560)bps**	**(560)bps**

The underlying results for Power Systems for 30 June 2019 have been restated to reclassify Bergen Engines AS and the North America Civil Nuclear business as non-core.

- Performance was impacted by COVID-19 during H1, albeit less severely than in our Civil Aerospace business.
- **Order intake** was £1,241m in H1, resulting in a net book-to-bill of 1.0x, helped by the Chinese market, which remained robust.
- **Underlying revenue** decreased by 11% to approximately £1.3bn. OE revenue was down 11% driven by weak demand particularly in industrial end markets, while government marine and power generation sales were resilient. Services revenue was down 12% with lower utilisation of Power Systems' installed base due to reduced industrial and construction activity, as well as the impact of mobility restrictions.
- **Underlying gross profit** fell by 28% to £265m, with margins down by 510bps. This reflected the reduction in revenues as well as reduced factory utilisation and included an approximately £(20)m impact from inventory write-downs as a result of COVID-19.
- **C&A** cost reduced by 12% to £(154)m reflecting management actions to reduce discretionary costs.
- **R&D** charge was unchanged at £(89)m, with spending being increasingly focused on lower carbon technology including gas, microgrids, and hybrid engine system programmes.
- **M&A:** we made two acquisitions to accelerate our strategy. We acquired a majority position in Qinous GmbH, an electricity storage specialist, to enhance our microgrid offering. We also signed an agreement to acquire Kinolt Group S.A. (completed on 1 July 2020), a dynamic uninterruptible power supply system business, to enhance our strong position in the growing mission critical backup power generation market.
- **Outlook:** demand during the second half of 2020 is expected to remain weak for industrial end markets, particularly for oil and gas, while governmental business looks more robust. Beyond 2020, we anticipate most of Power Systems' end markets returning to pre-COVID levels by the end of 2021, supported by easing of lockdown restrictions and government stimulus packages to drive economic recovery. By 2022, revenue is expected to have returned to 2019 levels. In particular, we expect a strong recovery in power generation, helped by demand from data centres and ongoing growth in China, while oil and gas markets are expected to remain weak until commodity prices improve.

Defence

£m	H1 2020	H1 2019	Change	Organic change
Underlying revenue	**1,553**	**1,494**	**4%**	**2%**
Underlying OE revenue	678	653	4%	2%
Underlying services revenue	875	841	4%	2%
Underlying gross profit	**332**	**295**	**13%**	**11%**
Gross margin %	21.4%	19.7%	170bps	160bps
Commercial and administrative costs	(76)	(77)	(1)%	(1)%
Research and development costs	(49)	(48)	2%	–
Joint ventures and associates	3	3	–	–
Underlying operating profit	**210**	**173**	**21%**	**19%**
Underlying operating margin %	**13.5%**	**11.6%**	**190bps**	**190bps**

- Defence performed resiliently in H1, with no material adverse financial impact or customer disruption from COVID-19 after mitigating actions. Support for the defence industry from governments and other customers in our key markets has been swift. In particular around recognising key workers, the need to maintain a strong supply chain and working collaboratively to maintain critical defence and security programmes. This together with our own decisive and early action has enabled the resilience of our defence business.
- **Order intake** of £1.2bn (book-to-bill of 0.8x) was in-line with expectations following a strong period of order intake with an average book-to-bill of 1.2x across the preceding five years.
- **Underlying revenue** increased by 2%, with growth in both OE sales and services. OE sales were slightly higher with services revenue increasing due to growth in naval repairs and higher spare parts sales.
- **Underlying operating profit** increased by 19% to £210m, with margins improving by 190bps. Margins were driven by improved product mix in OE and Services while operational disruption from COVID-19 was kept to a minimum.
- **C&A** costs were broadly flat year-on-year at £(76)m, reflecting actions to reduce costs.
- **R&D** costs were stable, slightly below expectations reflecting the timing of spend on new programmes.
- **Outlook:** we expect continued resilient performance in Defence in the second half of 2020 and through to 2022. Longer term, there are a number of key upcoming programme opportunities to drive growth, both in the UK and US. Reflecting this, and to support our people, we are bringing engineering expertise from our Civil Aerospace business as we open more roles at our Bristol facility, with around 200 people transferring to Defence during the first half of 2020.

ITP Aero

£m	H1 2020	H1 2019	Change	Organic change
Underlying revenue	**346**	**457**	**(24)%**	**(24)%**
Underlying OE revenue	267	400	(33)%	(33)%
Underlying services revenue	79	57	39%	39%
Underlying gross profit	**47**	**80**	**(41)%**	**(42)%**
Gross margin %	13.6%	17.5%	(390)bps	(410)bps
Commercial and administrative costs	(23)	(33)	(30)%	(30)%
Research and development costs	(15)	(15)	0%	(7)%
Joint ventures and associates	1	–	–	–
Underlying operating profit	**10**	**32**	**(69)%**	**(70)%**
Underlying operating margin %	**2.9%**	**7.0%**	**(410)bps**	**(430)bps**

- Due to ITP Aero's significant exposure to commercial aerospace, which accounts for around 75% of its activities, first half performance was heavily impacted by the COVID-19 pandemic.
- **Underlying revenue** was £346m, a decrease of 24% versus H1 2019. Sales were impacted by lower engine volumes on civil programmes, particularly in widebody, with ITP Aero's defence revenue also lower, reflecting a reduction in TP400 OE volumes and phasing on EJ200.
- **Underlying operating profit** of £10m, 70% lower than H1 2019, reflecting the challenging trading environment in civil aviation.
- **C&A** costs were 30% lower year-on-year, benefitting from cost reclassifications as well as management actions to reduce discretionary costs.
- **R&D** costs remained broadly stable during the period.
- A major milestone was also achieved with the signing of the General Protocol between the Spanish Ministry of Defence and ITP Aero for the Next Generation Future Combat Air System (FCAS) project. ITP Aero has been appointed as the leading Spanish company in the engine technology pillar.
- **Outlook:** in 2020 we expect a significant decline in ITP Aero's sales, driven by the lower volumes in commercial aerospace described above. Performance is expected to stabilise in 2021 and improve in 2022 as a consequence of our actions to reduce costs to improve profitability, including a proposed adjustment of its workforce capacity of approximately 15% globally by the end of H1 2021, and an increase in volumes in narrowbody and business aviation programmes.

Condensed consolidated half-year financial statements

Condensed consolidated income statement

For the half-year ended 30 June 2020

	Notes	**Half-year to 30 June 2020 £m**	Half-year to 30 June 2019 £m
Revenue	2	**5,824**	7,883
Cost of sales [1]		**(6,511)**	(6,882)
Gross (loss)/profit	2	**(687)**	1,001
Commercial and administrative costs [1]	2	**(443)**	(614)
Research and development costs [1]	3	**(712)**	(349)
Share of results of joint ventures and associates		**73**	45
Operating (loss)/profit		**(1,769)**	83
Gain arising on acquisition and disposal of businesses [2]	21	**2**	118
(Loss)/profit before financing and taxation		**(1,767)**	201
Financing income	4	**24**	73
Financing costs [3]	4	**(3,624)**	(1,065)
Net financing costs		**(3,600)**	(992)
Loss before taxation [4]		**(5,367)**	(791)
Taxation	5	**(11)**	(116)
Loss for the period		**(5,378)**	(907)
Attributable to:			
Ordinary shareholders		**(5,380)**	(909)
Non-controlling interests		**2**	2
Loss for the period		**(5,378)**	(907)
Other comprehensive income/(expense)		**683**	(708)
Total comprehensive expense for the period		**(4,695)**	(1,615)
Earnings per ordinary share attributable to ordinary shareholders:	6		
Basic		**(280.06)p**	(48.02)p
Diluted		**(280.06)p**	(48.02)p
Underlying earnings per ordinary share are shown in note 6.			
Payments to ordinary shareholders in respect of the period	7		
Pence per share		**–**	4.6p
Total		**–**	87
Underlying (loss)/profit before taxation [4]	2	**(3,244)**	93

[1] Included within cost of sales, commercial and administrative costs and research and development costs are exceptional items relating to impairments and write-offs, as a result of the financial and operational impact of COVID-19. Impairments and provisions related to the Group-wide restructuring activity announced on 20 May 2020 to reshape and resize the Group have also been recorded. In the prior year, exceptional charges related to the Trent 1000 and Trent 900 Civil Aerospace programmes and restructuring costs were included within cost of sales and commercial and administrative costs. Further details can be found in note 2.

[2] North America Civil Nuclear business was disposed of on 31 January 2020, Knowledge Management business was disposed of on 3 February 2020 and Trigno Energy Srl was disposed of on 7 May 2020. Qinous GmbH was acquired on 15 January 2020. Commercial Marine was disposed of on 1 April 2019 and Rolls-Royce Power Development Limited was disposed of on 15 April 2019. Further details can be found in note 21.

[3] Included within financing costs are fair value changes on derivative contracts. Further details can be found in notes 2 and 4.

[4] (Loss)/profit before taxation disclosed on a statutory and underlying basis. Further details can be found in note 2.

Condensed consolidated statement of comprehensive income

For the half-year ended 30 June 2020

	Notes	**Half-year to 30 June 2020 £m**	Half-year to 30 June 2019 £m
Loss for the period		**(5,378)**	(907)
Other comprehensive income (OCI)			
Actuarial movements in post-retirement schemes [1]	18	**393**	(943)
Share of OCI of joint ventures and associates		**(1)**	(1)
Related tax movements		**(130)**	313
Items that will not be reclassified to profit or loss		**262**	(631)
Foreign exchange translation differences on foreign operations		**444**	20
Reclassified to income statement on disposal of businesses	21	**3**	(98)
Cash flow hedge reserve movements		**(25)**	10
Share of OCI of joint ventures and associates		**(9)**	(7)
Related tax movements		**8**	(2)
Items that may be reclassified to profit or loss		**421**	(77)
Total other comprehensive income/(expense)		**683**	(708)
Total comprehensive expense for the period		**(4,695)**	(1,615)
Attributable to:			
Ordinary shareholders		**(4,697)**	(1,617)
Non-controlling interests		**2**	2
Total comprehensive expense for the period		**(4,695)**	(1,615)

[1] Included in 'actuarial movements in post-retirement schemes' in the prior period is an asset re-measurement net loss estimated at £600m following the agreement to transfer the future pension obligation of circa 33,000 pensioners in the UK scheme to Legal & General Assurance Society Limited. See note 18 for further information.

Condensed consolidated balance sheet
At 30 June 2020

	Notes	30 June 2020 £m	31 December 2019 £m
ASSETS			
Intangible assets	9	**5,329**	5,442
Property, plant and equipment	10	**4,612**	4,803
Right-of-use assets	11	**1,540**	2,009
Investments – joint ventures and associates		**421**	402
Investments – other		**25**	14
Other financial assets	15	**463**	467
Deferred tax assets	5	**2,062**	1,887
Post-retirement scheme surpluses	18	**1,736**	1,170
Non-current assets		**16,188**	16,194
Inventories		**4,818**	4,320
Trade receivables and other assets	12	**6,066**	5,065
Contract assets	14	**1,610**	2,095
Taxation recoverable		**38**	39
Other financial assets	15	**181**	86
Short-term investments		**–**	6
Cash and cash equivalents		**4,239**	4,443
Current assets		**16,952**	16,054
Assets held for sale	21	**–**	18
TOTAL ASSETS		**33,140**	32,266
LIABILITIES			
Borrowings and lease liabilities	16	**(1,776)**	(775)
Other financial liabilities	15	**(640)**	(493)
Trade payables and other liabilities	13	**(8,299)**	(8,450)
Contract liabilities	14	**(4,538)**	(4,228)
Current tax liabilities		**(265)**	(172)
Provisions for liabilities and charges	17	**(1,124)**	(858)
Current liabilities		**(16,642)**	(14,976)
Borrowings and lease liabilities	16	**(6,988)**	(4,910)
Other financial liabilities	15	**(5,465)**	(3,094)
Trade payables and other liabilities	13	**(1,793)**	(2,071)
Contract liabilities	14	**(6,566)**	(6,612)
Deferred tax liabilities	5	**(785)**	(618)
Provisions for liabilities and charges	17	**(1,529)**	(1,946)
Post-retirement scheme deficits	18	**(1,496)**	(1,378)
Non-current liabilities		**(24,622)**	(20,629)
Liabilities associated with assets held for sale	21	**–**	(15)
TOTAL LIABILITIES		**(41,264)**	(35,620)
NET LIABILITIES		**(8,124)**	(3,354)
EQUITY			
Called-up share capital		**386**	386
Share premium account		**319**	319
Capital redemption reserve		**161**	159
Cash flow hedging reserve		**(124)**	(96)
Merger reserve		**650**	650
Translation reserve		**846**	397
Accumulated losses		**(10,386)**	(5,191)
Equity attributable to ordinary shareholders		**(8,148)**	(3,376)
Non-controlling interests		**24**	22
TOTAL EQUITY		**(8,124)**	(3,354)

Condensed consolidated cash flow statement

For the half-year ended 30 June 2020

	Notes	**Half-year to 30 June 2020 £m**	Half-year to 30 June 2019 £m
Reconciliation of cash flows from operating activities			
Operating (loss)/profit [1]		**(1,769)**	83
Loss on disposal of property, plant and equipment		**19**	–
Share of results of joint ventures and associates		**(73)**	(45)
Dividends received from joint ventures and associates		**28**	36
Amortisation and impairment of intangible assets	9	**550**	153
Depreciation and impairment of property, plant and equipment	10	**495**	229
Depreciation and impairment of right-of-use assets	11	**513**	200
Adjustment of return conditions in lease liabilities		**(42)**	–
Impairment of and other movements on investments		**19**	–
Decrease in provisions		**(130)**	(172)
Increase in inventories		**(301)**	(433)
Movement in trade receivables/payables and other assets/liabilities		**(1,925)**	215
Movement in contract assets/liabilities		**642**	473
Penalties paid on agreements with investigating bodies		**(135)**	(102)
Cash flows on other financial assets and liabilities held for operating purposes		**(35)**	(314)
Interest received		**12**	–
Net defined benefit post-retirement (credit)/cost recognised in (loss)/profit before financing	18	**(116)**	107
Cash funding of defined benefit post-retirement schemes	18	**(38)**	(106)
Share-based payments		**1**	20
Other		**–**	(1)
Net cash (outflow)/inflow from operating activities before taxation		**(2,285)**	343
Taxation paid		**(34)**	(100)
Net cash (outflow)/inflow from operating activities		**(2,319)**	243
Cash flows from investing activities			
Net movement in unlisted investments		**(14)**	2
Additions of intangible assets	9	**(204)**	(283)
Disposals of intangible assets	9	**10**	2
Purchases of property, plant and equipment		**(226)**	(349)
Disposals of property, plant and equipment		**1**	7
Disposals of right-of-use assets		**7**	–
Acquisition of businesses	21	**(8)**	–
Disposal of businesses	21	**10**	458
Movement in investments in joint ventures and associates and other movements on investments		**(4)**	(2)
Other		**–**	(1)
Net cash outflow from investing activities		**(428)**	(166)
Cash flows from financing activities			
Repayment of loans		**(21)**	(585)
Proceeds from increase in loans [2]		**2,807**	46
Capital element of lease payments		**(149)**	(140)
Net cash flow from increase/(decrease) in borrowings and leases		**2,637**	(679)
Interest received		**–**	19
Interest paid		**(38)**	(64)
Interest element of lease payments		**(39)**	(44)
Cash flows on settlement of excess foreign exchange contracts [3]		**(88)**	–
Decrease in short-term investments		**6**	6
Issue of ordinary shares (net of expenses)		**–**	1
Purchase of ordinary shares		**(1)**	(15)
Other transactions in ordinary shares		**–**	21
Redemption of C Shares		**(90)**	(85)
Net cash inflow/(outflow) from financing activities		**2,387**	(840)
Change in cash and cash equivalents		**(360)**	(763)
Cash and cash equivalents at 1 January		**4,435**	4,952
Exchange gains/(losses) on cash and cash equivalents		**156**	(7)
Cash and cash equivalents at 30 June [4]		**4,231**	4,182

[1] During the period to 30 June 2020, the Group received £17m from the British Government as part of the UK furlough scheme. This was recognised within operating loss.

[2] Includes drawdown of £2.5bn revolving credit facility and cash received from the COVID-19 Corporate Financing Facility (CCFF) – see note 16 for further details.

[3] The impact of COVID-19 on the aerospace industry resulted in a deterioration in net US Dollar receipts across the Group leading to a net US Dollar outflow in the period. During the period to 30 June 2020, the Group incurred a cash outflow of £88m as a result of needing to buy US Dollars to settle $476m of foreign exchange contracts that were originally in place to sell US Dollar receipts during the period to 30 June 2020. Further detail is provided in notes 2 and 4.

[4] 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.

In deriving the consolidated cash flow statement, movements in balance sheet line items have been adjusted for non-cash items. The cash flow in the period includes the sale of goods and services to joint ventures and associates – see note 20.

Condensed consolidated cash flow statement continued

For the half-year ended 30 June 2020

	Half-year to 30 June 2020 £m	Half-year to 30 June 2019 £m
Reconciliation of movements in cash and cash equivalents to movements in net funds/(debt)		
Change in cash and cash equivalents	**(360)**	(763)
Cash flow from (increase)/decrease in borrowings and leases	**(2,637)**	679
Cash flow from decrease in short-term investments	**(6)**	(6)
Change in net funds resulting from cash flows	**(3,003)**	(90)
New leases and other non-cash adjustments to lease liabilities in the period	**18**	(87)
Exchange losses on net funds	**(2)**	(29)
Fair value adjustments	**(302)**	(106)
Reclassifications [1]	**–**	(79)
Movement in net funds/(debt)	**(3,289)**	(391)
Net (debt)/funds at 1 January excluding the fair value of swaps	**(1,236)**	318
Adoption of IFRS 16	**–**	(2,248)
Net debt at 1 January	**(1,236)**	(1,930)
Net debt at period end excluding the fair value of swaps	**(4,525)**	(2,321)
Fair value of swaps hedging fixed rate borrowings	**456**	384
Net debt at 30 June	**(4,069)**	(1,937)

[1] During the period to 30 June 2019, the Group reclassified £79m as borrowings previously included in other financial liabilities. These borrowings mature between 2019 and 2029.

The movement in net funds/(debt) (defined by the Group as including the items shown below) is as follows:

	At 1 January £m	Funds flow £m	Exchange differences £m	Fair value adjustments £m	Reclassifi-cations £m	Other movements in lease liabilities £m	At 30 June £m
2020							
Cash at bank and in hand	**825**	**110**	**36**	**–**	**–**	**–**	**971**
Money market funds	**1,095**	**(44)**	**–**	**–**	**–**	**–**	**1,051**
Short-term deposits	**2,523**	**(426)**	**120**	**–**	**–**	**–**	**2,217**
Cash and cash equivalents (per balance sheet)	**4,443**	**(360)**	**156**	**–**	**–**	**–**	**4,239**
Overdrafts	**(8)**	**–**	**–**	**–**	**–**	**–**	**(8)**
Cash and cash equivalents (per cash flow statement)	**4,435**	**(360)**	**156**	**–**	**–**	**–**	**4,231**
Short-term investments	**6**	**(6)**	**–**	**–**	**–**	**–**	**–**
Other current borrowings	**(427)**	**(283)**	**(3)**	**(31)**	**(690)**	**–**	**(1,434)**
Non-current borrowings	**(2,896)**	**(2,503)**	**(5)**	**(271)**	**690**	**–**	**(4,985)**
Lease liabilities	**(2,354)**	**149**	**(150)**	**–**	**–**	**18**	**(2,337)**
Financial liabilities	**(5,677)**	**(2,637)**	**(158)**	**(302)**	**–**	**18**	**(8,756)**
Net debt excluding fair value of swaps	**(1,236)**	**(3,003)**	**(2)**	**(302)**	**–**	**18**	**(4,525)**
Fair value of swaps hedging fixed rate borrowings [1]	**243**	**–**	**–**	**213**	**–**	**–**	**456**
Net debt	**(993)**	**(3,003)**	**(2)**	**(89)**	**–**	**18**	**(4,069)**
Net funds/(debt) (excluding lease liabilities)	***1,361***						***(1,732)***
2019							
Cash at bank and in hand	1,023	(103)	4	–	–	–	924
Money market funds	1,222	228	(4)	–	–	–	1,446
Short-term deposits	2,729	(884)	(7)	–	–	–	1,838
Cash and cash equivalents (per balance sheet)	4,974	(759)	(7)	–	–	–	4,208
Overdrafts	(22)	(4)	–	–	–	–	(26)
Cash and cash equivalents (per cash flow statement)	4,952	(763)	(7)	–	–	–	4,182
Short-term investments	6	(6)	–	–	–	–	–
Other current borrowings	(816)	542	(1)	5	192	–	(78)
Non-current borrowings	(3,674)	(3)	–	(111)	(192)	–	(3,980)
Lease liabilities	(2,477)	184	(21)	–	–	(131)	(2,445)
Financial liabilities	(6,967)	723	(22)	(106)	–	(131)	(6,503)
Net debt excluding fair value of swaps	(2,009)	(46)	(29)	(106)	–	(131)	(2,321)
Fair value of swaps hedging fixed rate borrowings [1]	293	–	–	91	–	–	384
Net debt	(1,716)	(46)	(29)	(15)	–	(131)	(1,937)
Net funds (excluding lease liabilities)	*761*						*508*

[1] Interest rate swaps are entered into for risk management purposes, although these may not be designated into hedging relationships for accounting purposes.

Condensed consolidated statement of changes in equity

For the half-year ended 30 June 2020

	Attributable to ordinary shareholders									
	Share capital	Share premium	Capital redemption reserve	Cash flow hedging reserve	Merger reserve	Translation reserve	Accumulated losses [1]	Total	Non-controlling interests (NCI)	Total equity
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
At 1 January 2020	**386**	**319**	**159**	**(96)**	**650**	**397**	**(5,191)**	**(3,376)**	**22**	**(3,354)**
Loss for the period	**–**	**–**	**–**	**–**	**–**	**–**	**(5,380)**	**(5,380)**	**2**	**(5,378)**
Foreign exchange translation differences on foreign operations	**–**	**–**	**–**	**–**	**–**	**444**	**–**	**444**	**–**	**444**
Reclassified to income statement on disposal of businesses	**–**	**–**	**–**	**–**	**–**	**3**	**–**	**3**	**–**	**3**
Movement on post-retirement schemes	**–**	**–**	**–**	**–**	**–**	**–**	**393**	**393**	**–**	**393**
Debited to cash flow hedge reserve	**–**	**–**	**–**	**(25)**	**–**	**–**	**–**	**(25)**	**–**	**(25)**
OCI of joint ventures and associates	**–**	**–**	**–**	**(9)**	**–**	**–**	**(1)**	**(10)**	**–**	**(10)**
Related tax movements	**–**	**–**	**–**	**6**	**–**	**2**	**(130)**	**(122)**	**–**	**(122)**
Total comprehensive income/(expense) for the period	**–**	**–**	**–**	**(28)**	**–**	**449**	**(5,118)**	**(4,697)**	**2**	**(4,695)**
Issue of C Shares [2]	**–**	**–**	**(89)**	**–**	**–**	**–**	**1**	**(88)**	**–**	**(88)**
Redemption of C Shares	**–**	**–**	**91**	**–**	**–**	**–**	**(91)**	**–**	**–**	**–**
Ordinary shares purchased	**–**	**–**	**–**	**–**	**–**	**–**	**(1)**	**(1)**	**–**	**(1)**
Share-based payments – direct to equity [3]	**–**	**–**	**–**	**–**	**–**	**–**	**1**	**1**	**–**	**1**
Related tax movements	**–**	**–**	**–**	**–**	**–**	**–**	**13**	**13**	**–**	**13**
Other changes in equity in the period	**–**	**–**	**2**	**–**	**–**	**–**	**(77)**	**(75)**	**–**	**(75)**
At 30 June 2020	**386**	**319**	**161**	**(124)**	**650**	**846**	**(10,386)**	**(8,148)**	**24**	**(8,124)**
At 1 January 2019 including the impact of IFRS 16	379	268	161	(106)	406	809	(3,031)	(1,114)	22	(1,092)
Loss for the period	–	–	–	–	–	–	(909)	(909)	2	(907)
Foreign exchange translation differences on foreign operations	–	–	–	–	–	20	–	20	–	20
Reclassified to the income statement on disposal of Commercial Marine	–	–	–	–	–	(98)	–	(98)	–	(98)
Movement on post-retirement schemes	–	–	–	–	–	–	(943)	(943)	–	(943)
Credited to cash flow hedge reserve	–	–	–	10	–	–	–	10	–	10
OCI of joint ventures and associates	–	–	–	(7)	–	–	(1)	(8)	–	(8)
Related tax movements	–	–	–	(2)	–	–	313	311	–	311
Total comprehensive income/(expense) for the period	–	–	–	1	–	(78)	(1,540)	(1,617)	2	(1,615)
Shares issued in respect of acquisition of ITP Aero	4	–	–	–	161	–	–	165	–	165
Other issues of ordinary shares	–	1	–	–	–	–	–	1	–	1
Issue of C Shares [2]	–	–	(87)	–	–	–	1	(86)	–	(86)
Redemption of C Shares	–	–	86	–	–	–	(86)	–	–	–
Ordinary shares purchased	–	–	–	–	–	–	(15)	(15)	–	(15)
Share-based payments – direct to equity [3]	–	–	–	–	–	–	41	41	–	41
Related tax movements	–	–	–	–	–	–	2	2	–	2
Other changes in equity in the period	4	1	(1)	–	161	–	(57)	108	–	108
At 30 June 2019	383	269	160	(105)	567	731	(4,628)	(2,623)	24	(2,599)

[1] At 30 June 2020, **9,345,059** ordinary shares with a net book value of **£80m** (30 June 2019: 6,869,303 ordinary shares with a net book value of £60m) were held for the purpose of share-based payment plans and included in accumulated losses. During the period, **3,217,241** ordinary shares with a net book value of **£28m** (30 June 2019: 8,416,510 ordinary shares with a net book value of £78m) vested in share-based payment plans. During the period, the Company acquired **85,724** (30 June 2019: 73,849) of its ordinary shares via reinvestment of dividends received on its own shares and purchased **none** (30 June 2019: 1,673,043) of its ordinary shares through purchases on the London Stock Exchange. During the period ended 30 June 2019, the Company issued 17,983,068 new ordinary shares relating to the 6th and 7th instalments for the acquisition of ITP Aero.

[2] 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.

[3] Share-based payments – direct to equity is the share-based payment charge for the period less the actual cost of vesting excluding those vesting from own shares and cash received on share-based schemes vesting.

Notes to the half-year financial statements

1 Basis of preparation and accounting policies

Reporting entity
Rolls-Royce Holdings plc (the 'Company') is a public company incorporated under the Companies Act 2006 and domiciled in the UK. These condensed consolidated half-year financial statements of the Company as at and for the six months ended 30 June 2020 consist of the consolidation of the financial statements of the Company and its subsidiaries (together referred to as the "Group") and include the Group's interest in jointly controlled and associated entities.

The consolidated financial statements of the Group as at and for the year ended 31 December 2019 (Annual Report 2019) are available upon request from the Company Secretary, Rolls-Royce Holdings plc, Kings Place, 90 York Way, London, N1 9FX. The Board of Directors approved the condensed consolidated half-year financial statements on 27 August 2020.

Statement of compliance
These condensed consolidated half-year financial statements have been prepared in accordance with IAS 34 *Interim Financial Reporting* as adopted by the European Union. They do not include all of the information required for full annual statements and should be read in conjunction with the 2019 Annual Report.

The interim figures up to 30 June 2020 and 2019 are unaudited. The 2019 financial statements have been reported on by the Group's auditors and delivered to the registrar of companies. The report of the auditors was (i) unqualified, (ii) did not include a reference to any matters to which the auditors drew attention by way of emphasis without qualifying their report, and (iii) did not contain a statement under section 498(2) or (3) of the Companies Act 2006.

Significant accounting policies
The accounting policies applied by the Group in these condensed consolidated half-year financial statements are the same as those that were applied to the consolidated financial statements of the Group for the year ended 31 December 2019 (International Financial Reporting Standards issued by the International Accounting Standards Board (IASB), as adopted for use in the EU effective at 31 December 2019).

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 Financial Statements.

Going concern
In assessing the adoption of the going concern basis in the condensed consolidated financial statements, the Directors have considered the forecast cash flows of the Group and the liquidity available over an eighteen-month period to 28 February 2022. They have paid particular attention to the impact of the COVID-19 outbreak on the Group's Civil Aerospace and ITP Aero businesses and have assessed both a base case scenario (which reflects the Directors current expectations of future trading) and a severe but plausible downside scenario (which envisages a "stress" or "downside" situation and is further explained below) when evaluating the potential impact of these scenarios on the Group's future financial performance and cash flows.

We expect the Civil Aerospace business to be most significantly impacted. The key judgement is the severity, extent and duration of the disruption caused by the COVID-19 pandemic and therefore the timing of recovery of commercial aviation to pre-crisis levels, including whether a widespread "second wave" of restrictions will occur. The Directors expect the impact on the Power Systems business (23% of 2019 Group underlying revenue) to be significantly less and shorter in duration than for commercial aviation, and there to be no significant impact on the Defence business (20% of 2019 Group underlying revenue). Given the inherent uncertainty, the Directors believe it is appropriate to provide additional disclosure of the key COVID-19 related assumptions underpinning the base case and severe but plausible downside scenario, as set out below.

Base case scenario
The Group's base case scenario assumes a deep impact with slow recovery and no second wave of global lockdown restrictions: widebody capacity returns to 75% of the pre-crisis baseline in H2 2021 and over 90% in H2 2022, with a slower growth to a full recovery to 2019 levels of widebody activity by 2024.

The Directors have implemented a number of mitigating actions to reduce cash expenditure and maintain liquidity, as follows:

- Measures have been implemented to minimise discretionary costs such as non-critical capital expenditure projects, reducing consulting spend, professional fees and sub-contractor costs, ceasing all non-essential travel, postponing external recruitment, and reducing salary costs across our global workforce by at least 10%. These are expected to have a full-year cash flow benefit of £1bn in 2020, of which £350m was delivered in the first half.
- The final shareholder payment in respect of 2019 was not approved.
- In April 2020 the Group issued £0.3bn of Commercial Paper to the COVID-19 Corporate Financing Facility (CCFF), a fund operated by the Bank of England on behalf of HM Treasury. The borrowings are repayable on 17 March 2021
- In April 2020, the Group entered into a new £1.9bn revolving credit facility (RCF) which expires in October 2021. This facility remained undrawn up to the date of signing the condensed consolidated financial statements.
- The Group secured a further £2bn term-loan facility, 80% of which is guaranteed by UK Export Finance (UKEF). This was executed on 20 August 2020 and is repayable in August 2025.

The Group launched a major restructuring programme, announced on 20 May 2020, to reshape and resize the Group and in particular the Civil Aerospace business. This will remove at least 9,000 roles across the Group, with forecast annualised savings of over £1.3bn by the end of 2022. On 27 August, approximately 4,000 departures have been agreed, with at least 5,000 expected by the year-end.

Liquidity and borrowings
At 30 June 2020, the Group had liquidity of £6.1bn, including cash and cash equivalents of £4.2bn and an undrawn RCF of £1.9bn.

The Group's committed borrowing facilities at 30 June 2020, 27 August and 28 February 2022 are set out below. None of the facilities are subject to any financial covenants or rating triggers which could accelerate repayment.

	30 June 2020 £m	27 August 2020 £m	28 February 2022 £m
Issued Bond Notes [1]	2,968	2,968	2,000
Bank of England Commercial Paper [2]	300	300	–
UKEF Loan	–	2,000	2,000
Other loans	112	109	65
Drawn RCF	2,500	2,500	2,500
Undrawn RCF [3]	1,900	1,900	–
Total committed borrowing facilities	**7,780**	**9,777**	**6,565**

[1] A $500m (£329m) Bond matures in October 2020 and a €750m (£639m) Bond matures in June 2021. GBP values presented at hedged FX rates.

[2] The £300m CCFF facility matures in March 2021.

[3] The £1,900m undrawn RCF expires in October 2021.

Taking into account the maturity of borrowing facilities the Group had committed facilities of £7.8bn at 30 June 2020, £9.8bn at 27 August 2020 and £6.6bn will be available throughout the period to 28 February 2022.

In the base case scenario, where there is assumed to be no second wave and the Group starts a gradual recovery with Civil Aerospace returning to 75% of the pre-crisis baseline in H2 2021, the Directors consider that the Group will continue to operate within its current available committed borrowing facilities for the next eighteen months. In this scenario, in order to provide sufficient liquidity headroom, the Group would replace the £1.9bn RCF following its expiry in October 2021, with replacement funding of a similar amount.

Severe but plausible downside scenario
Due to the inherent uncertainty over the severity, extent and duration of the disruption caused by the COVID-19 pandemic and therefore the timing of recovery of commercial aviation to pre-crisis levels, the Directors have also considered a severe but plausible downside scenario.

This severe but plausible downside is based in principle on a general assumption that there will be a "second wave" of COVID-19 infections that results in further stringent lockdown restrictions, including restrictions on travel between countries, being re-introduced across many parts of the world in 2020 or during the first part of 2021, with a gradual recovery of the global economy and the Group taking place once those restrictions are lifted. The resulting key underlying COVID-19 specific assumptions included in the severe but plausible downside scenario in relation to each of the Civil Aerospace and ITP Aero businesses are as follows:

- Flying hours of widebody aircraft using the Civil Aerospace business's engines will decrease by 64% in 2020 (compared to 2019), before increasing by 28% in 2021 (compared to 2020).
- Flying hours of business and regional aviation aircraft using the Civil Aerospace business's engines will decrease by 37% in 2020 (compared to 2019), before increasing by 1% in 2021 (compared to 2020).
- Sales of widebody original equipment engines, which are supplied for use in new aircraft, will decrease by 48% in 2020 (compared to 2019), and decrease further by 47% in 2021 (compared to 2020).
- Sales of widebody original equipment engines, which are supplied to replace engines of aircraft already in operation (spare engines) will decrease by 65% in 2020 (compared to 2019) and decrease further by 41% in 2021 (compared to 2020).
- Sales of business and regional aviation engines will decrease by 18% in 2020 (compared to 2019) and decrease further by 33% in 2021 (compared to 2020).
- The number of shop visits carried out will decrease by 16% in 2020 (compared to 2019) and decrease further by 7% in 2021 (compared to 2020).

The principal risks are set out on page 50. In assessing the going concern basis, the directors have considered these and in particular the additional mitigating actions that have been identified for the principal risks most significantly impacted by COVID-19, as summarised below:

- **Safety** – Changes to our ways of working at manufacturing sites and through remote working increase our safety risks. We have implemented measures to limit the spread of COVID-19 including additional personal protective equipment requirements, social distancing, improved cleaning regimes and increased remote working. We have increased our focus on supporting the mental health of our employees.
- **Financial shock** – The drop in demand has reduced our cash inflows. As described above, we have taken rapid actions in H1 2020 to preserve liquidity and reduce costs and the further actions to improve our financial resilience.
- **Strategic transformation** – COVID-19 has amplified the need for immediate change and will result in the largest reorganisation of our Civil Aerospace operations in our history.
- **Business continuity** – The large reductions in demand, in particular for Civil Aerospace, mean that supplier distress is now more likely. We are closely monitoring our supply chain and putting in place mitigations where appropriate.
- **Talent and Capability** – The Group has put in place plans to retain key capabilities as it reduces the size of its workforce.

In the event of a severe but plausible downside scenario modelled by the Directors, the projections indicate that the Group will continue to operate within its available committed borrowing facilities for the next twelve months. When considering a period of eighteen months from the date of this report, to 28 February 2022 the Group would need to draw down the £1.9bn RCF, which is repayable in October 2021. In order to fund operations and maintain a sufficient level of liquidity, replacement of the £1.9bn would be required, along with additional funding, which could be achieved through some combination of debt, equity and the proceeds from business disposals.

Consequently, the Directors are currently assessing options in relation to further funding, to be secured in the period up to October 2021, to ensure that the Group remains a going concern with sufficient liquidity to fund its operations and repay maturing debt facilities in the event of the severe but plausible downside scenario materialising.

Conclusion
After due consideration of the matters set out above, the Directors are satisfied that it remains appropriate to prepare the financial statements on a going concern basis. However, the inherent uncertainty over the severity, extent and duration of the disruption caused by the COVID-19 pandemic and therefore the timing of recovery of commercial aviation to pre-crisis levels and the availability of sufficient funding, represent material uncertainties that may cast significant doubt on the Group's ability to continue as a going concern and, therefore, to continue realising their assets and discharging their liabilities in the normal course of business. These financial statements do not contain any adjustment that would arise if the financial statements were not drawn up on a going concern basis.

Key areas of judgement and sources of estimation uncertainty

The key areas of judgement and sources of estimation uncertainty as at 31 December 2019, that were assessed as having a significant risk of causing material adjustment to the carrying amounts of assets and liabilities within the current financial year were set out in note 1 to the Financial Statements in the 2019 Annual Report and are summarised below. During the period, and in light of the COVID-19 pandemic, the Group has reassessed these and where necessary updated the key judgements and estimation uncertainties. Sensitivities for key sources of estimation uncertainty have been updated as at 30 June 2020 and are disclosed below where this is appropriate and practicable.

Area	Key judgements	Key sources of estimation uncertainty	Sensitivities performed
Revenue recognition	Whether Civil Aerospace OE and aftermarket contracts should be combined. How performance on long-term aftermarket contracts should be measured. Whether any costs should be treated as wastage. Whether sales of spare engines to joint ventures are at fair value. Determination of the time period and profile over which the aerospace industry will recover.	Estimates of future revenue and costs of long-term contractual arrangements. The COVID-19 pandemic has resulted in significant uncertainty across the aerospace industry. Airline customers have grounded a significant number of their aircraft in response to COVID-19 which has resulted in a reduction to engine flying hours (EFHs) in Civil Aerospace during 2020. Further details have been included in the 'going concern' disclosure above. Estimates of future revenue within Civil Aerospace are based upon future EFH forecasts, influenced by assumptions over the recovery of the aerospace industry.	Based upon the stage of completion of all widebody LTSA contracts within Civil Aerospace as at 30 June 2020, the following changes in estimate would result in catch-up adjustments being recognised in the period in which the estimates change (at underlying rates): - A further reduction in forecast EFHs of 15% over the remaining term of the contracts would decrease LTSA income and to a lesser extent costs, resulting in a catch-up adjustment of £500m - £700m. An estimated three quarters of this would be expected to be a reduction in revenue with the remainder relating to onerous contracts which would be an increase in cost of sales. - A 5% increase or decrease in shop visit costs over the life of the contracts would lead to a catch-up adjustment of £270m. - A 2% increase or decrease in revenue over the life of the contracts would lead to a catch-up adjustment of £290m.
Risk and revenue sharing arrangements	Determination of the nature of entry fees received.		
Taxation	Determination of the value of deferred tax assets that should be recognised. The forecast level of taxable profits relevant to recovery of this balance takes into account a 25% probability of there being a severe but plausible downside scenario in relation to the commercial aviation industry.	Estimates are necessary to assess whether it is probable that sufficient suitable taxable profits will arise in the UK to utilise the deferred tax assets. This is largely driven by the Civil Aerospace business and the estimates described above in 'revenue recognition'.	A 5% change in margin over the life of the main Civil Aerospace widebody programmes would result in a decrease in profits of circa £1.5bn and a corresponding decrease in the deferred tax asset by £143m.
Financial instruments	Determination of the business model to value financial assets.		

Area	Key judgements	Key sources of estimation uncertainty	Sensitivities performed
Business combinations	Identification of acquired assets and liabilities.		
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.		
Impairment of goodwill	Determination of cash-generating units for assessing impairment of goodwill.		
Impairment of intangible assets (including programme-related intangible assets)	Determination of the time period and profile over which the aerospace industry will recover.	In accordance with IAS 36, COVID-19 is considered to be a trigger event to reassess whether an asset is impaired. The carrying value of intangible assets (including programme-related intangible assets) is dependent on the estimates of future cash flows which are influenced by assumptions over the recovery of the industries in which we operate and the discount rates applied. Details of the review performed have been disclosed in note 8.	A weaker than expected recovery could result in a deterioration in future cash flow forecasts that support programme intangible assets. A 5% deterioration in EFHs (and hence future cash flows) across the life of the Civil Aerospace programmes would result in programme intangible assets that have previously been subject to impairment incurring an additional impairment of £50m. For programmes where there is existing headroom that could be significantly reduced over the next 12 months, any of the following individual changes in assumptions would cause the recoverable amount of the programme assets to equal the carrying value: - An increase in costs of 8% - A reduction in engine sales that are forecast but not contracted by 75% - An increase in discount rates of 7%
Contract assets and contract liabilities	Determination of the time period and profile over which the aerospace industry will recover. Whether any costs should be treated as wastage.	COVID-19 has resulted in uncertainty across the aerospace industry. Airline customers have grounded a significant number of their aircraft in response to COVID-19 resulting in uncertainty over future EFH forecasts within Civil Aerospace. The valuation of contract assets and contract liabilities is dependent on certain key assumptions including future EFHs, foreign exchange rates, discount rates, time on wing and the number of overhauls.	Sensitivities have been included under ‘revenue recognition’ above.
Lease liabilities	Determination of the lease term.	Estimates of the payments required to meet residual value guarantees at the end of engine leases. 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.	The lease liability at 30 June 2020 included £413m relating to the cost of meeting these residual value guarantees in the Civil Aerospace business. Up to £44m is payable in the next 12 months, £122m is due over the following four years and the balance after five years.

Area	Key judgements	Key sources of estimation uncertainty	Sensitivities performed
Provisions	Assessment of satisfying the criteria for the recognition and measurement of provisions.	Estimates of the time to resolve the technical issues on the Trent 1000, including the development of the modified HPT blade.	A 12-month delay in the availability of the modified HPT blade (from the first half of 2021 to the first half of 2022) could lead to a £60m increase in the Trent 1000 exceptional costs provision.
		Estimates of the expenditure required to settle the obligation relating to Trent 1000 claims.	
		Estimates of the future revenues and costs to fulfil onerous contracts. Further details have been included in the going concern disclosure above.	A reduction in Civil Aerospace widebody flying hours of 15% over the remaining term of the contracts and the associated decrease in revenue and cost impact could lead to a £140m – £200m increase in the provision for contract losses.
Post-retirement benefits		The valuation of the Group's defined benefit pension schemes are based on assumptions determined with independent actuarial advice. The size of the net surplus is sensitive to the actuarial assumptions, which include the discount rate used to determine the present value of the future obligation, longevity, and 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 newly implemented Bridging Pension Option.	A reduction in the discount rate from 1.70% by 0.25% could lead to an increase in the defined benefit obligations of the RR UK Pension Fund of approximately £490m. 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 21.9 years (male aged 65) and from 23.1 years (male aged 45) would increase the defined benefit obligations of the RR UK Pension Fund by approximately £390m. It is assumed that 30% (31 December 2019: 45%) of members of the RR UK Pension Fund will transfer out of the fund on retirement. The reduction in this assumption is a result of the introduction of the Bridging Pension Option. An increase of 5% in this assumption would increase the defined benefit obligation by £40m.

2 Analysis by business segment

The analysis by Divisions (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 act as the Chief Operating Decision Maker as defined by IFRS 8). Our four divisions are set out below and referred to collectively as the core businesses.

Civil Aerospace	development, manufacture, marketing and sales of commercial aero engines and aftermarket services
Power Systems	development, manufacture, marketing and sales of reciprocating engines, power systems and nuclear systems for civil power generation
Defence	development, manufacture, marketing and sales of military aero engines, naval engines, submarine nuclear power plants and aftermarket services
ITP Aero	design, research and development, manufacture and casting, assembly and test of aeronautical engines and gas turbines, and maintenance, repair and overhaul services

Non-core businesses include the trading results of the Bergen Engines AS business (the Group announced Bergen as being subject to a strategic review on 28 February 2020), the results of the North America Civil Nuclear business until the date of disposal on 31 January 2020, the results of the Knowledge Management System business until the date of disposal on 3 February 2020, the Commercial Marine business until the date of disposal on 1 April 2019, Rolls-Royce Power Development Limited (RRPD) until the date of disposal on 15 April 2019 and other smaller businesses including former Energy businesses not included in the disposal to Siemens in 2014 (Retained Energy). The segmental analysis for 2019 has been restated to reflect the 2020 definition of non-core.

Underlying results

We present the financial performance of our 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 settled derivative contracts in the period that the cash flow occurs, and the impact of valuation of monetary assets and liabilities using the exchange rate that is expected to be achieved by the use of the hedge book, and underlying financing excludes the impact of revaluing monetary assets and liabilities to period end exchange rate. Unrealised fair value gains and losses on foreign exchange contracts, which are recognised as they arise in the reported 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 reported basis to interest receivable/(payable) on an underlying basis, as if they were in an effective hedge relationship.

As a result of the reduction in Civil Aerospace US Dollar receipts (USD), in the 2020 half-year the Group was a net purchaser of USD, with the consequence that the achieved exchange rate GBP:USD of 1.24 on settled contracts was similar to the average spot rate in the period. In the second half of 2020 the Group expects to return to being a net seller of USD, at an expected achieved exchange rate GBP:USD of 1.61 based on the USD hedge book.

Estimates of future US Dollar cash flows have been determined using the Group's base-case forecast, significantly influenced by the estimate of future EFH forecasts. These US Dollar cash flows have been used to establish the extent of future US Dollar hedge requirements and determine the need to close-out any over-hedged positions. During the period to 30 June, action was taken to reduce the size of the US Dollar hedge book by $10bn by transacting offsetting foreign exchange forward contracts across 2020-2026. An underlying financing charge of £1,457m was recognised at 30 June 2020 in the income statement within underlying financing costs. A weaker than expected recovery could result in a further deterioration in the forecast of US Dollar cash receipts, leading to additional future hedge contracts being closed-out. Using the US Dollar exchange rate at 30 June 2020 (GBP:USD = 1.23) a further $1bn deterioration in forecast US Dollar cash receipts and a corresponding reduction in the Group's hedge book would result in an additional cash cost of approximately £155m which would flow in the over-hedged period.

Underlying performance excludes the following:

- the effect of acquisition accounting and business disposals;
- impairment of goodwill and other non-current and current assets where the reasons for the impairment are outside of normal operating activities;
- exceptional items; and
- 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

We classify items as "exceptional" where the Directors believe that presentation of our results in this way is more relevant to an understanding of our financial performance, as exceptional items are identified by virtue of their size, nature or incidence.

In determining whether an event or transaction is exceptional, management 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 our post-retirement schemes.

A risk-free discount rate is applied to exceptional onerous contract provisions. The risk-free rate is subject to movements in US bonds. Changes in the risk-free rate (US bonds) are market driven and the impact of any increase or decrease in the rate is included as a reconciling difference between underlying performance and reported performance.

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 Analysis by business segment 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 reported 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 advance corporation tax recognised are also excluded.

See page 33 for the reconciliation between underlying performance and reported performance.

The following analysis sets out the results of the core businesses on the basis described above and also includes a reconciliation of the underlying results to those reported in the condensed consolidated income statement.

	Civil Aerospace £m	Power Systems [1] £m	Defence £m	ITP Aero £m	Corporate and inter-segment £m	Core businesses £m
For the half-year ended 30 June 2020						
Underlying revenue from sale of original equipment	**1,198**	**823**	**678**	**267**	**(156)**	**2,810**
Underlying revenue from aftermarket services	**1,329**	**427**	**875**	**79**	**(50)**	**2,660**
Total underlying revenue	**2,527**	**1,250**	**1,553**	**346**	**(206)**	**5,470**
Gross (loss)/profit	**(1,562)**	**265**	**332**	**47**	**(56)**	**(974)**
Commercial and administrative costs	**(172)**	**(154)**	**(76)**	**(23)**	**(23)**	**(448)**
Research and development costs	**(180)**	**(89)**	**(49)**	**(15)**	**–**	**(333)**
Share of results of joint ventures and associates	**88**	**–**	**3**	**1**	**–**	**92**
Underlying operating (loss)/profit	**(1,826)**	**22**	**210**	**10**	**(79)**	**(1,663)**
For the half-year ended 30 June 2020						
Segment assets	**18,273**	**3,671**	**3,023**	**2,086**	**(3,183)**	**23,870**
Interests in joint ventures and associates	**388**	**18**	**14**	**1**	**–**	**421**
Segment liabilities	**(26,986)**	**(1,493)**	**(3,271)**	**(1,149)**	**3,280**	**(29,619)**
Net (liabilities)/assets	**(8,325)**	**2,196**	**(234)**	**938**	**97**	**(5,328)**
For the half-year ended 30 June 2019						
Underlying revenue from sale of original equipment	1,570	923	653	400	(267)	3,279
Underlying revenue from aftermarket services	2,448	485	841	57	(42)	3,789
Total underlying revenue	4,018	1,408	1,494	457	(309)	7,068
Gross profit/(loss)	276	370	295	80	(45)	976
Commercial and administrative costs	(185)	(176)	(77)	(33)	(32)	(503)
Research and development costs	(157)	(89)	(48)	(15)	–	(309)
Share of results of joint ventures and associates	45	(1)	3	–	–	47
Underlying operating (loss)/profit	(21)	104	173	32	(77)	211
Year ended 31 December 2019						
Segment assets	17,954	3,399	2,743	2,160	(2,476)	23,780
Interests in joint ventures and associates	365	18	19	–	–	402
Segment liabilities	(24,819)	(1,197)	(2,950)	(1,129)	2,645	(27,450)
Net (liabilities)/assets	(6,500)	2,220	(188)	1,031	169	(3,268)

[1] The underlying results for Power Systems for 30 June 2019 have been restated to reclassify Bergen Engines AS and the North America Civil Nuclear business as non-core.

2 Analysis by business segment continued

Reconciliation to reported results

	Core businesses £m	Non-core businesses [1,2] £m	Total underlying £m	Underlying adjustments and adjustments to foreign exchange £m	Group at actual exchange rates £m
For the half-year ended 30 June 2020					
Revenue from sale of original equipment	**2,810**	**40**	**2,850**	**(36)**	**2,814**
Revenue from aftermarket services	**2,660**	**51**	**2,711**	**299**	**3,010**
Total revenue	**5,470**	**91**	**5,561**	**263**	**5,824**
Gross (loss)/profit	**(974)**	**7**	**(967)**	**280**	**(687)**
Commercial and administrative costs	**(448)**	**(10)**	**(458)**	**15**	**(443)**
Research and development costs	**(333)**	**(3)**	**(336)**	**(376)**	**(712)**
Share of results of joint ventures and associates	**92**	**–**	**92**	**(19)**	**73**
Operating loss	**(1,663)**	**(6)**	**(1,669)**	**(100)**	**(1,769)**
Gain arising on the acquisition and disposal of businesses	**–**	**–**	**–**	**2**	**2**
Loss before financing and taxation	**(1,663)**	**(6)**	**(1,669)**	**(98)**	**(1,767)**
Net financing costs	**(1,573)**	**(2)**	**(1,575)**	**(2,025)**	**(3,600)**
Loss before taxation	**(3,236)**	**(8)**	**(3,244)**	**(2,123)**	**(5,367)**
Taxation [3]	**(81)**	**(1)**	**(82)**	**71**	**(11)**
Loss for the period	**(3,317)**	**(9)**	**(3,326)**	**(2,052)**	**(5,378)**
Attributable to:					
Ordinary shareholders			**(3,327)**	**(2,053)**	**(5,380)**
Non-controlling interests			**1**	**1**	**2**
For the half-year ended 30 June 2019					
Revenue from sale of original equipment	3,279	128	3,407	267	3,674
Revenue from aftermarket services	3,789	157	3,946	263	4,209
Total revenue	7,068	285	7,353	530	7,883
Gross profit/(loss)	976	54	1,030	(29)	1,001
Commercial and administrative costs	(503)	(50)	(553)	(61)	(614)
Research and development costs	(309)	(12)	(321)	(28)	(349)
Share of results of joint ventures and associates	47	–	47	(2)	45
Operating profit/(loss)	211	(8)	203	(120)	83
Gain on the disposal of businesses	–	–	–	118	118
Profit/(loss) before financing and taxation	211	(8)	203	(2)	201
Net financing costs	(108)	(2)	(110)	(882)	(992)
Profit/(loss) before taxation	103	(10)	93	(884)	(791)
Taxation [3]	(117)	(4)	(121)	5	(116)
Loss for the period	(14)	(14)	(28)	(879)	(907)
Attributable to:					
Ordinary shareholders			(30)	(879)	(909)
Non-controlling interests			2	–	2

[1] Includes the results of Bergen Engines AS, the North America Civil Nuclear business until the date of disposal on 31 January 2020, the Knowledge Management System business until the date of disposal on 3 February 2020, the Commercial Marine business until the date of disposal on 1 April 2019, Rolls-Royce Power Development Limited (RRPD) until the date of disposal on 15 April 2019 and other smaller businesses including former Energy businesses not included in the disposal to Siemens in 2014 (Retained Energy).

[2] Non-core businesses for 30 June 2019 have been restated to include Bergen Engines AS and the North America Civil Nuclear business.

[3] Appropriate rates of tax have been applied to the underlying adjustments made to the loss before taxation. In 2020, there is a tax credit of £71m (30 June 2019: £5m). The tax credits in 2020 and 2019 are low mainly due to the fact that we have not recognised any deferred tax on UK losses arising in those years. The 2020 tax credit of £71m is made up of a credit of £187m relating to non-underlying adjustments in the year, a tax credit of £160m in respect of the change in the UK tax rate and a tax charge of £276m relating to the derecognition of some of the deferred tax asset on UK losses previously recognised.

2 Analysis by business segment continued

Disaggregation of revenue from contracts with customers

Analysis by type and basis of recognition	Civil Aerospace £m	Power Systems [1] £m	Defence £m	ITP Aero [2] £m	Corporate and inter-segment £m	Core businesses £m
For the half-year ended 30 June 2020						
Original equipment recognised at a point in time	**1,198**	**805**	**248**	**244**	**(140)**	**2,355**
Original equipment recognised over time	**–**	**18**	**430**	**23**	**(16)**	**455**
Aftermarket services recognised at a point in time	**746**	**368**	**364**	**48**	**(39)**	**1,487**
Aftermarket services recognised over time	**477**	**59**	**511**	**31**	**(11)**	**1,067**
Total underlying customer contract revenue	**2,421**	**1,250**	**1,553**	**346**	**(206)**	**5,364**
Other underlying revenue	**106**	**–**	**–**	**–**	**–**	**106**
Total underlying revenue	**2,527**	**1,250**	**1,553**	**346**	**(206)**	**5,470**
For the half-year ended 30 June 2019						
Original equipment recognised at a point in time	1,570	871	253	357	(255)	2,796
Original equipment recognised over time	–	52	400	43	(12)	483
Aftermarket services recognised at a point in time	827	429	330	4	6	1,596
Aftermarket services recognised over time	1,576	56	511	53	(48)	2,148
Total underlying customer contract revenue	3,973	1,408	1,494	457	(309)	7,023
Other underlying revenue	45	–	–	–	–	45
Total underlying revenue	4,018	1,408	1,494	457	(309)	7,068

[1] The underlying results for Power Systems for 30 June 2019 have been restated to reclassify Bergen Engines AS and the North America Civil Nuclear business as non-core.

[2] ITP Aero prior year disaggregation of revenue has been restated to be consistent with current year presentation.

	Core businesses £m	Non-core businesses [1,2] £m	Total underlying £m	Underlying adjustments and adjustments to foreign exchange £m	Group at actual exchange rates £m
For the half-year ended 30 June 2020					
Original equipment recognised at a point in time	**2,355**	**40**	**2,395**	**(36)**	**2,359**
Original equipment recognised over time	**455**	**–**	**455**	**–**	**455**
Aftermarket services recognised at a point in time	**1,487**	**51**	**1,538**	**73**	**1,611**
Aftermarket services recognised over time	**1,067**	**–**	**1,067**	**226**	**1,293**
Total customer contract revenue	**5,364**	**91**	**5,455**	**263**	**5,718**
Other revenue	**106**	**–**	**106**	**–**	**106**
Total revenue	**5,470**	**91**	**5,561**	**263**	**5,824**
For the half-year ended 30 June 2019					
Original equipment recognised at a point in time	2,796	90	2,886	267	3,153
Original equipment recognised over time	483	38	521	–	521
Aftermarket services recognised at a point in time	1,596	152	1,748	149	1,897
Aftermarket services recognised over time	2,148	5	2,153	114	2,267
Total customer contract revenue	7,023	285	7,308	530	7,838
Other revenue	45	–	45	–	45
Total revenue	7,068	285	7,353	530	7,883

[1] Includes the trading results of Bergen Engines AS, the North America Civil Nuclear business until the date of disposal on 31 January 2020, the Knowledge Management System business until the date of disposal on 3 February 2020, the Commercial Marine business until the date of disposal on 1 April 2019, Rolls-Royce Power Development Limited (RRPD) until the date of disposal on 15 April 2019 and other smaller businesses including former Energy businesses not included in the disposal to Siemens in 2014 (Retained Energy).

[2] Non-core businesses for 30 June 2019 have been restated to include Bergen Engines AS and the North America Civil Nuclear business.

2 Analysis by business segment continued

Underlying profit adjustments	Half-year to 30 June 2020			Half-year to 30 June 2019		
	Revenue £m	Loss before financing and taxation £m	Net financing £m	Revenue £m	Profit before financing and taxation £m	Net financing £m
Underlying performance	**5,561**	**(1,669)**	**(1,575)**	7,353	203	(110)
Impact of settled derivative contracts on trading transactions [1]	**263**	**664**	**(584)**	530	80	(123)
Unrealised fair value changes on derivative contracts held for trading [2]	**–**	**(4)**	**(2,729)**	–	(2)	(738)
Unrealised net losses on closing future over-hedged position [3]	**–**	**–**	**1,369**	–	–	–
Unrealised fair value change to derivative contracts held for financing [4]	**–**	**–**	**(88)**	–	–	(15)
Exceptional programme credits/(charges) [5]	**–**	**498**	**(21)**	–	(59)	–
Impact of discount rate changes [6]	**–**	**–**	**30**	–	–	–
Exceptional restructuring charge [7]	**–**	**(366)**	**–**	–	(69)	–
Impairments [8]	**–**	**(966)**	**–**	–	–	–
Other write-offs [9]	**–**	**(99)**	**–**	–	–	–
Pension past service credit [10]	**–**	**248**	**–**	–	–	–
Effect of acquisition accounting [11]	**–**	**(66)**	**–**	–	(71)	–
Other	**–**	**(9)**	**(2)**	–	1	(6)
Included in operating (loss)/profit	**263**	**(100)**	**(2,025)**	530	(120)	(882)
Gains arising on the acquisitions and disposals of businesses [12]	**–**	**2**	**–**	–	118	–
Total underlying adjustments	**263**	**(98)**	**(2,025)**	530	(2)	(882)
Reported performance per consolidated income statement	**5,824**	**(1,767)**	**(3,600)**	7,883	201	(992)

[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 **£263m** (H1 2019: £530m) and reduced loss before financing and taxation by **£664m** (H1 2019 increased profit by £80m). 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 response to the deterioration in the medium-term outlook caused by COVID-19 and the related reduction in anticipated net US Dollar cash inflows, the Group took action during the period to 30 June 2020 to reduce the size of the US Dollar hedge book by transacting offsetting foreign exchange forward contracts across 2020-2026, resulting in a £1,457m charge to underlying results. This comprised of £88m cash costs incurred in the period and included within reported financing costs. The remaining £1,369m included in unrealised loss (shown above) is the net cost of closing out the over-hedged position in future years. The cost related to future years has been included within the underlying performance. It is reversed in arriving at reported performance on the basis that, the cumulative fair value changes on these derivative contracts are recognised as they arise. Further detail is provided in note 4.

[4] Includes the losses on hedge ineffectiveness in the period of **£15m** (30 June 2019: losses £15m) and net fair value losses of **£73m** (30 June 2019: £nil) on any interest rate swaps not designated into hedging relationships for accounting purposes.

[5] In 2019, abnormal wastage costs were recorded in respect of the Trent 1000, related to remediation shop visit costs, customer disruption costs and contract losses. During the period to 30 June 2020, the total estimated Trent 1000 abnormal wastage costs have reduced by £498m as a result of COVID-19, made up of £321m (a gross provision release of £450m, offset by the impact of expected actual exchange rates and the share of the costs borne by RRSAs) related to remediation shop visit costs and customer disruption costs and an improvement of £177m in the position on contract losses.

[6] Discount rates have increased on exceptional contract loss provisions in relation to the Trent 900 and Trent 1000.

[7] At 30 June 2020, the Group recorded an exceptional restructuring charge of **£366m** following the announcement on 20 May 2020 to reshape and resize the Group due to the financial and operational impact of COVID-19 (see note 17 for more detail). At 30 June 2019, an exceptional restructuring charge of £69m was recognised, which included £39m in respect of the Group-wide restructuring programme announced on 14 June 2018, along with other multi-year restructuring programmes across the Group.

[8] The Group has assessed the carrying value of its assets given the financial and operational impact of COVID-19 on the Group's future cash flow forecasts. Consequently, a number of impairments and write-offs have been recorded at 30 June 2020. Impairments comprise: intangible assets £391m, mainly related to programme intangibles; property, plant and equipment £241m (including £145m related to site rationalisation); right-of-use assets £319m, comprising engines of £310m and £9m of site rationalisation; and £15m impairment on the carrying value of investments held. Further details are provided in notes 8, 9, 10 and 11.

[9] Other write-offs include £110m of participation fees in contract assets, £4m in provisions for site rationalisation, offset by £(15)m for RRSA deferred cost contributions in payables. These write-offs are primarily a result of the impact of COVID-19.

[10] The Group recorded a past service gain of £248m following changes to the pension benefits under the terms of the Rolls-Royce UK Pension Fund (RRUKPF), a defined benefit scheme – see note 18. Of the £248m gain, £79m related to the restructuring described in footnote 7 above.

[11] The effect of acquisition accounting includes the amortisation of intangible assets arising on previous acquisitions.

[12] Gains arising on the acquisitions and disposals of businesses includes the acquisition of Qinous GmbH (increasing the Group's shareholding from 24% to 100%), the sale of the North America Civil Nuclear business, the sale of the Knowledge Management Systems business and the sale of Trigno Energy Srl. See note 21 for further details.

2 Analysis by business segment continued

Reconciliation to the balance sheet

	30 June 2020 £m	31 December 2019 £m
Reportable segment assets	**23,870**	23,780
Interests in joint ventures and associates	**421**	402
Non-core businesses	**259**	272
Assets held for sale	**–**	18
Cash and cash equivalents and short-term investments	**4,239**	4,449
Fair value of swaps hedging fixed rate borrowings	**515**	249
Deferred and income tax assets	**2,100**	1,926
Post-retirement scheme surpluses	**1,736**	1,170
Total assets	**33,140**	32,266
Reportable segment liabilities	**(29,619)**	(27,450)
Non-core businesses	**(276)**	(296)
Liabilities associated with assets held for sale	**–**	(15)
Borrowings and lease liabilities	**(8,764)**	(5,685)
Fair value of swaps hedging fixed rate borrowings	**(59)**	(6)
Deferred and income tax liabilities	**(1,050)**	(790)
Post-retirement scheme deficits	**(1,496)**	(1,378)
Total liabilities	**(41,264)**	(35,620)
Net liabilities	**(8,124)**	(3,354)

3 Research and development

	Half-year to 30 June 2020 £m	Half-year to 30 June 2019 £m
Expenditure in the period	**(456)**	(518)
Capitalised as intangible assets	**152**	224
Amortisation and impairment of capitalised costs [1]	**(408)**	(55)
Net cost recognised in the income statement	**(712)**	(349)
Underlying adjustments relating to the effects of acquisition accounting, impairment and foreign exchange	**376**	28
Net underlying cost recognised in the income statement	**(336)**	(321)

[1] See note 9 for analysis of amortisation and impairment.

4 Net financing

	Half-year to 30 June 2020		Half-year to 30 June 2019	
	Per consolidated income statement £m	**Underlying financing [1] £m**	Per consolidated income statement £m	Underlying financing [1] £m
Interest receivable	**11**	**11**	19	19
Financial RRSAs – foreign exchange differences and changes in forecast payments	**–**	**–**	1	–
Net fair value gains on commodity contracts	**–**	**–**	25	–
Financing on post-retirement scheme surpluses	**13**	**–**	28	–
Financing income	**24**	**11**	73	19
Interest payable	**(81)**	**(74)**	(97)	(87)
Net fair value losses on foreign currency contracts	**(2,631)**	**–**	(763)	–
Net fair value losses on non-hedge accounted interest rate swaps [2]	**(73)**	**–**	–	–
Unrealised net losses on closing future over-hedged position [3]	**–**	**(1,369)**	–	–
Realised net losses on closing over-hedged position [4]	**–**	**(88)**	–	–
Financial charge relating to financial RRSAs	**(1)**	**(1)**	(2)	(2)
Net fair value losses on commodity contracts	**(98)**	**–**	–	–
Financing on post-retirement scheme deficits	**(14)**	**–**	(18)	–
Net foreign exchange losses	**(669)**	**–**	(123)	–
Other financing charges	**(57)**	**(54)**	(62)	(40)
Financing costs	**(3,624)**	**(1,586)**	(1,065)	(129)
Net financing costs	**(3,600)**	**(1,575)**	(992)	(110)
Analysed as:				
Net interest payable	**(70)**	**(63)**	(78)	(68)
Net fair value losses on derivative contracts	**(2,802)**	**(1,457)**	(738)	–
Net post-retirement scheme financing	**(1)**	**–**	10	–
Net other financing	**(727)**	**(55)**	(186)	(42)
Net financing costs	**(3,600)**	**(1,575)**	(992)	(110)

[1] See note 2 for definition of underlying results.

[2] The condensed consolidated income statement shows the fair value loss on any interest rate swaps not designated into hedging relationships for accounting purposes. Underlying financing reclassifies the interest payable on these interest rate swaps from fair value movement to interest payable.

[3] In response to the deterioration in the medium-term outlook caused by COVID-19 and the related reduction in anticipated net US Dollar cash inflows, the Group took action during the period to 30 June 2020 to reduce the size of the US Dollar hedge book by transacting offsetting foreign exchange forward contracts across 2020-2026. The unrealised loss shown is the net cost of closing out the over-hedged position in future years. The timing of the cash settlement is detailed below, along with the expected maturity analysis of derivative financial assets and liabilities after taking into account closing the over-hedge position.

[4] During the period to 30 June 2020, the Group incurred a cash outflow of £88m as a result of closing out an over-hedged position of $476m. The realised loss of £88m is included in underlying financing costs.

Due to the deterioration in the medium-term outlook caused by COVID-19 the Group forecast a lower level of US Dollar denominated net cash receipts in future years which took it below the hedge book. As a result, action was taken in the period to 30 June 2020 to reduce the size of the US Dollar hedge book by $10bn by transacting offsetting foreign exchange forward contracts across 2020-2026. An underlying financing charge of £1,457m was recognised at 30 June 2020 in the income statement within underlying financing costs. These costs are already recognised in the reported results as fair value losses on foreign currency contacts. The cash settlement costs of £1,457m will occur over the period 2020-2026, including £88m of cash costs incurred in the period to 30 June 2020. The Group estimates that future cash outflows of £324m will occur in 2021, £327m in 2022, and £718m spread over 2023 to 2026.

The expected maturity analysis of derivative financial assets and liabilities, after taking into account closing the over-hedge position, is as follows:

	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 30 June 2020					
Derivative financial assets:					
Cash inflows	**3,159**	**2,092**	**4,071**	**1,520**	
Cash outflows	**(2,979)**	**(2,038)**	**(3,946)**	**(1,333)**	
Other net cash flows	**12**	**14**	**30**	**9**	
	192	**68**	**155**	**196**	**614**
Derivative financial liabilities:					
Cash inflows	**2,702**	**4,385**	**15,715**	**6,774**	
Cash outflows	**(3,227)**	**(5,415)**	**(18,720)**	**(8,372)**	
Other net cash flows	**(47)**	**(47)**	**(42)**	**(9)**	
	(572)	**(1,077)**	**(3,047)**	**(1,607)**	**(5,911)**

The action taken to reduce the size of the US Dollar hedge book by $10bn was based on the Group's base case forecast in relation to its recovery from the COVID-19 pandemic as at 30 June 2020. A weaker than expected recovery and deterioration in the forecast US Dollar cash receipts could result in additional action being required to further reduce the size of the hedge book. This could result in additional cash costs. Using the US Dollar exchange rate at 30 June 2020 (GBP:USD = 1.23), reducing the hedge book by an additional $1bn would result in a cash cost of approximately £155m which would be an outflow in the over-hedged period.

5 Taxation

The tax charge for the half year is £11m on a reported loss before taxation of £5,367m (30 June 2019: tax charge of £116m on a reported loss before taxation of £791m). The key drivers of the tax charge in the period are the non-recognition of deferred tax on UK losses arising in 2020 and the derecognition of some of the deferred tax asset relating to UK losses previously recognised. The charge is partially offset by a credit arising on the change in the UK tax rate.

Deferred tax assets are recognised to the extent it is probable that future taxable profits will be available against which to recover the asset. Where necessary, this is based on management's assumptions relating to the amounts and timing of future taxable profits.

The Board continually reassess the appropriateness of recovering deferred tax assets relating to losses and other tax credits, which includes a consideration of the level of future profits and the time period over which they are recovered.

As a consequence of the impact of COVID-19 on existing Civil Aerospace widebody engine programmes, we have not recognised any deferred tax assets in respect of 2020 UK losses and derecognised £327m of the deferred tax asset on the balance sheet at 31 December 2019. Of this amount, £51m is underlying with the balance of £276m being non-underlying.

Deferred tax assets arising on additional unrealised losses on derivative contracts that remain hedged have also been assessed resulting in a net increase in the deferred tax asset of £93m.

Both of these assessments are in line with the approach set out in Note 5 of the 2019 Annual Report, and also taking into account a 25% probability of there being a severe but plausible downside scenario in relation to the commercial aviation industry.

The Spring Budget 2020 announced that the UK corporation tax rate would remain at 19% rather than reducing to 17% from 1 April 2020. The new law was substantively enacted on 17 March 2020. The prior year UK deferred tax assets and liabilities were calculated at 17%, as this was the enacted rate at the 2019 balance sheet date. As the 19% rate has been substantively enacted before 30 June 2020, the UK deferred assets and liabilities have been re-measured at 19%.

The resulting credits or 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 2020, £160m has been credited to the income statement and £6m has been credited directly to equity.

6 Earnings per ordinary share

Basic earnings per share (EPS) is calculated by dividing the loss attributable to ordinary shareholders by the weighted average number of ordinary shares in issue during the period, excluding ordinary shares held under trust, which have been treated as if they had been cancelled.

As there is a loss, the effect of potentially dilutive ordinary shares is anti-dilutive.

	Half-year to 30 June 2020			Half-year to 30 June 2019		
	Basic	**Potentially dilutive share options**	**Diluted**	Basic	Potentially dilutive share options	Diluted
Loss attributable to ordinary shareholders (£m)	**(5,380)**	**–**	**(5,380)**	(909)	–	(909)
Weighted average number of ordinary shares (millions)	**1,921**	**–**	**1,921**	1,893	–	1,893
EPS (pence)	**(280.06)p**	**–**	**(280.06)p**	(48.02)p	–	(48.02)p

The reconciliation between underlying EPS and basic EPS is as follows:

	Half-year to 30 June 2020		Half-year to 30 June 2019	
	Pence	**£m**	Pence	£m
Underlying EPS / Underlying loss attributable to ordinary shareholders	**(173.19)**	**(3,327)**	(1.58)	(30)
Total underlying adjustments to loss before tax (note 2)	**(110.52)**	**(2,123)**	(46.70)	(884)
Related tax effects	**3.70**	**71**	0.26	5
Related NCI effects	**(0.05)**	**(1)**	–	–
EPS / loss attributable to ordinary shareholders	**(280.06)**	**(5,380)**	(48.02)	(909)
Diluted underlying EPS	**(173.19)**		(1.58)	

7 Payments to shareholders in respect of the period

Payments to shareholders in respect of the period represent the value of C Shares to be issued in respect of the results for that period. In light of the ongoing COVID-19 pandemic, no issue of C Shares were declared for the half-year period to 30 June 2020.

	Half-year to 30 June 2020		Half-year to 30 June 2019	
	Pence per share	**£m**	Pence per share	£m
Interim (issued in January) [1]	**–**	**–**	4.6	87

[1] On the 6 April 2020, the Group announced that the final shareholder payment of 7.1 pence per share in respect of 2019 would not be paid. This decision was in response to the macro-economic situation and uncertainty caused by COVID-19, preserving £137m of cash.

8 Impairment of intangible assets, property, plant and equipment and right-of-use assets

a) Summary

An impairment charge of £959m (30 June 2019: £nil) was identified reducing the carrying amount of certain intangible assets, property, plant and equipment and right-of-use assets. These impairments are due to the impact of COVID-19 and result from reductions in the estimated OE volumes and engine flying hours with the forecasts of future cash flows of each programme or cash generating unit (CGU). These cash flow forecasts are discounted to generate the value in use of the programme intangible assets, lease engines (within property, plant and equipment) and right-of-use assets. The recoverable amount of other property, plant and equipment has been measured on a fair value less cost of disposal basis.

The impairment charges recognised in the period are as follows:

	Impairment charge in the period						
	Goodwill £m	Other intangible assets £m	Property, plant and equipment £m	Right-of-use assets £m	Total £m	Recoverable amount £m	Discount rate at 30 June 2020 (31 December 2019) [1,3] £m
Civil Aerospace –Trent programme assets (where impairment recognised)	**–**	**39**	**83**	**310**	**432**	**–**	**13.5% (12%)**
Civil Aerospace – Business Aviation programme assets (where impairment recognised)	**–**	**309**	**–**	**–**	**309**	**230**	**12.5% (11%)**
Civil Aerospace – Specific assets [2]	**–**	**–**	**145**	**–**	**145**	**201**	**n/a**
ITP Aero – Specific assets	**–**	**35**	**11**	**–**	**46**	**–**	**10.3% (9.3%)**
Other	**8**	**2**	**8**	**9**	**27**	**–**	**Various**
Total	**8**	**385**	**247**	**319**	**959**		

1 Discount rate for 31 December 2019 disclosed where an impairment test was performed.

2 No impairment was identified at the Civil Aerospace level at 30 June 2020 or 31 December 2019.

3 The impairment charge for Civil Aerospace specific assets has been calculated on a fair value less cost of disposal basis.

b) Intangible assets (see note 9)

Goodwill

Goodwill of **£1,066m** (31 December 2019: £994m) has been tested for impairment during 2020 on the following basis:

- The carrying values of goodwill have been assessed by reference to value in use. Cash flow forecasts used to derive value in use have been prepared by management using the most recent forecasts, which are consistent with external sources of information on market conditions i.e. using the 'traditional' approach allowable under IAS 36 Impairment of Assets. These forecasts generally cover the next five years, with cash flows beyond this period based on a growth rate of 2.0% that reflects the products, industries and countries in which the relevant CGU or group of CGUs operate. Whilst these forecasts represent management's best estimate, in addition, the impact on the cash flows of (i) a severe but plausible downside scenario and (ii) various sensitivities, have also been considered and management has concluded that sufficient headroom exists to support the carrying value of the goodwill balances.
- The key assumptions for the impairment tests are the discount rate and, in the cash flow projections, the programme assumptions, the growth rates and the impact of foreign exchange rates on the relationship between selling prices and costs. Impairment tests are performed using prevailing exchange rates.

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;
- Cash flows beyond the five-year forecasts that are assumed to grow at **2.0%** (December 2019: 1.0%); and
- Pre-tax discount rate of **11.7%** (December 2019: 12.0%).

The Directors do not consider that any reasonably possible changes in the key assumptions 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 aerospace industry, and cost escalation) that are based on current and known future programmes, estimates of market share and long-term economic forecasts;
- Cash flows beyond the five-year forecasts that are assumed to grow at **2.0%** (December 2019: 1.0%); and
- Pre-tax discount rate of **13.5%** (December 2019: 12.0%).

The Directors do not consider that any reasonably possible changes in the key assumptions 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 an impairment charge of **£8m** being recognised at 30 June 2020 (30 June 2019: £nil).

Other intangible assets (including programme-related intangible assets)

Other intangible assets have been reviewed for impairment in accordance with the requirements of IAS 36. Where an impairment test was considered necessary, it has been performed on the following basis:

- The carrying values have been assessed by reference to value in use as this represents the highest value to the Group in terms of the future cash flows that it can generate. Values in use have been estimated using the 'expected cash flow' approach allowable under IAS 36. Cash flow forecast scenarios have been prepared by management using the most recent forecasts, which are consistent with external sources of information on market conditions over the lives of the respective programmes and incorporate management's best estimate of key assumptions utilising a stochastic analysis to allow for variation in the actual outcome where appropriate. A severe but plausible scenario was also modelled and, in order to risk adjust the cash flows, a weighting was taken between the two scenarios based on management judgement.
- The key assumptions underlying cash flow projections are assumed market share, programme timings, unit cost assumptions, discount rates and foreign exchange rates.
- The pre-tax cash flow projections have been discounted at **10.3%–13.5%** (31 December 2019: 7.0%–15.0%), based on the Group's weighted average cost of capital.

In addition, for programme-related intangible assets, where there is a triggering event, an impairment test has been performed on the following basis:

- The 'expected cash flow' is discounted using a pre-tax discount rate that reflects the current market assessment of the time value of money. The pre-tax cash flow projections have been discounted at **10.3%–13.5%.**
- These forecasts include contracted business and management's expectation of speculative business over the life of the programme together with the cash outflows that are necessary to maintain the current level of economic benefit expected to arise from the asset in its current condition.
- The key programme assumptions underlying cash flow projections are forecast market share and pricing, engine flying hours, number of shop visits/cost of shop visits, R&D, capital investment and foreign exchange rates.

An impairment charge of **£385m** (30 June 2019: £nil) was identified.

It remains possible that a weaker than expected recovery could result in a deterioration in the future cash flow forecasts that support programme intangible assets. A 5% deterioration in EFHs (and hence future cash flows) across the life of the Civil Aerospace programmes would result in programme intangible assets that have previously been subject to impairment incurring an additional impairment of £50m.

For programmes where there is existing headroom in the impairment test (and thus no impairment) but where significant deterioration in key assumptions over the next 12 months could lead to an impairment, any of the following individual changes in assumptions would cause the recoverable amount of the programme assets to equal the carrying value:

- An increase in costs of 8%;
- A reduction in engines sales that are forecast but not contracted by 75%; or
- An increase in discount rates of 7%.

c) Property, plant and equipment (see note 10)

Property, plant and equipment has been reviewed for impairment in accordance with the requirements of IAS 36. Following the announcement on the 20 May 2020 to reshape and resize the Group given the financial and operational impact of COVID-19, a strategic review of the Group's property portfolio has been performed. Where the Group expects to exit a site, the carrying value of the related land and buildings have been impaired to their recoverable amount by reference to their fair value less cost of disposal. An impairment charge of £59m has been recognised.

The Group has also reviewed whether plant and equipment and assets under construction relating to these locations can be relocated to other parts of the Group for future use. Where no alternative use has been identified, the carrying value of these assets have been impaired to their recoverable amount by reference to their scrap values. An impairment charge of £96m has been recognised.

Of the impairment charge of £155m above, £145m relates to site rationalisation.

Impairment tests were also considered necessary for Civil Aerospace and ITP Aero engines and have been performed on the following basis:

- The carrying value of assets have been assessed by reference to their value in use, together with other assets as part of a larger cash generating unit. These have been estimated using the 'expected cash flow' approach allowable under IAS 36 as set out in note 8b above.
- The key assumptions underlying cash flow projections in relation to engines are utilisation of the asset, lease rate, condition of the engine and cost of maintaining, discount rates and foreign exchange rates.
- The pre-tax cash flow projections have been discounted at **11.3%–13.5%** based on the Group's weighted average cost of capital.

An impairment charge of £92m was recognised in relation to Trent programme engines held in Civil Aerospace and ITP Aero.

d) Right-of-use assets (see note 11)

Right-of-use (RoU) assets have been reviewed for impairment in accordance with the requirements of IAS 36. RoU assets have typically been assessed together with other assets as part of a larger cash generating unit. Other than the items referred to below there have been no impairments of RoU assets.

Impairment tests were considered necessary for lease engines as a result of the impact of COVID-19 on expected future engine flying hours, operators' fleet plans and the resultant requirement for fewer lease engines to support the aircraft fleets. Impairment tests have been performed on the following basis:

- The carrying values of assets have been assessed by reference to their value in use as set out in note 8b above.
- The key assumptions underlying cash flow projections in relation to the lease engines are utilisation of the asset, lease rate, condition of the engine and cost of maintaining, discount rates and foreign exchange rates.
- The pre-tax cash flow projections have been discounted at **11.3%–13.5%** based on the Group's weighted average cost of capital.

An impairment charge of £310m was recognised against lease engine RoU assets.

The property impairments in the period of £9m are a consequence of the impact of COVID-19 on manufacturing and overhaul workload, primarily relating to the Civil Aerospace business. Assets have been written down to reflect the higher of their revised value in use or fair value less cost of disposal.

9 Intangible assets

	Goodwill £m	Certification costs £m	Development expenditure £m	Customer relationships £m	Software £m	Other £m	Total £m
Cost:							
At 1 January 2020	**1,024**	**962**	**3,294**	**1,303**	**967**	**803**	**8,353**
Additions	**–**	**–**	**152**	**–**	**37**	**14**	**203**
Acquisition of businesses (see note 21)	**8**	**–**	**–**	**–**	**–**	**13**	**21**
Disposals	**–**	**–**	**–**	**–**	**(65)**	**(1)**	**(66)**
Exchange differences	**74**	**4**	**109**	**95**	**11**	**38**	**331**
At 30 June 2020	**1,106**	**966**	**3,555**	**1,398**	**950**	**867**	**8,842**
Accumulated amortisation and impairment:							
At 1 January 2020	**30**	**392**	**1,201**	**354**	**605**	**329**	**2,911**
Charge for the period [1]	**–**	**11**	**56**	**41**	**35**	**14**	**157**
Impairment [2]	**8**	**11**	**352**	**18**	**1**	**3**	**393**
Disposals	**–**	**–**	**–**	**–**	**(55)**	**(1)**	**(56)**
Exchange differences	**2**	**1**	**54**	**28**	**7**	**16**	**108**
At 30 June 2020	**40**	**415**	**1,663**	**441**	**593**	**361**	**3,513**
Net book value at:							
30 June 2020	**1,066**	**551**	**1,892**	**957**	**357**	**506**	**5,329**
1 January 2020	**994**	**570**	**2,093**	**949**	**362**	**474**	**5,442**

[1] Charged to cost of sales and commercial and administrative costs except development costs, which are charged to research and development costs.

[2] As a result of the financial and operational impact of COVID-19 the Group has assessed the carrying value of its intangible assets. Consequently, impairments have been recorded at 30 June 2020. The impairment of development expenditure has arisen as a result of the anticipated reduction in OE volumes and future engine flying hours, and the consequential recoverability of these assets. The impairment charge of £393m includes £2m charged to the income statement through underlying and £391m charged to non-underlying. See note 8 for further details.

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	3	43	6	126	178
Disposals of businesses	–	(19)	–	–	(19)
Disposals/write offs	(26)	(132)	(2)	(1)	(161)
Reclassifications	(28)	14	2	12	–
Exchange differences	63	181	11	14	269
At 30 June 2020	2,032	5,584	893	552	9,061
Accumulated depreciation and impairment:					
At 1 January 2020	590	3,167	223	11	3,991
Charge for the period	35	180	33	–	248
Impairment [1]	59	82	92	14	247
Disposals of businesses	–	(19)	–	–	(19)
Disposals/write offs	(8)	(128)	–	–	(136)
Reclassifications	2	(2)	–	–	–
Exchange differences	20	94	2	2	118
At 30 June 2020	698	3,374	350	27	4,449
Net book value at:					
30 June 2020	1,334	2,210	543	525	4,612
1 January 2020	1,430	2,330	653	390	4,803

[1] As a result of the financial and operational impact of COVID-19 the Group has assessed the carrying value of its property, plant and equipment. In addition, following the announcement on 20 May 2020 to reshape and resize the Group due to the financial and operational impact of COVID-19, certain assets have been impaired to their recoverable amount where the Group expects to exit the site. The impairment of £247m includes £6m charged to the income statement through underlying and £241m charged to non-underlying. See note 8 for further details.

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	(21)	11	35	25
Disposals	(15)	(2)	(7)	(24)
Exchange differences	22	5	5	32
At 30 June 2020	490	142	1,800	2,432
Accumulated depreciation and impairment:				
At 1 January 2020	55	29	306	390
Charge for the period	29	17	148	194
Impairment [1]	9	–	310	319
Disposals	(8)	(2)	(7)	(17)
Exchange differences	4	1	1	6
At 30 June 2020	89	45	758	892
Net book value at:				
30 June 2020	401	97	1,042	1,540
1 January 2020	449	99	1,461	2,009

[1] Impairment includes £319m charged to the income statement through non-underlying and is a result of the impact of COVID-19. See note 8 for further details.

12 Trade receivables and other assets

	Current		Non-current		Total	
	30 June 2020 £m	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m
Trade receivables	**3,257**	2,538	**–**	–	**3,257**	2,538
Amounts owed by joint ventures and associates	**419**	197	**11**	12	**430**	209
Costs to obtain contracts with customers	**13**	10	**33**	33	**46**	43
Other receivables [1]	**1,365**	1,490	**204**	181	**1,569**	1,671
Prepayments	**423**	356	**341**	248	**764**	604
	5,477	4,591	**589**	474	**6,066**	5,065

[1] Includes £10m of amounts owed by the UK Government at 30 June 2020 for amounts claimed by the Group under furlough arrangements.

The Group has historically undertaken the sale of trade receivables, without recourse, to banks (commonly known as invoice discounting or factoring). This activity has previously been used to normalise customer receipts as certain aerospace customers have extended their payment terms. This in turn has helped normalise Group cash flows in line with physical delivery volumes. During the period to 30 June 2020, invoice discounting has substantially reduced. At 30 June 2020, £19m was drawn under factoring facilities, a decrease of £1,098m compared to December 2019, representing cash collected before it was contractually due from the customer. Trade receivables factored are generally due within the following quarter.

The expected credit losses for trade receivables and other assets has increased by £106m to **£244m** (31 December 2019: £138m). This increase is mainly driven by the impact of COVID-19 on the Civil Aerospace business of £95m, of which £43m relates to specific customer provisions, £32m relates to updates to the recoverability of other receivables and £20m relates to the deterioration of the market credit ratings of our customers.

13 Trade payables and other liabilities

	Current		Non-current		Total	
	30 June 2020 £m	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m
Trade payables	**2,268**	2,300	**–**	–	**2,268**	2,300
Amounts owed to joint ventures and associates	**689**	798	**–**	36	**689**	834
Accruals	**1,451**	1,751	**111**	89	**1,562**	1,840
Deferred receipts from RRSA workshare partners	**5**	17	**525**	516	**530**	533
Government grants	**10**	12	**74**	71	**84**	83
Other taxation and social security	**270**	128	**8**	–	**278**	128
Other payables	**3,606**	3,444	**1,075**	1,359	**4,681**	4,803
	8,299	8,450	**1,793**	2,071	**10,092**	10,521

Our payment terms with suppliers vary on the products and services being sourced, the competitive global markets we operate in and other commercial aspects of suppliers' relationships. Industry average payment terms vary between 90-120 days. We offer reduced payment terms for smaller suppliers, so that they are paid in 30 days. In line with aerospace industry practice, we offer a supply chain financing (SCF) programme in partnership with banks to enable suppliers who are on our standard 75-day payment terms to receive their payment sooner. The SCF programme is available to suppliers at their discretion and does not change our rights and obligations with suppliers nor the timing of our payment to suppliers. At 30 June 2020, suppliers had drawn **£634m** under the SCF scheme (31 December 2019: £859m).

14 Contract assets and liabilities

	Current		Non-current		Total	
	30 June 2020 £m	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m
Contract assets						
Contract assets with customers	**551**	404	**567**	1,092	**1,118**	1,496
Participation fee contract assets	**69**	57	**423**	542	**492**	599
	620	461	**990**	1,634	**1,610**	2,095

Contract assets with customers includes **£720m** (31 December 2019: £1,086m) of Civil Aerospace LTSA assets, with most of the remainder relating to Defence. The main driver of the decrease in the Group balance is a result of revenue relating to performance obligations satisfied in previous years being adjusted by £(497)m in Civil Aerospace, primarily as a result of COVID-19 reducing engine flying hours below the levels previously estimated over the term of the contracts with a corresponding reduction in the contract asset. The absolute value of expected credit losses for contract assets has decreased by £(8)m to **£5m** (31 December 2019: £13m) as a result of the current macro-economic climate and the impact of COVID-19 that has led to a significant reduction in the contract asset balance. No impairment losses of contract assets (31 December 2019: none) have arisen during the period to 30 June 2020.

Participation fee contract assets have reduced by **£(107)m** (31 December 2019: reduced by £55m) due to the impairment of engine programme participation fees of £(110)m, amortisation exceeding additions by £(20)m and foreign exchange on consolidation of overseas entities of £23m.

14 Contract assets and liabilities continued

	Current		Non-current		Total	
	30 June 2020 £m	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m
Contract liabilities	**4,538**	4,228	**6,566**	6,612	**11,104**	10,840

In the period to 30 June 2020, contract liabilities have increased by £264m. The main reason for the movement is a £330m increase in Civil Aerospace LTSA liabilities to **£7,113m** (31 December 2019: £6,783m). The main driver of the increase in the Group balance is a result of a 47% decrease in Civil Aerospace engine flying hours that has resulted in revenue relating to performance obligations satisfied in previous years being adjusted by £(369)m.

15 Financial assets and liabilities

Carrying value of other financial assets and liabilities

	Derivatives							
	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**
At 30 June 2020								
Non-current assets	**57**	**4**	**385**	**446**	**–**	**17**	**–**	**463**
Current assets	**28**	**2**	**138**	**168**	**–**	**13**	**–**	**181**
Assets	**85**	**6**	**523**	**614**	**–**	**30**	**–**	**644**
Current liabilities	**(495)**	**(38)**	**(12)**	**(545)**	**(43)**	**(23)**	**(29)**	**(640)**
Non-current liabilities	**(5,268)**	**(43)**	**(55)**	**(5,366)**	**(74)**	**(25)**	**–**	**(5,465)**
Liabilities	**(5,763)**	**(81)**	**(67)**	**(5,911)**	**(117)**	**(48)**	**(29)**	**(6,105)**
	(5,678)	**(75)**	**456**	**(5,297)**	**(117)**	**(18)**	**(29)**	**(5,461)**
At 31 December 2019								
Non-current assets	234	14	203	451	–	16	–	467
Current assets	16	9	49	74	–	12	–	86
Assets	250	23	252	525	–	28	–	553
Current liabilities	(394)	(5)	–	(399)	(31)	(32)	(31)	(493)
Non-current liabilities	(2,960)	(6)	(9)	(2,975)	(79)	(40)	–	(3,094)
Liabilities	(3,354)	(11)	(9)	(3,374)	(110)	(72)	(31)	(3,587)
	(3,104)	12	243	(2,849)	(110)	(44)	(31)	(3,034)

[1] Includes the foreign exchange impact of cross-currency interest rate swaps.

Derivative financial instruments

Movements in fair value of derivative financial assets and liabilities were as follows:

	Half-year to 30 June 2020					Year to 31 December 2019
	Foreign exchange instruments £m	**Commodity instruments £m**	**Interest rate Instruments hedge accounted £m**	**Interest rate Instruments - non-hedge accounted £m**	**Total £m**	Total £m
At 1 January 2020	**(3,104)**	**12**	**229**	**14**	**(2,849)**	(3,506)
Movements in fair value hedges	**–**	**–**	**316**	**–**	**316**	(27)
Movement in cash flow hedges	**(28)**	**(6)**	**–**	**–**	**(34)**	9
Movements in other derivative contracts [1]	**(2,631)**	**(98)**	**–**	**(73)**	**(2,802)**	7
Contracts settled	**85**	**17**	**(30)**	**–**	**72**	668
At period/year end	**(5,678)**	**(75)**	**515**	**(59)**	**(5,297)**	(2,849)

[1] Included in financing.

15 Financial assets and liabilities continued

Financial risk and revenue sharing arrangements (RRSAs) and other financial assets and liabilities

	Financial RRSAs		Other liabilities		Other assets	
	Half-year to 30 June 2020 £m	Year to 31 December 2019 £m	**Half-year to 30 June 2020 £m**	Year to 31 December 2019 £m	**Half-year to 30 June 2020 £m**	Year to 31 December 2019 £m
At 1 January as previously reported	**(110)**	(227)	**(72)**	(62)	**16**	–
Reclassification to borrowings [1]	**–**	79	**–**	–	**–**	–
At 1 January restated	**(110)**	(148)	**(72)**	(62)	**16**	–
Exchange adjustments included in OCI	**(6)**	10	**(1)**	1	**–**	–
Additions	**–**	(4)	**7**	(37)	**1**	–
Financing charge [2]	**(1)**	(3)	**–**	(3)	**–**	–
Excluded from underlying profit:						
Changes in forecast payments [2]	**–**	1	**–**	–	**–**	–
Exchange adjustments [2]	**(3)**	6	**–**	–	**–**	–
Cash paid	**3**	28	**18**	29	**–**	–
Reclassification from trade receivables	**–**	–	**–**	–	**–**	16
At period end/year end	**(117)**	(110)	**(48)**	(72)	**17**	16

[1] In 2019, the Group reclassified £79m as borrowings previously included in other financial liabilities.

[2] Included in financing.

Fair values of financial instruments equate to book values with the following exceptions:

	Half-year to 30 June 2020		Year to 31 December 2019	
	Book value £m	**Fair value £m**	Book value £m	Fair value £m
Borrowings – Level 1	**(3,508)**	**(3,109)**	(3,206)	(3,147)
Borrowings – Level 2	**(2,919)**	**(2,917)**	(125)	(130)
Financial RRSAs	**(117)**	**(118)**	(110)	(112)

Fair values

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 arms-length transaction. Fair values have been determined with reference to available market information at the balance sheet date, using the methodologies described below.

- Non-current investments – other comprise unconsolidated companies and are measured at fair value.
- Money market funds, included within cash and cash equivalents, are valued using Level 1 methodology. Fair values are assumed to approximately equal 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.
- The fair values of held to collect trade receivables and similar items, trade payables and other similar items, other non-derivative financial assets and liabilities, short-term investments and cash and cash equivalents 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.
- Fair values of derivative financial assets and liabilities and trade receivable held to collect or sell (30 June 2020: **£1,150m**; 31 December 2019: £344m) are estimated by discounting expected future contractual cash flows using prevailing interest rate curves or cost of borrowing, as appropriate. Amounts denominated in foreign currencies are valued at the exchange rate prevailing at the balance sheet date. These financial instruments and money-market funds are included on the balance sheet at fair value, derived from observable market prices (Level 2 as defined by IFRS 13 Fair Value Measurement).
- 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) or by discounting contractual future cash flows (Level 2 as defined by IFRS 13).
- The fair values 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).
- Other assets are included on the balance sheet at fair value, derived from observable market prices or latest forecast (Level 2/3 as defined by IFRS13). At 30 June 2020, Level 3 assets totalled **£17m** (31 December 2019: £16m).
- 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).

16 Borrowings and lease liabilities

	Current		Non-current		Total	
	30 June 2020 £m	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m	**30 June 2020 £m**	31 December 2019 £m
Unsecured						
Overdrafts	**8**	8	**–**	–	**8**	8
Bank loans	**18**	27	**2,516**	16	**2,534**	43
Commercial paper [1]	**299**	–	**–**	–	**299**	–
Loan notes	**1,107**	378	**2,401**	2,828	**3,508**	3,206
Other loans [2]	**10**	22	**68**	52	**78**	74
Total unsecured	**1,442**	435	**4,985**	2,896	**6,427**	3,331
Lease liabilities	**334**	340	**2,003**	2,014	**2,337**	2,354
Total borrowings and lease liabilities	**1,776**	775	**6,988**	4,910	**8,764**	5,685

[1] On the 27 April 2020, the Group issued Commercial paper of £300m to the COVID-19 Corporate Financing Facility (CCFF), a fund operated by the Bank of England on behalf of HM Treasury. The borrowings are repayable on 17 March 2021 and are held on the balance sheet at amortised cost.

[2] Other loans of **£10m** (2019: £8m) are held by entities classified as joint operations. The loans are disclosed after adjustments have been made on consolidation to eliminate the extent of the third party interest in the entity.

During the period, the Group drew down its £2.5bn revolving credit facility in full. In April 2020, the Group entered into a new undrawn £1.9bn revolving credit facility which expires in October 2021. Neither facility is subject to any financial covenants.

Subsequent to 30 June 2020, the Group secured a further £2bn term-loan facility, 80% of which is guaranteed by UK Export Finance (UKEF). This was executed in August 2020 and is repayable in August 2025.

17 Provisions

	At 1 January 2020 £m	**Charged to income statement £m**	**Reversed £m**	**Utilised £m**	**Exchange differences £m**	**At 30 June 2020 £m**
Trent 1000 exceptional costs	**1,382**	**86**	**(450)**	**(328)**	**–**	**690**
Contract losses	**773**	**388**	**(174)**	**(38)**	**6**	**955**
Restructuring	**68**	**329**	**–**	**(42)**	**2**	**357**
Warranties and guarantees	**345**	**54**	**(1)**	**(55)**	**23**	**366**
Customer financing	**22**	**–**	**–**	**–**	**–**	**22**
Insurance	**70**	**3**	**–**	**(3)**	**–**	**70**
Tax related interest and penalties	**55**	**5**	**–**	**(9)**	**2**	**53**
Employer liability claims	**49**	**–**	**–**	**–**	**–**	**49**
Other	**40**	**64**	**(4)**	**(10)**	**1**	**91**
	2,804	**929**	**(629)**	**(485)**	**34**	**2,653**
Current liabilities	**858**					**1,124**
Non-current liabilities	**1,946**					**1,529**

Trent 1000 exceptional costs

In November 2019, we 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. An exceptional charge of £1,361m (at underlying exchange rates) was recorded in 2019, £1,531m at prevailing exchange rates and net of £203m reflecting insurance receipts and contract accounting adjustments. Of the charge, £1,275m was recorded in relation to Trent 1000 exceptional costs, and £459m in relation to contract losses (see below). During the period to 30 June 2020 and reflecting the impact of COVID-19, the total estimated Trent 1000 cash costs relating to remediation shop visits and customer disruption reduced the provision by £450m, taking into account the expected underlying exchange rates and a share of the costs borne by the RRSAs the income statement impact was £321m (see note 2). In the period to 30 June 2020 we have utilised £328m of the Trent 1000 exceptional costs provision. This represents customer disruption costs settled in cash and credit notes, and remediation shop visit costs. The remaining provision is expected to be utilised over the period 2020 to 2023.

A 12-month delay in the availability of the modified HP turbine blade from the first half of 2021 to the first half of 2022 could lead to a £60m increase in the Trent 1000 provision.

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. Provisions for contract losses are expected to be utilised over the term of the customer contracts, typically within 10–15 years.

During 2019, contract losses of £459m (at prevailing exchange rates) were recognised relating to the upfront recognition of future losses on a small number of contracts which became loss making as a result of the margin impact of the updated HP turbine durability expectations on the Trent 1000 TEN. During the period to 30 June 2020, these Trent 1000 TEN loss-making contracts have improved by £177m. For these contracts, a reduction in flying hours resulting from COVID-19 has allowed for a reassessment of shop visits required and the cost savings identified have more than offset the reduction in future revenue.

17 Provisions continued

Engine flying hours have reduced as a result of the impact of COVID-19. For certain Civil Aerospace contracts, the impact of this reduction across the contract term has been to significantly reduce revenue without an associated reduction in shop visit costs. Consequently, during the period to 30 June 2020 there have been an increased number of contracts that have become loss-making. Additional contract losses of £360m have been recognised in the period to 30 June 2020, together with £28m relating to changes in foreign exchange and the effect of discounting.

A reduction in Civil Aerospace widebody engine flying hours of 15% and the associated decrease in revenue and cost impact could lead to a £140m – £200m increase in the onerous contract provision.

Restructuring

On 20 May 2020, a Group-wide restructuring programme was announced in response to the financial and operational impact caused by COVID-19. This activity will reshape and resize the Group with an anticipated headcount reduction of approximately 9,000. As a consequence of this announcement, and based on the detailed plans communicated by 30 June 2020, a provision of £329m has been recorded in the period to 30 June 2020 and recognised in cost of sales and commercial and administrative costs. Further detailed plans were communicated during the period from 1 July 2020 to 27 August 2020 and further charges are expected to be recorded in relation to spend in the 2020 to 2022 time period.

Customer financing

Customer financing provisions cover guarantees provided for asset value and/or financing.

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 **US$2.1bn** (2019: US$2.8bn) (on a discounted basis) to provide facilities to enable customers to purchase aircraft (of which approximately US$354m could be called during 2020). 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 below. 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.

	30 June 2020		31 December 2019	
	£m	**$m**	£m	$m
Gross commitments	**51**	**63**	60	79
Value of security [1]	**(10)**	**(12)**	(9)	(11)
Guarantees	**(8)**	**(10)**	(8)	(11)
Net commitments	**33**	**41**	43	57
Net commitments with security reduced by 20% [2]	**33**	**41**	43	57
[1] Security includes unrestricted cash collateral of:	**–**	**–**	–	–

[2] Although sensitivity calculations are complex, the reduction of the relevant security by 20% illustrates the sensitivity of the contingent liability to changes in this assumption.

18 Pensions and other post-retirement and long-term employee benefits

The net post-retirement scheme surplus as at 30 June 2020 is calculated on a year to date basis, using the latest valuation as at 31 December 2019, updated to 30 June 2020 for the principal schemes.

Movements in the net post-retirement position recognised in the balance sheet were as follows:

	UK schemes £m	**Overseas schemes £m**	**Total £m**
At 1 January 2020	**1,141**	**(1,349)**	**(208)**
Exchange adjustments	**–**	**(97)**	**(97)**
Current service cost and administrative expenses	**(82)**	**(35)**	**(117)**
Past service credit/(cost)	**248**	**(15)**	**233**
Financing recognised in the income statement	**12**	**(13)**	**(1)**
Contributions by employer [1]	**6**	**32**	**38**
Actuarial losses recognised in OCI	**(700)**	**(62)**	**(762)**
Returns on plan assets excluding financing recognised in OCI	**1,080**	**75**	**1,155**
Transfers	**–**	**(1)**	**(1)**
At 30 June 2020 [2]	**1,705**	**(1,465)**	**240**
Analysed as:			
Post-retirement scheme surpluses – included in non-current assets	**1,705**	**31**	**1,736**
Post-retirement scheme deficits – included in non-current liabilities	**–**	**(1,496)**	**(1,496)**
	1,705	**(1,465)**	**240**

[1] The Group has agreed with the Trustee of the Rolls-Royce UK Pension Fund (RRUKPF), a defined benefit scheme, to defer £33m of employer contributions which were payable in H1 2020 to H2 2020.

[2] The surplus in the RRUKPF is recognised as, on 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.

18 Pensions and other post-retirement and long-term employee benefits continued

On the 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 have been remeasured as at 30 June 2020 to reflect the number of members who are expected to leave the schemes. In addition, the Group agreed with the Trustee of the RRUKPF to offer a new Bridging Pension Option to both active members and also those members leaving on severance. This option allows members to take a larger proportion of their pension prior to reaching the state retirement age and a lower amount thereafter. The accounting impact of these changes gave rise to a past service gain of £213m which has been recognised as a non-underlying profit adjustment (see note 2). In determining the past service gain, the Group has made an assumption on take up rates which will be revised over time (see note 1).

A consultation with active managers in the UK scheme was concluded in January 2020. The consultation process agreed certain changes for the relevant manager group which will mitigate future funding cost increases. The changes gave rise to a past service gain of £35m which has been recognised as a non-underlying profit adjustment (see note 2).

On 5 June 2019, the Group entered into a partial buy-in with Legal and General Assurance Society Limited covering the benefits of circa 33,000 in-payment pensioners. The buy-in was in anticipation of a buy-out, the final 10% of which concluded on 1 February 2020. Pension assets and liabilities of £422m have been derecognised from the Group's balance sheet on this date and this had no impact on the income statement or OCI in the current period. In relation to this transaction, at 30 June 2019, an asset re-measurement net loss estimated at £600m was recognised within the line – 'Actuarial gains/(losses) recognised in OCI'.

A reduction in the discount rate from 1.70% by 0.25% could lead to an increase in the defined benefit obligations of the RR UK Pension Fund of approximately £490m. 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 21.9 years (male aged 65) and from 23.1 years (male aged 45) would increase the defined benefit obligations of the RR UK Pension Fund by approximately £390m.

It is assumed that **30%** (31 December 2019: 45%) of members of the RR UK Pension Fund will transfer out of the fund on retirement. The reduction in this assumption is a result of the introduction of the Bridging Pension Option. An increase of 5% in this assumption would increase the defined benefit obligation by £40m.

19 Contingent liabilities

Contingent liabilities in respect of customer financing commitments are described in note 17.

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. Following the expiry of its term the DPA with the US DoJ was dismissed by the US District Court on 19 May 2020. 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, we 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, 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 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.

20 Related party transactions

Transactions with related parties are shown on page 176 of the 2019 Annual Report. Significant transactions in the current financial period are as follows:

	Half-year to 30 June 2020 £m	Half-year to 30 June 2019 £m
Sales of goods and services to joint ventures and associates	**1,822**	1,614
Purchases of goods and services from joint ventures and associates	**(2,086)**	(2,152)

Included in sales of goods and services to joint ventures and associates are sales of spare engines amounting to **£20m** (30 June 2019: £91m).

Profit recognised in the period on such sales amounted to **£30m** (30 June 2019: £40m), including profit on current year sales and recognition of profit deferred on similar sales in previous years. On an underlying basis (at actual achieved rates on settled derivative transactions), the amounts were **£31m** (30 June 2019: £33m).

21 Acquisitions and disposals

Acquisitions

On 15 January 2020, the Group completed the acquisition of Qinous GmbH (increasing its shareholding from 24% to 100%) for a cash consideration of €15.1m, of which €9.7m was paid on completion. A further €2.6m is payable in September 2021 and €2.8m in September 2023. Under the sale agreement, the cash consideration may be adjusted up by €2.9m to €18.0m based on a revenue target being achieved by 31 December 2023. In accordance with IFRS 3 *Business Combinations* the pre-acquisition shareholding of 24% has been re-measured to fair value of €4.9m and a revaluation gain of €1.5m has been recognised in the income statement. Of the consideration of €20m, €15.2m has been provisionally allocated to intangible assets, €9.1m to goodwill and €4.3m to deferred tax liabilities.

On 18 May 2020, the Group entered into an agreement to increase its shareholding in Reaction Engines Ltd by 8.1% to 10.1% for a cash consideration of £20m. The consideration is payable (and the associated shares acquired) in four instalments that will be made between July 2020 – January 2022.

Acquisition completed after 30 June 2020

On the 7 March 2020, the Group signed an agreement to acquire 100% of the shares of Kinolt Group S.A., a Belgium company which designs and manufactures uninterruptible power supply systems. The transaction was completed on 1 July 2020 for a cash consideration of €144m with a further amount payable subject to finalisation of the completion accounts. The acquisition of Kinolt Group S.A. completes the Group's power supply product offering, accelerates its strategy of offering integrated solutions and enables the Group to strengthen its market position in safety critical applications with a leader in dynamic uninterruptible power supply. The Group has commenced an assessment to determine the fair values of the identifiable assets and liabilities acquired in accordance with IFRS 3 and has identified intangible assets relating to technology, customer relationships, order backlog and goodwill. However, due to the recent timing of the acquisition and availability of information, the assessment is at an early stage and therefore it is not currently possible to determine their respective fair values. The allocation of the purchase price is expected to be completed by 31 December 2020.

Disposals

On the 31 January 2020, the Group completed the sale of its North America Civil Nuclear (NACN) business to Westinghouse Electric Company LLC. for $24.8m. The business was disclosed as a disposal group held for sale at 31 December 2019. In our 2019 financial statements, we reported an impairment charge of £25m as a result of the decision to classify NACN as a business held for sale. Upon the disposal of NACN on 31 January 2020, and in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates,* we have recycled the cumulative currency translation reserve through the income statement in 2020. This has resulted in a cumulative currency translation loss of £7m.

On the 3 February 2020, the Group sold its Knowledge Management Systems (KMS) business to Valsoft Corp. for a cash consideration of $2.6m. Upon the disposal of KMS, and in accordance with IAS 21 we have recycled the cumulative currency translation reserve through the income statement in 2020. This has resulted in a cumulative currency translation gain of £3m.

On the 7 May 2020, the Group sold Trigno Energy Srl (Trigno) to Pilkington Italia S.p.A for a cash consideration of €6.1m. Upon the disposal of Trigno, and in accordance with IAS 21 we have recycled the cumulative currency translation reserve through the income statement in 2020. This has resulted in a cumulative currency translation gain of £1m.

	NACN £m	KMS £m	Trigno £m	Total £m
Proceeds				
Cash consideration	**19**	**2**	**4**	**25**
Cash and cash equivalents disposed	**(9)**	**(2)**	**(4)**	**(15)**
Net cash consideration	**10**	**–**	**–**	**10**
Disposal costs paid	**–**	**–**	**–**	**–**
Cash inflow per cash flow statement	**10**	**–**	**–**	**10**
Assets and liabilities disposed	**4**	**(1)**	**2**	**5**
Profit/(loss) on disposal before disposal costs and continuing obligations	**6**	**1**	**(2)**	**5**
Cumulative currency translation gain/(loss)	**(7)**	**3**	**1**	**(3)**
Disposal costs	**(1)**	**–**	**–**	**(1)**
Non-underlying profit before tax	**(2)**	**4**	**(1)**	**1**

Disposal completed after 30 June 2020

On the 17 May 2020, the Group signed an agreement to sell its 18% shareholding in Exostar Corporation for an initial cash consideration of $22.9m. The transaction was completed on 6 July 2020.

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. This is reviewed at each reporting date over the adjustment period, based on actual sales. During the period to 30 June 2020 aftermarket sales have reduced as a result of COVID-19, and an accrual of £4m has been made in the period.

22 Derivation of summary funds flow statement from reported cash flow statement

	Half-year to 30 June 2020		Half-year to 30 June 2019 *	
	£m	£m	£m	£m
Underlying operating (loss)/profit (see note 2)		**(1,669)**		203
Amortisation and impairment of intangible assets	**550**		153	
Depreciation and impairment of property, plant and equipment	**495**		229	
Depreciation and impairment of right-of-use assets	**513**		200	
Adjustment to residual value guarantees in lease liabilities	**(42)**		–	
Impairment of joint ventures	**15**		–	
Reversal of non-underlying impairments of non-current assets	**(966)**		–	
Acquisition accounting	**(66)**		(71)	
Depreciation and amortisation		**499**		511
Additions of intangible assets		**(176)**		(274)
Purchases of property, plant and equipment		**(221)**		(348)
Lease payments (capital plus interest)		**(190)**		(184)
Increase in inventories		**(301)**		(433)
Movement in receivables/payables	**(1,914)**		220	
Movement in contract balances	**(150)**		230	
Realised derivatives in financing	**584**		(40)	
Revaluation of trading assets (excluding exceptional items)	**(41)**		(19)	
Movement on receivables/payables/contract balances (excluding Civil LTSA)		**(1,521)**		391
Underlying movement in Civil Aerospace LTSA contract balances		**788**		128
Movement on provisions		**132**		(271)
Net interest received and paid		**(26)**		(45)
Cash flows on settlement of excess foreign exchange contracts		**(88)**		–
Cash flows on financial instruments net of realised losses included in operating profit		**(53)**		(33)
Other		**(35)**		25
Trading cash flow		**(2,861)**		(330)
Underlying operating profit charge in excess of contributions to defined benefit schemes		**94**		1
Tax		**(34)**		(100)
Free cash flow		**(2,801)**		(429)
Shareholder payments		**(90)**		(85)
Acquisition of businesses		**(8)**		–
Disposal of businesses		**10**		458
Exceptional restructuring costs		**(87)**		(66)
Penalties paid on agreements with investigating bodies		**(135)**		(102)
Difference in fair values of derivative contracts held for financing		**(89)**		(15)
Payments of lease principal less new leases and other non-cash adjustments to lease liabilities		**167**		53
Foreign exchange		**(2)**		(29)
Other [1]		**(41)**		(6)
Change in net debt		**(3,076)**		(221)
Change in net funds/(debt)		**(3,076)**		(221)
Payments of lease principal less new leases and other non-cash adjustments to lease liabilities		**(167)**		(53)
Foreign exchange on lease liabilities		**150**		21
Change in net funds excluding IFRS 16		**(3,093)**		(253)

* The comparative information for the period ended 30 June 2019 has been re-presented to be on a comparable basis with the presentation adopted for the period ended 30 June 2020. There is no change to trading or group free cash flow. In summary, items previously included in ‘other’ within ‘trading cash flow’, which related to ‘movements in receivables/payables’ or movements in ‘contract balances’ or movements in ‘lease payments’ have been included within those items. In addition, the presentation of ‘core’ is consistent with that described in note 2.

[1] Largely relates to the timing of cash flows on a prior period disposal where the Group retains the responsibility for collecting cash before passing it on to the acquirer.

22 Derivation of summary funds flow statement from reported cash flow statement continued

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 business acquisitions, SFO payments and foreign exchange changes on net funds. The Board considers that free cash flow reflects cash generated from the Group's underlying trading.

The table below shows a reconciliation of free cash flow to the change in cash and cash equivalents presented in the condensed consolidated cash flow statement on page 21.

	Half-year to 30 June 2020		Half-year to 30 June 2019		
	£m	**£m**	£m	£m	**Source**
Change in cash and cash equivalents		**(360)**		(763)	A
Returns to shareholders		**90**		85	A
Net cash flow from changes in borrowings and lease liabilities		**(2,637)**		679	A
Decrease in short-term investments		**(6)**		(6)	A
Acquisition of businesses	**8**		–		A
Disposal of businesses	**(10)**		(458)		A
Changes in group structure		**(2)**		(458)	
Penalties paid on agreements with investigating bodies		**135**		102	A
Exceptional restructuring costs		**87**		66	
Capital element of lease repayments		**(149)**		(140)	A
Other		**41**		6	
Free cash flow		**(2,801)**		(429)	

Source:
A Cash flow statement

Principal risks and uncertainties

Our risk management system (RMS) is described on page 50 of our 2019 Annual Report as a continuous process that requires risk owners to constantly reassess risks and include learning from incidents to drive improvements in our control environment.

We have reviewed and updated our principal risks and how we manage them in light of COVID-19 which has created exceptional circumstances in civil aviation. On pages 51–53 of our 2019 Annual Report we identified infectious disease as a root cause of our Business Continuity risk and a reduction in air travel and customer disruption as root causes of our Market and Financial shock risk. However, the scale and impact of the pandemic and actions taken to control its spread have resulted in some increased risks to and uncertainty in our operations. As a result, additional actions and controls have been identified and implemented to mitigate the impact to the Group and protect our businesses and people.

Changes have been made to our principal risks due to COVID-19, in particular: Market and Financial shock have been split into two separate risks. Major product programme delivery has been incorporated within Competitive Environment. The principal risks that are most significantly impacted by COVID-19, together with additional mitigating actions, are set out below.

Safety
Changes to our ways of working at manufacturing sites and through remote working increase our safety risks. We have implemented measures to limit the spread of COVID-19, including additional personal protective equipment requirements, social distancing, improved cleaning regimes and increased remote working. We have increased our focus on supporting the mental health of our employees.

Market shock
Restrictions imposed to reduce the spread of the virus have reduced demand for our products and services. A second wave (or re-imposition of restrictions) could depress demand and slow the predicted recovery further. The decisive actions reported on page 1 set out our response.

Financial shock
The fall in demand has reduced our cash inflows. The rapid actions taken in H1 2020 to preserve liquidity and reduce costs and the further actions to improve our financial resilience reported on page 1 set out our response.

Strategic transformation
COVID-19 has amplified the need for immediate change and will result in the largest reorganisation of our Civil Aerospace operations in our history.

Business continuity
Large reductions in demand, in particular for Civil Aerospace, mean supplier distress is now more likely. We are closely monitoring our supply chain and putting in place mitigations where appropriate.

Talent and capability
The Group has put in place plans to retain key capabilities as it reduces the size of its workforce.

Payments to shareholders

The Company makes payments to shareholders by allotting non-cumulative redeemable preference shares of 0.1 pence each (C Shares). The Board decided that given the uncertain macro outlook they would not recommend a final shareholder payment for 2019. For the same reasons, the Board has not approved an interim shareholder payment for 2020.

However, shareholders wishing to redeem their existing C Shares, or participate in the C Share Reinvestment Plan (CRIP), must lodge instructions with our Registrar to arrive no later than 5.00 pm on 1 December 2020 (CREST holders must submit their election in CREST by 2.55pm GMT). The payment of C Shares redemption monies will be made on 6 January 2021 and the CRIP purchase will begin as soon as practicable after 6 January 2021.

Statement of Directors' responsibilities

The Directors confirm that, to the best of their knowledge:

- the condensed consolidated half-year financial statements have been prepared in accordance with IAS 34 *Interim Financial Reporting* as adopted by the EU;
- the interim management report includes a fair review of the information required by:
  (a) DTR 4.2.7R of the *Disclosure and Transparency Rules*, being an indication of important events that have occurred during the first six months of the financial year and their impact on the condensed consolidated half-year financial statements; and a description of the principal risks and uncertainties for the remaining six months of the year; and
  (b) DTR 4.2.8R of the *Disclosure and Transparency Rules*, being related party transactions that have taken place in the first six months of the current financial year and that have materially affected the financial position or performance of the entity during that period; and any changes in the related party transactions described in the last Annual Report that could do so.

The Directors of Rolls-Royce Holdings plc at 28 February 2020 are listed in its Annual Report 2019 on pages 62 to 64. Subsequently, Dame Angela Strank was appointed as a Director on 1 May 2020.

By order of the Board

Warren East
Chief Executive
27 August 2020

Stephen Daintith
Chief Financial Officer
27 August 2020

Independent review report to Rolls-Royce Holdings plc

Report on the Condensed consolidated half-year financial statements

Our conclusion
We have reviewed Rolls-Royce Holdings plc's Condensed consolidated half-year financial statements (the "interim financial statements") in the 2020 Half Year Results of Rolls-Royce Holdings plc for the 6 month period ended 30 June 2020. Based on our review, nothing has come to our attention that causes us to believe that the interim financial statements are not prepared, in all material respects, in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union and the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

Emphasis of matter - Going concern
Without modifying our conclusion on the interim financial statements, we have considered the adequacy of the disclosure made in note 1 to the interim financial statements concerning the Group's ability to continue as a going concern. The Group's Civil Aerospace business is the most impacted by the COVID-19 pandemic and the Group's forecasts assume a phased return to commercial aviation flying and thus cash collections based on engine flying hours.

The disclosure in note 1 also highlights that the Group's £1.9 billion revolving credit facility (RCF) expires in October 2021 and that in the base case scenario additional funding of a similar amount is needed to maintain sufficient liquidity from this point forward. In the event that there is a "second wave" of the pandemic, leading to further travel restrictions being imposed in the markets in which the Group operates, reflected in the Group's severe but plausible downside scenario, then in order to maintain sufficient liquidity, additional funding would be required, over and above the replacement of the £1.9 billion RCF through a combination of debt, equity and the proceeds from business disposals.

As described in note 1, the timing of recovery of commercial aviation to pre-crisis levels and the availability of sufficient funding indicate the existence of material uncertainties that may cast significant doubt about the Group's ability to continue as a going concern. The interim financial statements do not include the adjustments that would result if the Group was unable to continue as a going concern.

What we have reviewed
The interim financial statements comprise:

- the Condensed consolidated balance sheet as at 30 June 2020;
- the Condensed consolidated income statement and Condensed consolidated statement of comprehensive income for the period then ended;
- the Condensed consolidated cash flow statement for the period then ended;
- the Condensed consolidated statement of changes in equity for the period then ended; and
- the explanatory notes to the interim financial statements.

The interim financial statements included in the 2020 Half Year Results have been prepared in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union and the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

As disclosed in note 1 to the interim financial statements, the financial reporting framework that has been applied in the preparation of the full annual financial statements of the Group is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union.

Responsibilities for the interim financial statements and the review

Our responsibilities and those of the directors
The 2020 Half Year Results, including the interim financial statements, is the responsibility of, and has been approved by, the directors. The directors are responsible for preparing the 2020 Half Year Results in accordance with the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

Our responsibility is to express a conclusion on the interim financial statements in the 2020 Half Year Results based on our review. This report, including the conclusion, has been prepared for and only for the company for the purpose of complying with the Disclosure Guidance and Transparency Rules sourcebook of the United

Kingdom's Financial Conduct Authority and for no other purpose. We do not, in giving this conclusion, 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.

What a review of interim financial statements involves

We conducted our review in accordance with International Standard on Review Engagements (UK and Ireland) 2410, 'Review of Interim Financial Information Performed by the Independent Auditor of the Entity' issued by the Auditing Practices Board for use in the United Kingdom. A review of interim financial information consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures.

A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing (UK) and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

We have read the other information contained in the 2020 Half Year Results and considered whether it contains any apparent misstatements or material inconsistencies with the information in the interim financial statements.

PricewaterhouseCoopers LLP
Chartered Accountants
London
27 August 2020