Company Number: 04138218

NATS

NATS Holdings Limited

Annual Report and Accounts 2019

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Our business

Who we are

NATS provides Air Traffic Control (ATC) services to aircraft flying in airspace over the UK and the eastern part of the North Atlantic, and at 13 UK airports. It also provides other ATC and related services to customers in the UK and overseas. Further information is provided in the description of our business model.

Our purpose

> Advancing aviation, keeping the skies safe.

Our objectives

> Deliver a safe, efficient and reliable service every day.

> Deliver SESAR[1] and transform the business for the future.

> Win and retain commercial business.

Our values

> We are safe in everything we do.

> We rise to the challenge.

> We work together.

1 A number of explanatory notes are provided on page 160 of this report. Abbreviations used in this report are provided on page 159.

Highlights

Financial highlights

Financial year ended 31 March (£m unless otherwise specified)	2019	2018	Change %
Revenue	**885.7**	913.1	-3.0
Profit before tax	**98.2**	132.8	-26.1
Capital expenditure	**156.5**	185.6	-15.7
Net debt[a]	**73.9**	71.5	+3.4
Gearing[b] (%)	**25.7%**	27.5%	-6.5
Dividends	**59.0**	57.0	+3.5

a Excludes derivative financial instruments
b Ratio of the net debt (as defined by NERL's licence) to regulatory assets of the economically regulated business (NERL)

Deliver a safe, efficient and reliable service every day

> We handled 2.54 million flights (2018: 2.52 million), 1.2% more than last year, and maintained our safety record with no risk-bearing Airprox[2] attributable to NATS (2018: nil).

> En route delay per flight for the 2018 calendar year was 12.5 seconds (2017 calendar year: 6.2 seconds).

> We enabled additional annual fuel savings for airline customers equivalent to 113,700 tonnes of CO_2 emission reductions (2018: 273,600t restated - see page 16). 94% of our own energy consumption is provided by renewable energy.

> We responded to the Civil Aviation Authority's (CAA) draft Reference Period 3 (RP3: 2020-2024) National Performance Plan proposals. We cannot accept these without important changes and we have put forward alternative proposals to meet the strategic aims of stakeholders while maintaining the integrity of our plan. The CAA will now consider the views of all stakeholders before publishing its decision in the late summer.

> In March 2019, we commenced operational trials with space-based ADS-B data in our Oceanic operation. This is the first time an oceanic region has had the ability to receive real-time position reports for every aircraft. As well as enhancing safety, it improves capacity and fuel efficiency for customers.

Deliver SESAR and transform the business for the future

> We completed the deployment of electronic flight strips into our Terminal Control (TC) operation[3].

> We are continuing the implementation of our complex technology and transformation programme plan to deploy new ATC equipment and software in RP3. Alongside modernising airspace, this is necessary for managing the expected growth in air traffic volumes in RP3 and beyond.

> We presented a study for the modernisation of airspace in the south east to the Secretary of State for Transport which included the technical feasibility of meeting the future capacity requirements of airports in the south east, including a third runway at Heathrow. We have been tasked to create the Airspace Change Organising Group (ACOG) to lead airspace modernisation in RP3.

Win and retain commercial business

> Our UK Airports business won a new 10 year contract at Cardiff and St Athan airports. The infrastructure for London City's digital tower ATC service is being tested with live video feeds from the airport now being received into Swanwick.

> Our International operation is providing Air Traffic Controllers (ATCOs) to the Airport Authority of Hong Kong and developing a prototype digital tower for Singapore's Changi Airport.

> We invested £51.0m to acquire a strategic minority interest in Aireon[4], which provides satellite-based air traffic surveillance systems with global coverage capable of tracking and monitoring aircraft in real-time.

Annual Report and Accounts 2019

Strategic report

Contents

Chairman's statement

Safety and operational performance

It has been another year of good progress. Our ATCOs safely handled record numbers of aircraft whilst meeting our regulatory safety and flight delay standards. We also came very close to meeting our extremely ambitious internal safety metrics, set at the beginning of the current Reference Period (RP2: 2015-2019), when the forecast growth in number of flights being handled was significantly lower than has been accommodated. During the year, as a key milestone in our Deploying Single European Sky ATM Research (DSESAR) programme, we completed a significant technical upgrade in our TC operation with the deployment of an IT-based electronic flight strip process. The impact on flight delays was minimised through a comprehensive and complex transition plan created and managed in partnership with our airline customers.

The average NATS en route delay per flight for the 2018 calendar year was 12.5 seconds, including 4.8 seconds of delay specifically associated with the above transition (2017 calendar year: 6.2 seconds per flight). This performance was five times better than the average delays experienced elsewhere across Europe.

We also commenced the introduction of space-based Automatic Dependent Surveillance - Broadcast (ADS-B) surveillance data into our Oceanic operation. This is the first time anywhere in the world that an oceanic region has had the ability to receive automatic real-time position reports for every aircraft. When fully operational this innovative new service will enhance safety, and provide much needed additional capacity on the world's busiest oceanic routes. Airlines and their customers will also benefit from more efficient flight profiles, reducing fuel burn and carbon emissions.

Financial performance and dividends

The group's profit before tax at just over £98m (2018: £133m) was £35m less than the prior year mainly reflecting real price reductions to our customers, and an investment in additional staff to meet the growth in air traffic volumes and to progress our technology change and airspace programmes. The results are explained in more detail in the Financial Review.

The Board declared and paid dividends of £59.0m (2018: £57.0m) in the year and in May 2019 declared a first interim dividend of £30.0m for the 2020 financial year. The Board is committed to paying a regular and progressive dividend that reflects NERL's cost of equity together with any regulatory out-performance, as well as 25% of profit after tax of NATS Services.

Reference Period 3 (2020-2024)

Last summer we consulted customers on our plan to deliver a safe, high quality and resilient service 24/7 with higher traffic and at lower prices than in RP2. Alongside this we will play a key role in the modernisation of UK airspace and we will upgrade our Air Traffic Management (ATM) service. These will be enabled by the completion of the largest and most complex technology upgrade that we or any of our European counterparts have previously undertaken. These aims were shared across our industry and were strongly supported during our consultation with customers. The CAA has now published its draft proposals for the UK's National Performance Plan (NPP) for RP3. Whilst we agree with the CAA in several important areas such as safety, the priority for airspace modernisation and the need for satellite-based ADS-B surveillance, we have significant concerns with some key aspects of their other proposals. These would set service performance targets beyond our reach (when the European Union (EU) is setting lesser targets), and would provide insufficient funding for all the resources we need to deliver the day to day service together with our technology and airspace modernisation programmes. If these concerns are not addressed, we would be compelled to focus on provision of the current service and safety, resulting in a delay in the technology and airspace modernisation programmes. Such a delay would create additional longer term costs for our customers that far outweigh the additional resources we have sought for these important programmes. We also have concerns with the CAA's proposal for cost of capital, which would lead to materially lower returns for shareholders incompatible with the risks imposed. In our response to the CAA we have provided constructive input on how to achieve the strategic objectives the aviation industry requires while continuing to deliver excellent service performance which is amongst the most cost efficient in Europe.

Airspace modernisation

The Government's Aviation Green Paper sets out an ambitious plan for the future of UK aviation. Published alongside this was our technical feasibility study into airspace modernisation in the South of England recognising the importance of airspace change and our role in delivering it. We have been commissioned by the Department for Transport (DfT) and the CAA to create and maintain a strategic masterplan of airspace change out to 2040 and to create the ACOG to lead this change programme. This group comprising individuals from NATS, airports and airlines, will create and manage a collaborative programme to deliver airspace change, delivering further capacity for those wishing to fly, mitigating noise impacts on overflown communities and reducing CO_2 emissions from aviation.

Chairman's statement

Drones

Airspace modernisation is also an important enabler to facilitate the safe integration of commercial unmanned aircraft or drones with conventional aviation. Drones offer huge potential benefits to public services and the economy. However, as the number of unmanned aircraft grows, increasing the electronic visibility of drone flights is essential to keeping the skies safe. Last December's drone incident at Gatwick Airport was not only a serious local issue but one which impacted the whole of UK airspace leading to airline cancellations, delays and aircraft en route being diverted to other airports. The strength and design of the industry's defence against malicious attacks must therefore reflect the need to minimise the impact across the whole UK network.

Brexit

The growth in demand for air travel is generally closely related to the strength of the UK economy. While the full effects of Brexit, in whatever form it is eventually implemented, are unlikely to be understood prior to the start of RP3, the progress of negotiations over the next few months could give significantly more information about its nature and possible impact on the UK economy. In these circumstances, we have asked the CAA to reassess their traffic forecasts before finalising the NPP proposals for RP3. The case for this has been strengthened, given the current uncertainty.

We are planning on the basis that measures put forward by the UK and the EU will ensure that flights can continue in any Brexit scenario.

Governance, Board and employees

The new Corporate Governance Code came into effect for our financial year starting April 2019. It places greater emphasis on the relationship between the company, shareholders and stakeholders. We will explain how we have applied the new Code's principles in the 2020 Annual Report and Accounts.

After nearly 20 years of service as Finance Director, Nigel Fotherby will be retiring on 30 June 2019. On behalf of the Board, I would like to thank Nigel for his outstanding contribution over this period which included steering NATS through the process of creating the Public Private Partnership (PPP) in 2001, the regulatory and financial restructuring following the tragic events of 9/11 and leading the company's input into the price control reviews for our economically regulated en route air traffic service. We all wish him well for the future. Nigel will be succeeded by Alistair Borthwick who will join us from energy supplier SSE in August.

Since last year's annual report was published, Hugh McConnellogue and Louise Street have joined the Board as Airline Group appointed directors. Both have extensive experience in the airline industry and will be a welcome addition to the Board. Also in the period, Chris Hope left the Board and I would like to thank him for his knowledgeable and extensive contributions during his tenure.

On behalf of the Board, I thank our employees and the management team for their commitment during an exciting and successful year.

Dr Paul Golby, CBE FREng
Chairman

Chief Executive's review

Overview

In 2019 we made excellent progress with our strategic objectives achieving each of the priorities we set for the financial year. Particular highlights for me included: the delivery of a safe and resilient ATC service, every day, against a backdrop of growing traffic and while introducing complex new technology; the positive testing of the infrastructure which will support London City Airport's future digital tower service; our first use of Aireon's space-based surveillance system; and the development of an ambitious business plan for RP3 which delivers a balanced set of outcomes for our customers. The CAA is consulting on this plan and we have responded to their draft proposals.

Electronic flight strips

We safely handled over 2.5million flights this year, which is a record for the UK, and represents just under 25% of all flights in Europe. While doing this, we completed the deployment into our TC operation of electronic flight strips, a major new electronic system which replaced a paper system. This followed a complex transition plan that we developed with airlines and airports to minimise the impact on their operations. We received very positive feedback from customers and other stakeholders on the manner and timing of this deployment. Electronic flight strips are one of the important enablers to airspace modernisation which we will undertake in RP3, and for this reason we introduced the technology early in our transformation programme.

Automatic Dependent Surveillance - Broadcast (ADS-B)

Until now, customers flying en route across the North Atlantic have received a procedural service reliant on a rigid route structure with speed and separation restrictions and periodic position updates. ADS-B is a surveillance technology in which an aircraft determines its position using satellite navigation and broadcasts this regularly, enabling it to be tracked in real-time.

In March 2019, we started using ADS-B to monitor flights across the North Atlantic and we are now trialling reduced separation standards with NAV CANADA, Canada's Air Navigation Service Provider (ANSP).

During the customer consultation on our RP3 business plan, we discussed how best to deploy ADS-B over the North Atlantic, the busiest area of oceanic airspace in the world with 800,000 flights projected by 2030. Analysis undertaken with NAV CANADA, endorsed by ICAO, projects around a 76% reduction in safety risk. ADS-B also gives customers more flexible routes, enabling fuel savings and reducing CO_2 emissions. Airline customers acknowledged these benefits but were concerned that an ADS-B service will mean additional cost. Airports were generally supportive as the technology will help improve transatlantic flows and on time arrivals into UK airports. In its draft RP3 proposals, the CAA acknowledged the safety and efficiency benefits and is considering customer concerns about cost. Our view is that the significant improvements in safety, capacity and environmental performance represent good value and are the right thing to do.

Technology transformation and airspace modernisation programme

DSESAR is a complex technology and transformation programme which, alongside modernising airspace, is necessary for managing the expected growth in air traffic. DSESAR is replacing our many disparate and ageing systems with a single, unified architecture to meet the needs of our customers, now and in the future. DSESAR is the key enabler for a more efficient use of airspace. It is well advanced and our aim is to deliver this change as swiftly and safely as possible. We will also be applying the lessons learned from the managed transition of electronic flight strips when deploying this new technology.

During our consultation on RP3, customers agreed with our proposals for the modernisation of airspace across the south east and Manchester regions. Not only will this benefit the industry with reduced delays and environmental benefits, it will help pave the way for increased safe access for newer airspace users like drones.

As the Chairman has highlighted, as the experts in ATM, we have been tasked to create ACOG which will lead the airspace modernisation programme. During RP3, this will enable us to coordinate with airports and airlines the modernisation of upper and lower airspace. ACOG will also enable the cross industry coordination of other initiatives on airspace use such as: free route airspace; queue management solutions; and satellite navigation route design.

This year we completed airspace changes at the interface between UK airports and the Channel Islands, implemented new routes to facilitate a new military danger area complex in the North Sea and additional capacity to feed the Clacton sector, one of the most congested parts of our airspace. These are enabling airline fuel savings and increased network capacity.

Investment in Aireon

Last summer, we invested £51m (US$69m) for a minority interest in Aireon, which provides space-based ATC surveillance from a network of satellites by monitoring ADS-B equipped aircraft. We made this investment as it will enable us to shape the future of surveillance services to the benefit of customers and ensure that we play a leading role in the development of this technology. Significantly, Aireon's satellite constellation was successfully completed this year and is now operational, enabling its use in our oceanic service.

Chief Executive's review

Commercial developments

We are recognised for our world-class capabilities in managing busy and complex traffic flows and we are being sought out for this capability and our innovation in ATC. This year we secured a 10 year contract at Cardiff and St Athan airports, which strengthens our UK airports service. We are working on two digital tower projects: for London City Airport which will be the first major UK airport to receive such a service - the infrastructure is in place and our Swanwick operation is receiving live video feeds; and a prototype for Singapore's Changi Airport, which is also making good progress. Our International operation is also providing ATCOs to the Airport Authority of Hong Kong.

We are now collaborating with McLaren Deloitte on technology to enable us to better understand and predict the impact of operational decisions to maximise available airspace capacity and minimise delay. We believe combining our strengths with experts outside of the traditional aviation industry will enable us to develop innovative tools and services for ourselves, existing and new customers alike.

People

Our people are key in delivering our strategy and achieving our vision. Our people and organisation strategy is aimed at ensuring that, as we transform our business and respond to the demographic profile of our workforce, we have the right level of resources and mix of skills we need to achieve our objectives. At the same time, we want our people to feel NATS is an inspiring and inclusive place to work where diversity is valued, within an environment that promotes personal growth and development.

Looking ahead

I expect this summer to be at least as busy as last year's and we will continue our focus on providing a safe and resilient service to all of our customers.

We will also be looking to conclude the RP3 settlement in the autumn, as this will determine our plan for the next five years. We will be looking to the CAA to make important changes to their draft proposals, including providing the right level of resources and flexibility to enable us to achieve the strategic objectives that our industry wants while continuing to deliver one of the best levels of service performance in Europe and, as our proposals set out, at rates of cost efficiency improvement that are even tougher than EU-wide targets. We have seen the results of underinvestment in ATM services in other parts of Europe and the huge impact this has on the travelling public; it is essential that the UK, through NATS, continues to deliver a world class safe service in this pillar of its national infrastructure.

Over the coming years we will be deploying new technology which will transform the basis of our service to customers, such as London City Airport and airlines flying across the North Atlantic, and which move us closer to transforming our operational systems into a modern, flexible platform for the future.

Finally, Nigel Fotherby, our Finance Director retires this month after nearly 20 years of service to NATS. I would like to take the opportunity to personally thank Nigel for his support and counsel. His deep understanding of the group's finances and the regulatory framework and his passion for the business and his leadership, have been invaluable to the company, its executive team and to me, and I wish him every happiness in his well deserved retirement.

Martin Rolfe, FRAeS
Chief Executive

Financial review

Group profit before tax at £98.2m (2018: £132.8m) was £34.6m lower than last year's result. This mainly reflected the further real price reductions for our en route service in RP2, which offset the benefit of higher air traffic volumes in the year, and the investment we are making in operational staff to meet the growth in air traffic and to progress our technology change and airspace programmes (the latter also resulting in higher non-staff costs). Other factors included the transfer of the Edinburgh Airport ATC contract to another provider at the end of the last financial year, and a small impact from the adoption of IFRS 15: *Revenue from Contracts with Customers*, the effect of which is explained below. Partly offsetting these factors were: improved income from our subcontracts relating to the MOD's Project Marshall[5] contract and lower staff pension costs.

	£m	£m
2018 profit before tax		**132.8**
Revenue changes		
Airspace		
UK en route revenue	(3.9)	
Impact of adopting IFRS 15	(2.2)	
Service performance incentive	(2.9)	
Other revenue changes (net)	(1.9)	
	(10.9)	
Airports		
Airport ATC and engineering	(6.3)	
Impact of adopting IFRS 15	(10.4)	
Reduction in airport property charges	(8.1)	
	(24.8)	
Defence	5.9	
Other	2.4	
		(27.4)
Operating cost changes		
Staff costs	(10.0)	
Non-staff costs		
Impact of adopting IFRS 15	10.4	
Reduction in airport property charges	8.1	
Other non-staff	(13.6)	
Depreciation and amortisation, net of grants	(4.1)	
Gain on disposal of assets	2.1	
		(7.1)
Finance cost changes		
Fair value movement on financial instruments	(6.2)	
Other net finance costs	3.6	
		(2.6)
Results of associates and joint ventures		**2.5**
2019 profit before tax		**98.2**

Financial review

Adoption of new International Financial Reporting Standards (IFRSs)

The group adopted IFRS 9: *Financial Instruments* and IFRS 15 in the year. In both cases, the cumulative effects of initial application have been recognised as adjustments to the opening balance sheet, and comparative periods have not been restated. Further detail on the transitional impact of these standards is described in note 35. Overall, the adoption of these IFRSs has not had a material impact on the profit before tax for the year:

	Year ended 31 March 2019		
	As reported under previous accounting standards £m	**Impacts of IFRS 9 and IFRS 15 £m**	**As reported under IFRS 9 and IFRS 15 £m**
Revenue	898.1	(12.4)	**885.7**
Operating costs	(773.4)	10.2	**(763.2)**
Operating profit	124.7	(2.2)	**122.5**
Profit before tax	99.3	(1.1)	**98.2**
Net assets	768.6	9.4	**778.0**

Net assets have increased by £9.4m. This is mainly due to the accelerated revenue recognition of the recovery of higher defined benefit pension contributions than our economic regulator assumed would be paid in RP1 (2012-2014). In addition, the recovery from airport customers of charges for certain airport facilities and for safety regulation (totalling £10.4m) has been reported within operating costs rather than within revenue, which does not change profit before tax or net assets.

Regulatory return

In the 2018 calendar year, NERL achieved a pre-tax real return of 7.1% (2017 calendar year: 10.9%) compared with the regulatory return of 5.9% assumed in the RP2 Performance Plan. This reflects better revenue from faster growth in air traffic volumes and higher capital expenditure and pension costs than the Plan assumption. These factors were partly offset by the cost of our investment in operational staff and to progress the technology change and airspace programmes. These additional costs will also be incurred in 2019, the final year of RP2. Taking into account higher revenue, but also higher costs, we expect to achieve the regulatory rate of return over the five-year period.

Comparison of reported profit and regulatory return

Profit reported in these financial statements is prepared in accordance with IFRS and policies described in note 2 to these accounts. As described below, the CAA applies an economic regulatory building block model which is mainly cash-based.

This can give rise to some significant differences between reported operating profit and regulatory return, mainly due to:

> lower historical cost depreciation compared with regulatory depreciation which is indexed to inflation; and

> lower accounting pension costs using best estimate assumptions prescribed by accounting standards compared with cash contributions agreed with Trustees, which include a margin for prudence.

Regulatory accounts are also prepared on a calendar year basis. These differences mainly explain why NERL's reported operating profit is some £51m higher than its regulatory profit.

Revenue

Revenue at £885.7m (2018: £913.1m) was 3.0% lower than last year. This reduction mainly reflects the impacts of IFRS 15 (see above), further real price reductions for our en route service in RP2 which offset the benefit of higher traffic volumes, a service performance penalty compared with a bonus in the prior year, the transfer of the Edinburgh Airport contract and a reduction in recharges of airport property costs (with no margin impact). These factors were partly offset by increases in airport engineering income and from our subcontracts relating to the MOD's Project Marshall contract and higher revenue from our contracts in Asia Pacific.

Operating costs

	2019 £m	2018 £m
Staff costs	**(446.4)**	(436.4)
Non-staff costs	**(183.9)**	(188.2)
Depreciation and amortisation, net of grants	**(141.1)**	(137.0)
Profit on disposal of assets	**2.1**	-
Other operating income	**6.1**	5.5
Total operating costs	**(763.2)**	(756.1)

Operating costs at £763.2m (2018: £756.1m) increased by 0.9%. Staff costs of £446.4m (2018: £436.4m) were 2.3% higher. This mainly reflected higher pay and employee share scheme costs partly offset by a lower accrual rate for the defined benefit pension scheme (see below) and lower redundancy.

The average number of employees during the year was 4,464 (2018: 4,310) and there were 4,591 (2018: 4,382) employees in post at 31 March 2019.

Non-staff costs at £183.9m (2018: £188.2m) were £4.3m lower than the previous year. The impact of IFRS 15 (see above) and a reduction in airport property related charges were partly offset by the cost of supporting commercial contracts and the technology change and airspace programme.

Financial review

Depreciation and amortisation increased to £141.1m (2018: £137.0m). This included a full year's charge for electronic flight strips and impairment charges of £5.0m (2018: £5.7m). The group also made gains on the disposal of radio mast sites of £2.1m in the year.

Net finance costs and fair value movements on financial instruments

Net finance costs of £21.0m were £3.6m lower than last year (2018: £24.6m), reflecting a reduction in the bond's principal which is being repaid by semi-annual instalments.

Fair value charges of £4.9m (2018: £1.3m credit) were recognised in the year. Of this amount, £3.0m (2018: £1.3m credit) related to a change in market value of the index-linked swap liability. This swap was taken out in 2003 as an economic hedge for NERL's revenue allowance for financing charges, which is linked to inflation. The swap is accounted for at fair value with changes in fair value recognised in the income statement. Fair value can be volatile and is sensitive to market expectations of inflation and swap discount rates over the time to expiry of the contract in 2026.

The remaining fair value charge of £1.9m was in respect of an equity investment in Aireon, based on the company's assessment in present value terms of the amount and timing of projected dividends. In May 2018 we acquired a strategic interest in Aireon by investing £51.0m (US$68.75m) in convertible preference stock which is intended to result in an ordinary stock holding of just over 11% by 2021.

Joint ventures, associates and other investments

The group recognised a net profit of £1.6m (2018: £0.9m loss) for the results of joint ventures and its associate. This mainly reflected a share of earnings from Aquila, for which an impairment provision was recognised in the prior year, and a small profit by Searidge Technologies. The results of FerroNATS and European Satellite Services Provider SAS (ESSP) were broadly in line with the prior year.

Taxation

The tax charge of £15.9m (2018: £20.1m) includes current tax of £4.5m (2018: £4.6m) and deferred tax of £11.4m (2018: £15.5m). Overall, the charge was at an effective rate of 16.2% (2018: 15.1%). This is lower than the headline rate of 19%, mainly reflecting the deferred tax impact of the reduction in the corporation tax rate to 17% from April 2020 and the lower tax rate on patent box income.

NATS' taxes generally arise in the UK, though it undertakes business in other countries. Wherever we operate we organise our operations to pay the correct and appropriate amount of tax at the right time, according to relevant national laws, and ensure compliance with the group's tax policies and guidelines. During the year the company received a refund of UK corporation tax of £0.8m (2018: paid £6.7m), reflecting claims for R&D allowances, and incurred no foreign taxes (2018: paid £0.1m). The group also pays other taxes such as employer's national insurance contributions, business rates and the apprenticeship levy, which are significant costs. The group's tax strategy can be viewed at www.nats.aero.

Balance sheet

	2019 £m	2018 £m
Goodwill	**198.3**	198.3
Tangible and intangible fixed assets	**1,064.2**	1,049.5
Investments	**50.9**	-
Other non-current assets	**54.8**	49.1
Cash and short term deposits	**261.0**	307.9
Derivatives (net)	**(119.8)**	(127.3)
Borrowings	**(334.9)**	(379.4)
Pension scheme (deficit)/surplus	**(22.1)**	110.6
Deferred tax liability	**(97.8)**	(115.5)
Other net liabilities	**(276.6)**	(212.3)
Net assets	**778.0**	880.9

The decrease in net assets in the year mainly reflects the change in the IAS 19 funding position of the defined benefit pension scheme, which reported a deficit (2018: surplus - see below), as well as retained earnings net of dividends paid in the year.

Capital investment

	2019 £m	2018 £m
SESAR deployment	**113.2**	135.9
Airspace modernisation	**7.5**	7.4
Infrastructure	**14.4**	16.1
Operational systems	**5.0**	10.8
Other	**8.3**	8.5
Regulatory capex	**148.4**	178.7
Military systems	**1.6**	1.3
Other non-regulatory capex	**6.5**	5.6
Capital investment	**156.5**	185.6

We spent £156.5m (2018: £185.6m) as we continue to make good progress with our technology and transformation programme to deploy new ATC equipment and software in RP3.

Financial review

Defined benefit pensions

The group operates a final salary defined benefit pension scheme with 1,990 employee members at 31 March 2019 (2018: 2,089). The scheme was closed to new entrants in 2009 and a defined contribution scheme was put in place. More information on our pension arrangements is provided in note 31 to the financial statements.

a. IAS 19 charge and funding position

The cost (including salary sacrifice and past service) of defined benefit pensions at £66.3m (2018: £92.6m) reflected a lower accrual rate of 35.9% (2018: 48.6%) of pensionable pay.

IAS 19 pension deficit	**£m**
At 1 April 2018	110.6
Charge to income statement*	(66.3)
Actuarial gains/(losses):	
- on scheme assets	180.5
- on scheme liabilities	(346.9)
Employer contributions*	100.0
At 31 March 2019	**(22.1)**
Represented by:	
Scheme assets	4,767.7
Scheme liabilities	(4,789.8)
Deficit	**(22.1)**

*including salary sacrifice

At 31 March 2019, the scheme's liabilities exceeded its assets by £22.1m (2018: £110.6m surplus) as measured under International Accounting Standards (IAS 19) using best estimate assumptions. The real yield on AA corporate bonds used to value pension obligations decreased by 30 basis points during the year, which increased liabilities by more than the growth in the scheme's assets. The size of the scheme relative to the group means changes in financial market conditions can have relatively large impacts on the results and financial position.

b. Trustee valuation and funding obligations

The funding of the defined benefit scheme is subject to agreement between the company and the scheme's Trustees based on the outcome of their formal valuation. This valuation uses a wide range of financial and demographic assumptions for measuring pension liabilities and legislation requires a margin for prudence. As a result, the Trustees' valuation gives a different outcome to the valuation under IAS 19 for the company's financial statements.

The Trustees completed a formal valuation at 31 December 2017 which reported a funding deficit of £270.4m. The scheme's actuary also determined that the cost of employee benefits accruing in future was 41.8% of pensionable earnings (excluding salary sacrifice), and contributions will reflect this from January 2020. Trustees agreed to maintain the recovery plan to repair the deficit by December 2026. This means the company will make deficit contributions of £41.8m in the 2019 calendar year and £25.4m from 2020, increasing by 2.37% in each of the following three years. These contributions, with assumed investment outperformance, are expected to restore the funding position by December 2026.

NERL's contributions are higher than the regulator assumed for RP2. To the extent that this was caused by changes in financial market conditions, we expect to recover these through higher prices in RP3 and in subsequent reference periods. NATS Services will meet its share of NATS' obligations from its cash reserves.

Net debt and cash flow

	Cash and short-term investments £m	**Borrowings £m**	**Net debt £m**
Balance at 31 March 2018	307.9	(379.4)	(71.5)
Cash flow	(47.1)	45.4	(1.7)
Non-cash movements	0.2	(0.9)	(0.7)
Balance at 31 March 2019	**261.0**	**(334.9)**	**(73.9)**

At 31 March 2019, the group had borrowings of £334.9m (2018: £379.4m) and cash and short-term investments of £261.0m (2018: £307.9m). Net debt increased to £73.9m (2018: £71.5m).

At 31 March 2019, the balance outstanding on NERL's bond was £336.2m (2018: £381.3m). NERL had no outstanding bank loans (2018: £nil) but has available bank facilities of £400m, which expire in July 2022. More information is provided in note 18 to the financial statements.

The group generated £294.5m (2018: £338.0m) from its operating activities. This mainly reflected lower cash receipts than the previous year and higher supplier payments, which were partly offset by lower tax payments and pension contributions reflecting a lower pensionable payroll for the defined benefit scheme. The cash from operations financed the group's capital investment and its debt service obligations.

Nigel Fotherby

Nigel Fotherby
Finance Director

Going concern and viability statements

Going concern

The group's business activities, together with the factors likely to affect its performance and financial position, its cash flows, liquidity position and borrowings are set out in this Strategic report. In addition, note 20 to the financial statements describes the group's objectives, policies and processes for managing its capital and its financial risks; and details its financial instruments and hedging activities.

At 31 March 2019, the group had cash of £261m and access to undrawn committed bank facilities of £400m that are available until July 2022. The group's forecasts and projections, taking account of reasonably possible changes in trading performance, show that the group should be able to operate within the level of its existing facilities for the foreseeable future. The UK en route business also benefits from some protections against traffic volume risk afforded by its price control conditions. Other sources of income are generated mainly from long term contracts. As a result, the directors believe that the group is well placed to manage its business risks.

The directors have formed a judgement that, taking into account the financial resources available, the group has adequate resources to continue to operate for a period of at least twelve months from the date of approval of the financial statements, and have therefore adopted the going concern basis in the preparation of the financial statements.

Viability statement

The directors have assessed the viability of the group based on its current position and future prospects, its business strategy and available financial resources. The directors have also assessed the potential financial and operational impacts in plausible downside scenarios of the principal risks and uncertainties facing the business set out on page 22 and the effectiveness of currently available mitigating actions. On this basis, the directors have a reasonable expectation that the group will be able to continue in operation and meet its liabilities falling due over the three-year period to 31 March 2022.

This period of assessment is based on the group's budget for the 2019/20 financial year and projections for the two years thereafter based on our RP3 business plan submitted in October 2018 to the CAA. The Board considers that there is greater certainty around forecasting assumptions over a three-year period, taking into account the CAA's regulatory review for RP3 which is currently still in progress.

Specific consideration has been given to:

> The RP3 review: taking into account the general duties of the CAA and the Secretary of State for Transport under the Transport Act 2000 to exercise their functions in the manner they think best calculated to secure that NERL will not find it unduly difficult to finance activities authorised by its licence;

> Brexit: the risk of lower revenue in RP2 from a reduction in en route air traffic volumes would be partly mitigated by the traffic volume risk sharing provisions of NERL's licence and EC Regulations. A new traffic forecast will be set for RP3 by the CAA and we have requested the CAA to reflect our updated forecast provided in May 2019;

> Recovery of capital investment: we consulted extensively with our customers on our forecast increase in capital expenditure relative to the RP2 Performance Plan setting out both the costs and benefits. On this basis we expect to recover additional costs through NERL's revenue allowances in RP3 and subsequently;

> Defined benefit pensions: following the 2017 pension valuation by Trustees, the directors consider that NERL's contributions will be recovered through prices in RP2 and future reference periods, including additional contributions arising from unforeseen changes in financial market conditions since the Performance Plan for RP2 was set, while contributions from NATS Services will be met from operating cash flows.

Key performance indicators

We adopt a number of financial and non-financial key performance indicators (KPIs) that enable us to track progress against our business plan objectives. For NERL, KPIs are largely aligned with Single European Sky (SES) key performance areas, ensuring management focus on safety, service quality, environmental and cost efficiency targets. For NATS Services, the focus of management is on safety, customer service and on growing the business profitably. A number of metrics are also used to set targets for remuneration purposes and so align incentives with business objectives. KPIs are measured on a financial year (FY) or calendar year (CY).

NATS' actual performance relating to financial and non-financial KPIs

Description		FY 2019 or CY 2018	FY 2018 or CY 2017
Financial KPIs			
Profit before tax:	NATS Group	**£98.2m**	£132.8m
	NERL	**£86.0m**	£134.2m
	NATS Services	**£14.5m**	£2.5m
Non-financial KPIs **Safety performance:**			
NATS Group: category A or B Airprox[2] attributable to NATS (financial year)		**nil**	nil
Calendar year metrics:			
NATS Group KPI: RAT[6] points (12 month rolling)		**1,200**	1,440~
NERL KPI: RAT points (per 100,000 flights, 12 month average)		**34.1**	42.7~
NATS Services KPI: RAT points (per 100,000 flights, 12 month average)		**20.1**	21.8~
Service performance and resilience:			
NATS Group: customer satisfaction score (%)		**85.7%**	84.5%
NERL KPIs:			
Average delay (seconds per flight, financial year)		**11.5**	7.2
Average delay (seconds per flight, calendar year)		**12.5**	6.2
Impact score[7] (weighted seconds per flight, calendar year)		**17.0**	12.7
Variability score[8] (weighted seconds per flight, calendar year)		**16.1**	0.6
3Di[9] score (calendar year)		**29.2**	29.6
Environmental performance (financial year):			
Scope 1 emissions (tonnes CO_2e)*		**4,094**	3,982
Scope 2 (Location-based tonnes CO_2e)*		**16,561**	21,223
Scope 2 (Market-based tonnes CO_2)*		**21,024**	20,628
Scope 1 + 2 intensity metric (tonnes CO_2e per £m of revenue)		**23.3**	27.6
Progress against 10% enabled ATM-related CO_2 emissions reduction target		**6.9%**	6.4%
Scope 4 (Modelled enabled ATM-related CO_2 reduction in tonnes)**		**113,700**	273,600^
Water consumption (cubic metres)*		**64,285**	54,624
Energy consumption (gas & electricity) MWh		**71,262**	71,697

~ RAT points restated following moderation. 2018 calendar year values remain subject to final moderation.
^ restated for modelling accuracy, data quality, updated traffic forecasts and changes to NATS' airport portfolio.
Certain metrics have been verified in accordance with the ISO 14064-3 standard on greenhouse gas (GHG) quantification, monitoring and reporting by DNV GL, a quality assurance and risk management company, to a reasonable (*) or limited (**) level of verification. A verification statement and GHG report is available at www.nats.aero/environment/cr.
Modelled enabled ATM-related CO_2 reductions represent the saving in CO_2 emissions from improvements to the ATM network, such as technical changes which enable us to provide more fuel-efficient flight profiles, based on projections of the volume of flights likely to take advantage of the improvements. The enabled reduction in emissions is reported in full in the year in which the improvement is made. This is modelled based on industry best practice and is outlined in detail in our GHG report.

Safety, regulatory environment and outlook for air traffic volumes

Safety

Safety performance

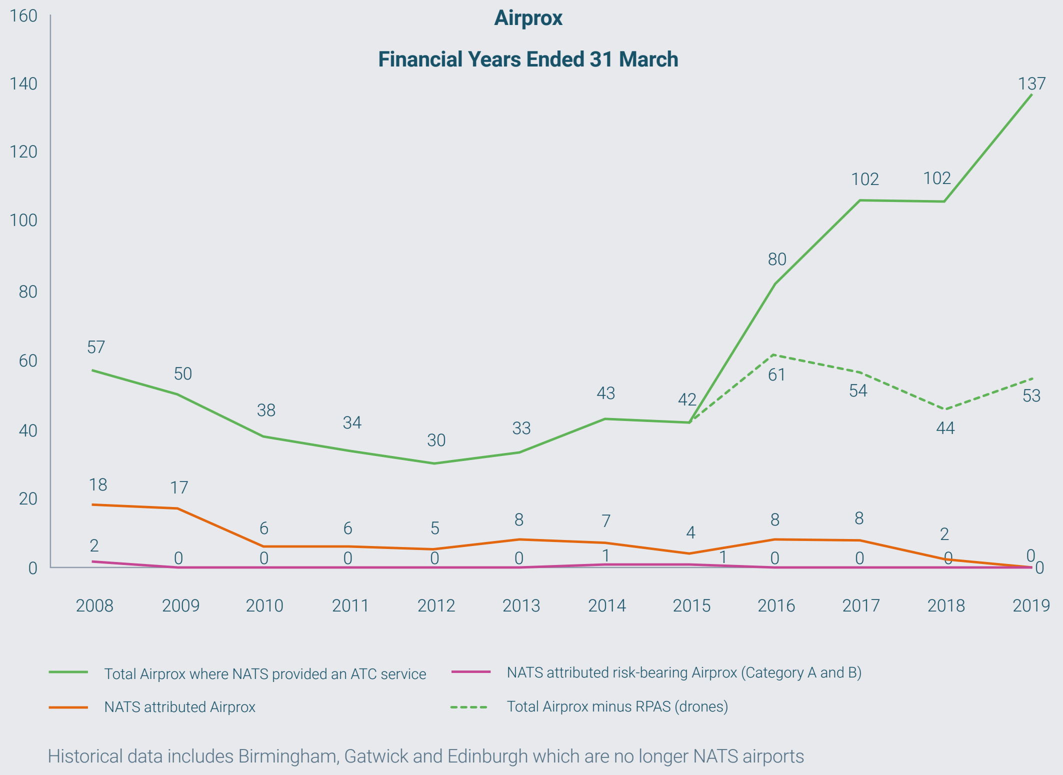
We maintained our safety performance this financial year, with no category A or B Airprox event attributable to NATS (2018: nil). This was achieved while handling a record number of flights and completing last summer the deployment of electronic flights strips into TC.

We continue to meet the three safety performance targets set for the end of RP2 by the UK and European regulators in the SES performance scheme, which are based on: the effectiveness of safety management; the use of the Risk Analysis Tool (RAT[6]) to assess the severity of safety events; and the extent of Just Culture training.

Additional to the EU safety targets, NATS uses internal targets and the RAT to monitor its internal safety performance and further analyse the severity and risk of air traffic events. The internal targets for RP2 were set against a lower forecast of traffic than we continue to experience, resulting in their achievement being very challenging. Although our control centres experienced some of their busiest days this year, we were able to achieve an improvement in safety performance. On a 12-month rolling basis, for calendar year 2018, we achieved a RAT score of 1,200 points (calendar year 2017: 1,440 points) relative to a stretching internal target of 1,119.

This reflects a combination of factors including the management of changes in the operation and targeted safety improvement activities. The deployment of electronic flight strips contributed to a reduction in RAT points relating to the TC operation, which is now a less tactical operation than previously, reflecting a reduction in controller workload and an improved framework for decision making by operational supervisors which was developed during the deployment of electronic flight strips. Also, although the overall rate of traffic growth was less than the prior year, there was significant variation across the operation and between different sectors of airspace. The safety improvement actions, particularly in these busier sectors of airspace, played a material part in our improvement in safety performance.

The number of Airprox events (see graph) has increased significantly since 2014 with events associated with Remotely Piloted Aircraft Systems (RPAS), or drones, accounting for almost all of the increase. This reflects the continued growth of drone activity in airspace controlled by NATS and across the UK generally. Drone sightings not resulting in an Airprox event have also increased steadily over time and the true number of drone infringements into controlled airspace, many of which go undetected, remains unknown.



Safety, regulatory environment and outlook for air traffic volumes

Safety improvements

The number of drone incidents is continuing to increase and the potential for these to impact the airspace network was demonstrated by the incident at Gatwick Airport. We are continuing to engage directly with the CAA and with our industry partners to educate drone users and to develop solutions for their safe integration into UK airspace. Since the Gatwick Airport incident, the DfT has introduced new legislation that expands the range of flight restriction zones around all aerodromes, as well as increasing police enforcement powers. Also, in order to better manage any future disruption, we have improved procedures and guidance for those airports at which we provide an ATC service.

In response to a growth in demand from airspace users (other than commercial airlines) for access to controlled airspace, and to new legislation restricting drone operations within the vicinity of airports, we have implemented the Airspace User Portal. This provides users and approving authorities, including NATS, with a more efficient and automated flight planning application and approval process. It also provides NATS and other authorities with a clear understanding of drones which have been approved to operate in controlled airspace and to distinguish these from unauthorised operators.

The drone safe website is now the source of all consumer-focused drone resources and there are now 100,000 users of the Drone Assist Application, providing recreational drone pilots with assistance in identifying areas of restricted airspace. Our partnership with Sky Futures has continued to deliver expert commercial drone training to the growing commercial drone sector and to the emergency services. These initiatives support the safe integration of drones with conventional aviation.

We continue to support the CAA's initiatives to reduce infringements of controlled airspace. This includes participating in all the local airspace infringement teams where NATS provides ATC services in the vicinity of the aerodrome.

Our main focus has been supporting and influencing the CAA's strategy for the adoption of interoperable electronic conspicuity solutions in areas of high infringement activity. The CAA has indicated that electronic conspicuity will be a key enabler of future airspace development, delivering improved safety, increased flight efficiency and broader airspace access and capacity.

Our plan to bring safety and capacity benefits to oceanic airspace by deploying a space-based surveillance system (ADS-B) was discussed extensively with airlines through the RP3 consultation. For safety reasons, the horizontal separation standard between aircraft flying at the same altitude in oceanic airspace is greater than for aircraft flying in UK airspace, where a network of ground-based radar enables monitoring in real-time. Deployment of space based ADS-B will deliver safety benefits which cannot be achieved by currently available alternative means.

Regulatory environment

NERL is subject to economic regulation under the European Commission's SES Performance Scheme for Air Navigation Services. The impact of Brexit on these arrangements remains unclear. However, the UK's Transport Act 2000 provides a national regulatory framework if the SES Performance Scheme no longer applied.

For the time being, the UK must still develop a performance plan and targets consistent with EU-wide targets set by the European Commission (EC) in preparation for RP3. The European regulatory framework for the SES Performance Scheme for RP3 was set in December 2018 and EU-wide targets for safety, capacity, environment and cost efficiency set in April 2019.

NERL provided a business plan for RP3 to the CAA in October 2018, which followed consultations with customers last summer, and in February 2019 the CAA published for consultation the draft RP3 NPP.

Our analysis of the NPP is that, if we were to accept it as currently constructed, we would be unable to meet our licence obligations in RP3. The NPP proposals: a) increase targets across a broad range of areas, beyond levels in our business plan that are already stretching and more than meet the EU-wide targets; b) provide insufficient funding for the resources that we need to deliver the service and our technology and airspace modernisation programmes; and c) propose materially lower returns for shareholders. In our view, the CAA's proposals mean that the core outcomes of our plan will be unachievable within the timescales of RP3.

Therefore, in our response to the CAA's consultation we have made clear that we cannot accept the CAA's proposals in their current form without important changes. In order to engage as constructively as possible, we set out a number of alternative proposals for the NPP in our response, which would enable us to achieve the strategic objectives that our industry wants while continuing to deliver one of the best levels of service performance in Europe. This would all be done at levels of cost efficiency that exceed EU-wide targets for both RP2 and RP3.

We expect the CAA's Board to reach a decision on the NPP in mid-July 2019 with publication in September 2019, with the opportunity for all stakeholders to make representations to the UK's DfT before submission to the EC. This will then be followed by a statutory consultation on modifications to NERL's licence required to implement licence changes for RP3, which will require NERL's agreement.

Safety, regulatory environment and outlook for air traffic volumes

Outlook for air traffic volumes

The current operating environment for ATM in the UK is defined by the highest traffic volumes we have experienced; a trend which is set to continue in the coming years.

We have managed significantly more flights in RP2 than was assumed when the RP2 plan was developed. In the 2018 calendar year we handled around 5.6% more traffic than the RP2 Performance Plan forecast. Over the five years of RP2 we estimate that traffic will have grown by 13.9%, and will be 4.5% higher than the RP2 Performance Plan for this period.

We are forecasting further annual growth in UK and oceanic flights during RP3. Annual UK flights are forecast to rise by an additional 11.1% in RP3 to 2.8 million. This forecast reflects a slowing in the rate of annual growth, mainly as a result of airport capacity constraints within the UK.

While UK GDP is not directly correlated with traffic growth, it is a significant driver of disposable income and economic prosperity which results in higher passenger demand. There is significant uncertainty around the economic forecasts for the years to 2024, affecting our RP3 plan. This is particularly the case given Brexit and the effect this may have on the UK economy over the coming years. For this reason we have asked the CAA to reassess their traffic forecasts before finalising the NPP proposals for RP3.

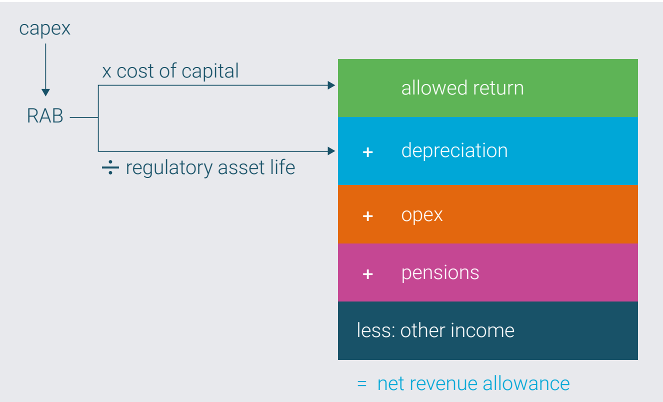
Our business model

We generate our income from the provision of ATC and related services. Our activities are mainly conducted through NERL and NATS Services.

NERL

NERL is our core business and is the sole provider of ATC services for aircraft flying en route in UK airspace and the eastern part of the North Atlantic. It is economically regulated by the CAA within the framework of the EC's SES and operates under a licence granted under the Transport Act 2000. En route, London Approach and North Sea helicopter advisory services are regulated by this licence. NERL also provides the MOD with engineering, surveillance and communications services. All of these activities are reported within Airspace.

The CAA establishes revenue allowances for NERL's economically regulated activities for a reference period which remunerate NERL's efficient investment (capex), operating costs (opex), pensions and an allowed return on the capital invested in the Regulatory Asset Base (RAB) to recover the cost of capital. The RAB represents the value ascribed to the capital employed in the regulated businesses. NERL's income from other activities is deducted under a 'single till', leaving a net revenue allowance. A price per service unit is set to recover this based on forecast traffic for the reference period. This model is illustrated below.



The price control for RP2 was based on revenue allowances of £2.7bn (expressed by the CAA in 2012 prices) and provides for a real pre-tax cost of capital of 5.9%. The CAA also sets targets, and provides incentives, for service and environmental performance. It sets a gearing target of 60% of net debt to RAB and cap of 65%. If regulatory and other assumptions are borne out in practice, then NERL would earn a return of 5.9% p.a. It can earn additional returns if it outperforms the CAA's assumptions by being more cost efficient, by financing its business at lower cost, if traffic volumes (after risk sharing - see below) are higher than forecast or if it outperforms service targets. NERL would earn lower returns if the opposite applied.

The EC legislation provides mechanisms which mitigate the impact of certain variations in traffic volumes, inflation and cash contributions to the defined benefit pension scheme from the level assumed. Charges are adjusted on a year 'n+2' basis or in subsequent reference periods, depending on the cause of variation.

The price control for RP3, including the real pre-tax cost of capital and targets, and incentives, for service and environmental performance is subject to the CAA's review and decision.

NATS Services

NATS Services provides services to UK Airports, to the UK MOD through its Defence services, to other UK customers such as airlines and airspace users and to international customers, mainly in Asia Pacific and the Middle East. Also, in partnership with Ferrovial, it provides ATC services in Spain through FerroNATS.

Services to UK Airports (including engineering support) represent c.73% of NATS Services' revenue and Defence services c.13%. Services to UK customers represent c.94% of its revenue. The UK Airports service provided ATC services to 13 major UK airports during the year as well as engineering support and airport optimisation services to UK airport operators. Large UK airports fall within the scope of European SES regulations but are exempted from disclosure requirements and cost efficiency targets. This is because NATS Services operates in a contestable market and faces competition from other ANSPs and airports using an in-house service. The company's strategy is to win and retain UK airport contracts by nurturing the relationship with customers and developing price competitive and innovative technological service solutions.

Engineering support services for UK airport customers deliver complex turnkey projects, mainly integrating new infrastructure at airports. Our competence is in maintaining and developing communications, navigation and surveillance solutions. Our principal competitors include systems integrators, equipment manufacturers and specialist engineering consultancies.

Defence services represent the provision of ATC and related engineering support and other services to the UK MOD. These services are mainly provided through the Project Marshall contract which is being delivered in partnership with Thales by our Aquila joint venture. Project Marshall is a 22-year concession for the provision of engineering and ATC services and a seven-year asset provision contract to upgrade MOD ATC infrastructure.

Other UK Business includes aeronautical information management, design and data services, consultancy and ATC training to airlines and airspace users.

Our International activities focus on the Asia Pacific and Middle East markets and also target specific international airports and ANSPs. Our FerroNATS joint venture provides a service to 13 airports in Spain. Also, we jointly own Searidge Technologies, a Canadian provider of digital tower technology to airports around the world, with NAV CANADA.

We are uniquely placed to help airline and airport customers to realise value by making both airspace and airfield services more efficient. We understand the complex interactions at each stage of a flight between airlines, airport operators and ANSPs, including in some of the busiest airspace in the world and involving, in our en route operation, a seamless transition between the North Atlantic and UK en route services. We understand the benefit we can provide from fuel-efficient flight profiles, approaches and departures, minimising delay, and through arrival and departure management. We recognise that airport tower services are an intrinsic part of overall airport performance and our experiences at Heathrow and, for many years, at Gatwick, and other airports demonstrate our ability to optimise runway performance and apron efficiency. We are also developing digital tower services to benefit airport operators, their investors, and the airlines.

Our business model

Our business priorities

We set a number of priorities for 2018/19 to focus our employees on the year ahead. These were:

Priorities for 2019	Achieved
Provide safe and resilient air traffic services from our airports and centres	✓
Continue to focus on our people and employee relations as we transform our infrastructure	✓
Deliver electronic flight strips into full operational service in Terminal Control	✓
Develop a plan for RP3 that delivers a balanced outcome for all of our stakeholders	✓
Achieve key milestones to implement digital tower technology at London City and Changi airports	✓
Deploy the next phase of airspace modernisation changes (sectors in the North Sea and lower Scottish airspace around Edinburgh and Glasgow airports)	✓

Our priorities for financial year 2019/20 are:

- Provide safe and resilient air traffic services from our airports and centres;
- Use space-based ADS-B to support our air traffic service in the North Atlantic;
- Agree the RP3 regulatory settlement with the CAA for our services from 2020 to 2024;
- Receive the final operational Prestwick build of our new iTEC tool, a key part of our DSESAR programme, ready for testing, by March 2020;
- Drive airspace modernisation including the delivery of the network airspace designs needed to support the London Airspace Modernisation Project (LAMP);
- Provide a digital tower air traffic service to London City Airport from Swanwick; and
- Invest in our people by launching a new digital workplace and intranet to improve how we collaborate, communicate and stay connected.

Principal risks and uncertainties

The operational complexities inherent in the business leave NATS with a number of significant risks to manage. Our risk management process has identified the key risks that the Board believes are likely to have the most significant potential impact on our business, financial position, results and reputation based on the severity and likelihood of risk exposure. Risks are reviewed and re-assessed regularly. The Board has carried out a robust assessment of the principal risks facing the business, including those that would threaten its business model, future performance, solvency or liquidity. The list is not intended to be exhaustive and reflects the Board's assessment as at the date of this report.

The group focuses on mitigating these risks, although many remain outside of our control – for example changes in regulation, security threats, environmental factors and the impact of longevity and financial markets on pension funding.

These risks have been considered in assessing viability (page 15). A summary of internal control and risk management processes is on page 44.

Safety: the risk of an aircraft accident

A failure of NATS ATM controls that results in an accident in the air or on the ground would significantly impact NATS and its reputation. The reputational damage could result in the loss of future contracts and a reduction in revenue. If notice were given by the Secretary of State requiring NERL to take action as a result of the accident and NERL were unable or failed to comply then ultimately this could result in revocation of NERL's licence.

As a provider of a safety-critical service, safety is the company's highest priority. To further embed our existing safety culture across the organisation and to mitigate safety risk, NATS has developed a Strategy for the Future Safety of ATM and currently supports this with a three-year rolling Safety Plan. The group also maintains an explicit Safety Management System. The latter includes investigations and reviews of operational safety performance and individual incidents to identify and respond to contributors to safety risk.

Maintaining continuous operations

a. Operational contingency

A loss of service would result in a loss of revenue as flow management procedures would be introduced to maintain safe separation. The extent of financial loss would depend on the time necessary to resume a safe service and the resultant level of air traffic delay. NATS has contingency arrangements which enable the recovery of its service capacity.

b. Operational systems resilience

Operational service provision is increasingly dependent on the performance and resilience of engineering systems, including communications, surveillance and flight data infrastructure. A number of mechanisms exist to identify systems resilience risks through an ISO55001 compliant Asset Management system. These include regular checks of system health through structured reviews with evidence-based outcomes. In addition, tactical issues are assessed as a matter of course following engineering updates to NATS' Safety Tracking and Reporting System to determine whether immediate escalation is required and to identify any emerging trends requiring investigation.

Political environment and economic regulation

Policy decisions by the regulator, the UK Government and the EC directly affect our businesses. Changes in policy may impact on the group's ability to meet the requirements of the UK and EC's aviation policies. We seek to mitigate this risk by providing independent input to policy studies, lobbying for policy guidance and taking a leadership role where we believe this is required (such as UK airspace policy and airspace modernisation) and responding to industry consultations. We outlined earlier in this report the importance of proceeding with airspace modernisation and that we will take on a broader project management and coordination role for modernising flight paths both in airspace above 7,000 ft and airspace below this level, which remains the responsibility of others to design and deliver. We will need the engagement and full support of Government, the CAA and industry to ensure this is achieved. If this does not proceed in a timely manner, supported by clear government policy, then UK airspace will reach capacity limits causing increasing delay and constraining aviation growth.

Also, the group's air traffic services operate under a European regulatory regime which requires key performance targets to be met. Failure to meet these safety, service, environment and efficiency targets could damage our reputation and lead to even more challenging regulatory arrangements.

NERL's current environment and capacity targets were based on an RP2 investment plan that included the implementation of lower airspace change in the London area. Industry consensus was that this is not possible during RP2 due to factors beyond NERL's control. The company is seeking to mitigate regulatory risk by aiming to achieve its RP2 targets through equivalent environmental and fuel saving benefits via a package of other airspace changes that have industry support.

Finally, the UK market for Terminal Air Navigation Services (TANS) is subject to the market conditions test within EC SES Regulations. If conditions are not met TANS would be subject to economic regulation. The UK Government has advised the EC that market conditions have been established for RP3. This remains subject to EC endorsement.

Defined benefit pension scheme

Adverse movements in the value of scheme assets and liabilities arising from factors such as lower investment returns, lower real interest rates and improving life expectancy may increase the size of the funding deficit and result in significant contributions to fund pension benefits.

The scheme was closed to new entrants in 2009, pensionable pay rises are capped and future service benefits are linked to the Consumer Prices Index. NATS regularly reviews the scheme's funding position and is consulted by Trustees on the design of risk reduction strategies. Also, subject to regulatory review, NERL is able to recover increases in contributions from changes in unforeseen financial market conditions. NATS Services maintains adequate cash reserves to meet its share of pension contributions.

The Trustees completed a formal valuation as at 31 December 2017. This reported a reduction in the funding deficit but with an increase in the cost of future service benefits. Deficit repair contributions will reduce from 1 January 2020. The CAA is consulting on NERL's RP3 business plan, which reflected the outcome of the 2017 valuation.

Principal risks and uncertainties

The directors monitor the funding position of the scheme. The group's financing arrangements and cash reserves, its projected operating cash flows and mechanisms within the established economic regulatory framework for recovery of such costs enable the group to meet the contributions required.

Industry outlook and the impact of Brexit

Poor market and economic conditions can reduce NERL's revenues to levels below those assumed by the economic regulator for a reference period. This in turn could impair shareholder returns. NATS monitors the key industry indicators on a monthly basis against RP2 forecasts and has taken action in the past to realign its cost base with lower revenues. NERL has traffic volume risk-sharing arrangements that mitigate revenue reductions.

In the short term the continuing uncertainty over the UK's decision to leave the EU could affect the demand for air travel and the volumes NATS handles, though traffic volume risk-sharing mitigates the impact. Also, in responding to their consultation, we have asked the CAA to reassess their traffic forecasts for RP3 to take account of the likely impact of Brexit, including a no deal, before finalising the NPP proposals for RP3.

Over the longer term, the impact of Brexit depends significantly on the type of relationship that is forged between the UK and the EU. An important consideration for NATS is the extent of participation in the SES and the legislation governing the economic regulation of NERL. Under the UK Transport Act 2000 the CAA has a duty to ensure that NERL does not find it unduly difficult to finance its activities. Such a duty is not provided for in SES legislation. After leaving the EU, we expect that the UK will no longer be able to participate, with a vote, in the process of drafting and approving SES legislation. This could mean NATS, uniquely in the UK, being economically regulated by a body in which the UK does not vote. We will therefore be keeping the implications of Brexit developments under review with the relevant Government departments and the CAA.

A detailed review of NATS preparedness for Brexit was undertaken during the year and mitigating plans were developed and are being progressed, including how we support EU nationals employed in the UK and mitigate risks to our supply chain.

Security: electronic and other external and internal threats

Malicious attack, sabotage or other intentional acts, including breaches of our cyber security, could damage our assets or otherwise significantly impact on our service performance. NATS seeks to mitigate these risks through its business continuity controls, employee awareness training and cyber and physical security processes and procedures, including monitoring political stability and security risks in countries where it conducts business.

The company has enhanced the physical security of its principal sites and is continuing to enhance its cyber security processes and controls. The company maintains a close liaison with the relevant Home Office Constabularies as well as Government security agencies and departments including security advice from the Centre for the Protection of National Infrastructure (CPNI).

Employee relations and staff resourcing

The deployment of technology through the DSESAR programme and the group's response to the challenging competitive environment in the UK and overseas will require changes across our organisation. Changes of this nature have the potential to create challenges in employee relations if not managed sensitively, with a corresponding impact on our service performance. Therefore, every effort is being made to continue to build and sustain good employee relations, including joint working groups with union representatives as part of an employee relations improvement project.

A people and organisation strategy is being implemented to ensure we have the right numbers of staff and mix of skills in future to meet our strategic objectives, particularly given the demographic profile of our workforce today.

Technology

The complex deployment of new DSESAR technology and retirement of legacy systems could affect our ability to maintain service levels during transition and require additional costs to sustain legacy systems and support deployment during this period. We maintain good programme governance and risk management processes overseen by the executive and Board, and Transformation Review Committee.

Financial risks

In addition to the top risks set out above, the main financial risks of the group relate to the availability of funds to meet business needs (including meeting obligations to the pension scheme), the risk of default by counterparties to financial transactions, and fluctuations in interest and foreign exchange rates. A detailed description of each of these risks and specific mitigations are set out in note 20.

Non-financial risks

A number of other non-financial and non-operational risks are described in the responsible business statement below.

Service line performance

We organise our activities according to service lines, which reflect the customer groups to which we provide our products and services.

The principal financial performance measures are revenue, including intra-group revenue, and contribution, which reflects the operating costs which managers are able to influence directly. A reconciliation of service line contribution to operating profit is provided in the notes to the financial statements.

Airspace

	2019	2018
Financial performance:		
Revenue from customers (£m)	**714.7**	735.1
Other revenue: EU funding passed to customers (£m)	**9.7**	-
Revenue from other sources (£m)	**4.2**	4.2
Total revenue (£m)	**728.6**	739.3
Service line contribution (£m)	**313.8**	345.0
Capital expenditure (£m)	**149.9**	180.0
Operational performance:		
Flights handled ('000s)	**2,544**	2,515
Risk-bearing airprox (no.)	**nil**	nil
Average delay per flight (seconds)	**11.5**	7.2
Average delay per flight (seconds)*	**12.5**	6.2
Environmental efficiency (3Di score)*	**29.2**	29.6

*for the calendar year to 31 December

Airspace (see Our business model on page 20 for an explanation) generated revenue of £728.6m compared with £739.3m in the prior year. This mainly reflected real price reductions required by the RP2 Performance Plan, which benefited customers, and offset the growth in volume of flights handled this year.

	2019 ('000s)	2018 ('000s)	Year on year change %
Chargeable Service Units	**12,167**	11,674	4.2%
Total UK traffic (flights):			
Domestic	**377**	389	(3.1%)
North Atlantic	**400**	383	4.4%
Other	**1,767**	1,743	1.4%
Total	**2,544**	2,515	1.2%
Oceanic traffic (flights):			
Chargeable flights	**502**	494	1.6%

Airspace incurred a small service penalty of £0.3m (2018: £2.6m bonus) for failing to meet its 2018 calendar year regulatory targets for delay. Attributable average delay per flight at 12.5 seconds was higher than the target of 10.8 seconds. Much of this additional delay was anticipated as a result of the transition to electronic flight strips. This technology is an important enabler to the airspace modernisation we will undertake in RP3 and for this reason we introduced this early in our transformation programme. In order to ensure the safe transition agreed last year with airlines and airports, we applied flow regulations to traffic in the affected airspace sector for a short period after deployment. This added 4.8 seconds per flight of NATS attributable delay to our underlying service performance of 7.7 seconds per flight. Overall, for the financial year, 98.9% (2018: 99.3%) of flights experienced no air traffic delay.

Our flight efficiency (the environmental performance of our network) was within the economic regulator's target range. In addition, Airspace enabled CO_2 savings of 113,700 tonnes (2018: 273,600 tonnes restated), which is equivalent to fuel savings of 35,750 tonnes (2018: 71,721 tonnes), worth £18.4 million (at an average fuel price for the financial year of £515 per tonne).

Service performance: calendar year to date	**2018 Target**	**2018 Actual**	2017 Target	2017 Actual
C1: avg. En route delay at FAB level (seconds)	**15.6**	**16.9**	15.6	9.7
C2: avg. delay per flight (seconds)	**10.8**	**12.5**	10.8	6.2
C3: delay impact (score)	**26.0**	**17.0**	27.0	12.7
C4: delay variability (score)	**2,000.0**	**16.1**	2,000.0	0.6
C3Di: 3Di metric (score)	**26.7-29.5**	**29.2**	27.5-30.3	29.6

The C1 metric is a Functional Airspace Block (FAB) level target introduced for RP2. C3 target is the C3 Upper target adjusted for traffic based CY 2018 actual traffic.

Overall, Airspace contribution of £313.8m (2018: £345.0m) was 9.0% lower. This mainly reflects the real price reductions in RP2 and the investment in additional staff to meet both the growth in air traffic volumes, which has been greater than the RP2 Performance Plan assumed, and to progress our technology change and airspace programmes.

Service line performance

UK Airports

	2019	2018
Financial performance:		
Revenue from customers (£m)	**147.0**	171.5
Revenue from other sources (£m)	**0.5**	0.3
Total revenue (£m)	**147.5**	171.8
Service line contribution (£m)	**27.5**	28.7
Capital expenditure (£m)	**2.0**	2.3
Operational performance:		
Airports served: UK (no.)	**13**	14
Risk-bearing airprox (no.)	**nil**	nil

Significant milestones:	
Electronic flight progress strips at Farnborough and Bristol airports	April/Nov
Replacement voice communication equipment at Bristol Airport	May
Installation of ATC simulator at Heathrow Airport	May
Replacement instrumented runway visual range systems at Bristol and Southampton airports	July/Oct
Heathrow Airport demand capacity balancing	March
London City Digital Tower factory acceptance test and live images relayed to Swanwick Virtual Tower	March
Durham Tees Valley Terma Radar factory acceptance test	March
Glasgow Airport Terma Radar site acceptance test	March

During the year we provided ATC services to 13 UK airports directly and ATC related engineering services to these and a number of other airports in the UK.

UK Airports maintained its safe service performance during the year and delivered a number of important engineering solutions to customers.

Revenue recognised from these services at £147.5m (2018: £171.8m) was £24.3m lower. In addition to the impact of IFRS 15 of £10.4m (see above), this mainly reflected the transfer of the Edinburgh Airport contract to another provider at the end of the last financial year and lower recharges of pass-through rental costs (with no margin impact). These factors were partly offset by higher airport engineering income.

Service line contribution at £27.5m (2018: £28.7m) was £1.2m lower. Overall, the transfer of the Edinburgh Airport contract was partly offset by stronger airport engineering contract performance and lower staff costs, including a lower accrual rate for the defined benefit pension scheme.

A key strategic objective is to win and retain UK airport ATC contracts. Our response to the market has been to develop a deeper collaborative strategic relationship with our customers. This year we won a new 10 year ATC and engineering contract at Cardiff and St Athan airports.

We completed a number of engineering projects in the year including transitioning from paper to electronic flight progress strips at Bristol and Farnborough airports. Electronic flight progress strips replace handwritten paper flight strips with multiple touch screen displays. This improves operational efficiency with increased electronic coordination and flight data sharing at the airport.

At Heathrow Airport we completed a demand capacity balancing project which will help the airport to continue to optimise its performance.

Our ATC unit at Aberdeen Airport is the first to provide ground based ADS-B which enhances safety for helicopters operating in the North Sea. In this environment ADS-B performs better than land-based secondary surveillance radar, as the location of the remote sensors allows aircraft to be seen at much lower altitudes.

We have made good progress with testing the infrastructure to provide London City Airport with a digital tower service from our ATC centre in Hampshire, which is now receiving live video feeds from cameras at the airport.

Service line performance

Defence services

	2019	2018
Financial performance:		
Revenue from customers (£m)	**27.1**	20.9
Revenue from other sources (£m)	**-**	-
Total revenue (£m)	**27.1**	20.9
Service line contribution (£m)	**1.6**	(6.2)
Capital expenditure (£m)	**2.5**	1.0
Operational performance:		
Airfields served (no.)	**4**	4
Significant milestones:		
22 MOD radio sites commissioned and entered service		
Three MOD tower sites commissioned and entered service		
Testing the first stage of a military flight planning tool upgrade		
Transfer of RAF Woodvale and RAF Barkston Heath ready to commence ATC services from 1 April 2019		

The major source of income for Defence services is support provided to the MOD's Project Marshall contract. This is a 22-year concession awarded to our Aquila joint venture for the provision of ATC services and the upgrade of MOD ATC infrastructure. The service provision elements of this contract are provided by NATS and are performing as planned and include ATC services to Wattisham Airfield, Netheravon Airfield and AAC Middle Wallop and to Gibraltar Airport. In April 2019 we also commenced services provision at two further airbases: RAF Woodvale and RAF Barkston Heath.

Revenue at £27.1m (2018: £20.9m) reflected progress with the asset provision contract, which faced schedule challenges in the previous year. This year Defence services reported a contribution of £1.6m (2018: £6.2m loss). In the prior year we re-assessed the profitability of the asset provision contract and our share of Aquila's result. The outlook for this contract remains break-even.

Other service lines

	2019	2018
Financial performance:		
Revenue from customers (£m)	**27.7**	25.2
Revenue from other sources (£m)	**0.2**	0.2
Total revenue (£m)	**27.9**	25.4
- Other UK business	***14.7***	*15.2*
- International	***13.2***	*10.2*
Service line contribution (£m)	**7.6**	5.4
- Other UK business	***6.8***	*6.5*
- International	***0.8***	*(1.1)*
Capital expenditure (£m)	**2.1**	2.3
Operational performance:		
Airports served: Spain (no.)*	**13**	9
Secured order value:		
UK contracts (£m)	**15.4**	16.3
Overseas contracts (£m)	**11.9**	74.6

* Service provided by our FerroNATS joint venture

Other UK business revenue of £14.7m (2018: £15.2m), mainly from services to wind farm operators, was broadly in line with last year and contributed £6.8m (2018: £6.5m).

International revenues at £13.2m (2018: £10.2m) were £3.0m higher, mainly as a result of revenues from our contract to provide ATC specialists to the Airport Authority of Hong Kong and for services to Singapore's Changi Airport. At a contribution level, including the group's share of FerroNATS and Searidge Technologies, international activities reported a profit of £0.8m (2018: £1.1m loss).

Overseas orders worth £11.9m were secured in the year (2018: £74.6m).

People and responsible business statement

People

One of our priorities for the year was the continuing focus on our people. In particular, to ensure our people have the skills required to deliver today's operational service as well as the right mix of capabilities for the future as we develop the technology that drives our operation, and that we manage our people through this change.

Our People and Organisation Strategy aims to attract, retain and reward employees with the talent we need both now and in the future while ensuring that we continue to develop exciting careers and enhance the skills of our current workforce. Our culture must be open, inclusive and supportive to ensure that we remain a high performing organisation as we evolve.

In transforming our operation we will require specific skills, including those in digital and cyber technologies which are highly sought after in the market. We are also developing strategies to meet the needs of the future workforce, such as providing more flexible careers and online learning opportunities, with career planning activity to ensure we effectively manage replacing skills as long-serving employees retire.

This year we re-designed our process for recruiting ATCOs to enable us to meet future traffic growth and effectively manage expected retirements over the next few years. We continue to focus on improving our management of employee relations, with a programme that enhances management capability at all levels, focusing on joint problem solving and dispute avoidance through our conflict resolution approach and training programme. This supports valuable and effective dialogue with our unions ensuring employees have a meaningful voice in the decisions that are taken.

We have also improved our leadership development with particular focus on those identified through our talent process as having growth potential, with targeted, accelerated development and assessment opportunities that will support their future careers and enhanced contribution. Our focus remains to develop leadership capability at all levels.

More broadly, we are continuing to encourage young people to consider careers in aviation. We are a corporate member of the WISE campaign, a network of over 200 companies across different industries taking action to support women in STEM. Finally, we partnered with the Jon Egging Trust charity. Our mutual links to aviation, our passion for inspiring young people around technology and for supporting local communities makes this a great partnership. We are actively participating in the Trust's programmes, which also gives NATS employees the chance to gain new experiences.

Responsible business statement

1. Introduction

Our investors, customers, suppliers and other stakeholders are aware of the need for, and benefits of, responsible business. Our commitment to the welfare of society, including our employees, and the natural world is an increasingly important measure of our overall performance. We recognise growing expectations from the public and policymakers of reporting transparently on our outcomes. Our annual Responsible Business report provides more detail.

2. Materiality

We have identified in this report the most important issues, taking account of the views of our customers, suppliers and employees. Material issues include:

a. key performance areas subject to regulatory targets such as safety, delay, flight efficiency and cost efficiency, which are discussed in this report and in our 2018 report to customers[10];

b. key responsible business issues including modern slavery, environmental performance and gender pay, among others; and

c. our commitments, which are not regulatory targets, to reduce airspace CO_2 emissions by 10% per flight and to minimise and, where possible, reduce aircraft noise. These are discussed in our Responsible Business report.

People and responsible business statement

3. Governance

Our Chief Executive is accountable for our responsible business policy. The Board will monitor and review performance in the 2020 financial year as required by the UK Corporate Governance code. The responsible business policy comprises a set of core principles which cover a wide range of non-financial matters. The policy is supported by appropriate business objectives, which are reviewed by the NATS Executive.

We have adopted a number of management systems to mitigate business risks, many of which are certified, such as: ISO9001 (quality), ISO14001 (environment), ISO27001 (information security), ISO55001 (asset management) and OHSAS18001 (health and safety). Governance processes ensure oversight of these management systems.

Anti-bribery and anti-corruption matters
Board oversight is provided by a panel of executive and senior managers monitoring compliance, effectiveness and process improvements.

Environment matters
Oversight of environmental performance lies with the NATS Executive. An Environmental Benefit Delivery Panel manages airspace related issues and is responsible for overseeing delivery of initiatives to meet airspace environmental targets. An Environment Management Group manages conventional ground based environmental impacts.

Employee matters
An established people and organisation strategy is reviewed by the Board twice a year, while oversight lies with the NATS Executive.

Social and human rights matters
An Oversight Group, reporting to the NATS Executive, oversees our commitment to the prevention of slavery and human trafficking in our corporate activities.

The outcomes of our responsible business policy are described qualitatively and quantitatively in our Responsible Business report.

4. Strategy

Our responsible business strategy covers a number of single issue strategies which focus on setting out the ambition and approach for each. These are integrated into the group's long term business transformation programme.

Anti-bribery and anti-corruption matters
At the heart of our approach is employee training and awareness. We have updated our training for all employees, including executive and Board directors, which individuals are mandated to complete.

Environment matters
Our environmental management system applies across the business to mitigate risks, identify opportunities and ensure alignment with customer and stakeholder expectations. Challenging targets have been adopted for airspace efficiency, energy and CO_2 emissions.

Employee matters
We encourage an inclusive environment that supports diversity where colleagues can thrive and bring their authentic selves to work. Our first employee network, SkyPride, champions LGBT+ equality within the company and provides a peer support and networking forum for LGBT+ colleagues. Other employee networks will be launched during 2019/20. We strive to create an environment where everyone is rewarded equitably for their contribution. Addressing our gender imbalance and our gender pay gap is an important part of this and the progress we have made to date will help us to deliver longer term change.

Social and human rights matters
Our commitment to prevent slavery and human trafficking is underpinned by internal policies, employee codes, risk assessments, supplier due diligence and training.

People and responsible business statement

5. Risk management

Our risk management process spans the business and includes financial, safety, operational, regulatory and other risk areas. The process is used to identify and manage a number of risks associated with responsible business issues.

We also recognise that some of these risks, which currently are low or not imminent, both individually and collectively have the potential to be material and warrant a set of management controls.

Anti-bribery and anti-corruption matters
Employees working overseas and in other areas of risk undertake computer-based training which concludes with a robust assessment to ensure they have understood NATS' requirements and their obligations.

Environment matters
As part of our ISO14001 certified environmental management system, a management review is prepared annually detailing risks and changing circumstances, alongside the outcomes of regular internal and external audits.

Employee matters
Gender pay reporting is included in a broader non-financial risk in our risk management system. In addition to the strategy outlined in our Gender Pay Report 2018[11], the NATS Executive sponsors a 'Working Together' initiative with Trades Unions.

Social and human rights matters
Modern slavery is included in our risk management system and a strategy and appropriate controls are in place to mitigate the risk. This is highlighted in our Slavery and Human Trafficking statement[12].

6. Measurement

We use a range of metrics, targets and commitments to drive actions linked to our responsible business policy.

Environment matters
For a number of years we have reported on the impact of our business on the natural world, including airspace efficiency and GHG emissions from our operations.

Airspace efficiency (3Di)
We are targeted by the CAA on airspace efficiency, which is how efficiently we manage flight profiles, using the 3Di metric. The annual targets during RP2 have become more challenging each year. When these were set, it was assumed that airspace structures would be modernised in RP2 but this was paused by the industry. The CAA is consulting on the targets for RP3, which we expect will form part of the NPP.

The 3Di score for the 2018 calendar year at 29.2 was within the regulator's target range. The first few months of that year were challenging, partly due to the weather which resulted in more days of easterly operations for the main London airports handled by our TC operation. Our operation is most efficient when TC is operating on westerlies. Improvements in efficiency included a focus on traffic management and tools for reduced holding (particularly in TC), identifying differences in watch performance, working with airlines to improve flight planning, airspace changes and the deployment of electronic flights strips which improved efficiency in TC.

Greenhouse gas emissions (GHG)
We measure and report on a number of sources of GHG relating to direct (scope 1: such as from onsite heating and cooling), indirect (scope 2: such as from electricity generation) and other indirect GHG emissions (scope 3). We also report other environmental performance metrics, including water and energy consumption. The most material of these are set out in the table of KPIs on page 16. Additional KPIs are reported in our Responsible Business report and in our CDP report[13].

We have set a 6% CO_2 reduction target from energy use from a 2015 baseline to 2020 and in the 2019 financial year we achieved 39%. As of April 2019, our electricity and gas is almost entirely from renewable sources. Together with approximately 1km^2 of solar photovoltaic panels installed across our estate and a number of energy efficiency projects, we are making significant progress in reducing our scope 1 and scope 2 emissions. However, this has been offset by the effect of dual running of legacy and new equipment during this phase of our technology transformation programme.

People and responsible business statement

6. Measurement (continued)

Employee matters
In our 2017 Gender Pay report, we set a target to increase the proportion of women in senior roles by 5% by 2020, as part of a broader strategy to address the causes of our gender pay gap. We are making progress against this target and have created an action plan but acknowledge that meaningful improvements to our gender imbalance is a long term commitment that will require a sustained focus at all levels of the organisation. Our commitment to this reaches beyond our organisation with the promotion of technology-based education and careers options.

We are also reviewing our strategy for attracting new employees to ensure our recruitment practices are consistent with a gender neutral approach and broader diversity strategy, and we have partnered with Business in the Community and Stonewall, a charity which advances equality and acceptance of LGBT+ people, to further develop our approach to diversity and inclusion.

7. Supporting information

KPIs reported on page 16 have been prepared in accordance with the CDSB Framework, the recommendations of the Task Force on Climate-related Financial Disclosures and guidance on non-financial reporting from the Financial Reporting Council and EC. Verification of certain environmental, energy and airspace data (marked *) has been undertaken to meet the ISO14064 standard.

The Strategic report was approved by the Board of directors on 27 June 2019 and signed by order of the Board by:

R C-Cole

Richard Churchill-Coleman
Secretary

Annual Report and Accounts 2019

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Directors of NATS Holdings

Director's biographies

Chairman

Dr Paul Golby CBE FREng

Paul served as Chief Executive Officer of E.ON UK plc from 2002 to 2011 and is a Fellow of the Royal Academy of Engineering. He is Chair of Costain Group plc and a non-executive director of National Grid plc and ERA Foundation. Paul is also a member of the Prime Minister's Council for Science and Technology. Paul chairs the Nomination Committee and was a member of the Audit Committee up to 31 March 2019. Paul also attends the Remuneration Committee, Safety Review Committee and Transformation Review Committee by invitation. Going forward he will also attend the Audit Committee.

Executive Directors

Martin Rolfe, Chief Executive Officer

Martin took up the post of Chief Executive in May 2015 having been Managing Director, Operations since 2012, with responsibility for NATS' economically regulated UK and North Atlantic services. An engineer by training, Martin holds a Master's degree in Aerospace Systems Engineering from the University of Southampton. He has 20 years of experience in the defence and aerospace industry, and prior to joining NATS was the Managing Director of Lockheed Martin's Civil Division with responsibility for worldwide ATM programmes as well as UK Government business. Martin has also worked for the European Space Agency and Logica plc.

Nigel Fotherby, Finance Director

Nigel joined NATS in 1999 as Finance Director and led the Finance team through the transition to PPP (2001) and, following the events of 9/11, the financial restructuring and refinancing of NERL in 2003. In addition to his responsibilities for finance, Nigel leads NERL's economic regulatory team and represented the company in the economic regulator's review of NERL's charges for CP3, RP2 and RP3. Previously, he worked for Lex Service plc as Finance Director of its retail group and then for BT Cellnet, where he was Deputy Finance Director. He began his career with Coopers & Lybrand where he qualified as a Chartered Accountant.

Directors of NATS Holdings



Director's biographies

Non-Executive Directors

Maria Antoniou

Maria is Senior Vice President HR/Executive HR based in E.ON's headquarters in Germany, a position she has held since 2013.

Maria joined E.ON in 2008 as the UK HR Director. During her time in the UK the business was significantly restructured and emphasis given to becoming a customer focused organisation. Prior to joining E.ON, Maria spent two years in the public sector as Group HR Director for Transport for London and 20 years with Ford Motor Company. Maria's last role at Ford was as global HR Director for Jaguar, Land Rover and Aston Martin. Maria chairs the Remuneration Committee and is a member of the Nomination Committee. She is also a director and chairs the NATS Employee Sharetrust.

Dr Harry Bush CB

Harry is Vice-Chair of UCL Hospitals NHS Foundation Trust. He spent most of his career in HM Treasury where he focused latterly on policies towards growth, science funding and privatisation and private finance. He was UK Director at the European Investment Bank from 2001 to 2002. Harry left HM Treasury in 2002 to join the CAA Board as Group Director Economic Regulation responsible for the economic regulation of the designated airports and NATS, as well as the CAA's economic analysis generally. He was a member of Eurocontrol's Performance Review Commission from 2005 to 2009 and of the UK's Commission for Integrated Transport from 2006 to 2010. Since leaving the CAA in 2011, Harry has been a consultant on economic regulation, undertaking assignments across a range of industries in the UK and overseas. He is a Fellow of the Royal Aeronautical Society. Harry is a director of The Airline Group Limited (AG) and NATS Employee Sharetrust, and a member of the Audit Committee.

Mike Campbell

Mike has spent the last 11 years at easyJet initially as Group People Director and subsequently as Group Director Europe. During his time at easyJet he has also been Group Director, Transformation and has led on a series of strategic projects including the integration of GB Airways and the successful development of easyJet's presence in Europe.

Mike's early career has covered a range of sectors, from high end luxury goods to high volume, low margin electronics and he has direct experience across a number of disciplines. Mike has a Bachelor's degree in Mathematics and a Masters in Fluid Dynamics with a background in education and HR. He has operated in organisations across the world and has led businesses and change programmes across all of these. Mike is Chair of AG, Chair of the Transformation Review Committee and a member of the Nomination and Remuneration Committees.

Directors of NATS Holdings



Director's biographies

Non-Executive Directors

Richard Keys

Richard is a non-executive director of Merrill Lynch International, Wessex Water Services Limited, the Department for International Development and the DfT. He was previously a non-executive director of Sainsbury's Bank plc and a Council member of the University of Birmingham. He retired from PricewaterhouseCoopers in 2010 where he was a senior partner and Global Chief Accountant. Richard chairs the Audit Committee and is a member of the Nomination Committee and Transformation Review Committee.

Kathryn Leahy

Kathryn is currently Director of Operations at Heathrow Airport, where she holds functional responsibility for airside and airfield operations, as well as umbrella responsibility for the day-to-day management and operations of the Airport Operations Centre, resilience and emergency planning. Kathryn sits on the Sustainability Leadership Board and leads the Airspace Governance Board for Heathrow. She joined Heathrow Airport in 2010 as Risk and Safety Director and has held a number of senior operational roles.

Kathryn started her career in financial services working for AIG, and moved to the aviation industry in 1997. She spent 13 years at Virgin Atlantic Airways running their Risk and Safety Management team, as well as establishing the Internal Audit department and Board Audit Committee. She is a member of the Safety Review Committee.

Hugh McConnellogue

With over 30 years' experience in the airline industry, Hugh has held senior leadership roles across engineering and airline operations functions. He is currently Group Head of Network Operations for easyJet Airlines, responsible for the operational delivery and performance for all three of easyJet's air operator's certificates. Hugh started his career as an apprentice engineer for Britannia Airways moving on to work in freight and passenger operations with airlines across Europe. In his time with easyJet he has been responsible for line and hangar maintenance, maintenance operations control, deputy post holder for engineering for easyJet Switzerland, airline network operations and emergency response management. During this time he led the merger of airline operations through acquisitions, implementation of new technologies and systems as well as managing large teams of people. Hugh is a director of AG and a member of the Safety Review Committee.

Directors of NATS Holdings

Director's biographies

Non-Executive Directors

Iain McNicoll CB CBE

Iain served 35 years in the Royal Air Force, retiring in 2010 as an Air Marshal. His military flight hours total over 4,300, the majority in fast-jet aircraft, but he also flew large multi-engine aircraft, light aircraft and helicopters. He commanded a Tornado squadron from 1992-1995, a Tornado station from 1998-2000, and was Air Officer Commanding No. 2 Group from 2005-2007. In his last appointment, Deputy Commander - Operations, he was responsible for generating and delivering all of the RAF's front line operational capability. He had RAF responsibility for all safety and environmental matters, and was the RAF's first Chief Information Officer. Since 2010, Iain has been an aerospace, defence and security consultant. He is a Fellow of the Royal Aeronautical Society. Iain chairs the Safety Review Committee and is a member of the Transformation Review Committee.

Gavin Merchant

Gavin joined Universities Superannuation Scheme (USS) in 2011 as Senior Investment Manager with responsibility for sourcing, evaluating and monitoring co-investments within the infrastructure portfolio. Gavin serves on a number of portfolio company boards for USS as well as a number of advisory boards for infrastructure funds. Gavin has worked in the infrastructure sector in the UK and Australia for 15 years. Prior to joining USS, Gavin was a Director at Equitix Limited. Gavin graduated with an honours degree in Law from the University of Edinburgh and is a member of the Institute of Chartered Accountants of Scotland. Gavin is a director of AG and a member of the Remuneration Committee.

Louise Street

Having completed a degree in Japanese and Business Management at Durham University, Louise joined British Airways on the graduate intake scheme in 1998. Her first eight years were in the commercial organisation specifically in Sales and Revenue Management. She then moved to the operational side of the business and has undertaken a number of senior management roles in Customer Service and Operations which included implementing a significant change programme to modernise working practices amongst the front line team at Heathrow; introducing and leading a 500 strong team responsible for serving British Airways Premium customers and being accountable for the running of the British Airways Heathrow operation on the day. Moving to Engineering in 2017, Louise's current role as Head of Planning and Business Development has accountability for planning the British Airways maintenance programme along with the fleet embodiment programme to deliver the customer investment set out in the British Airways business plan as well as the future strategy for British Airways Engineering encompassing facilities, resourcing, infrastructure and maintenance. Louise has recently completed further studies in Business Studies at IMD, Lausanne. Louise is a director of AG and a member of the Audit Committee.

Directors of NATS Holdings

Director's biographies

Officer

Richard Churchill-Coleman, Legal Director

Richard is Legal Director which includes the role of Company Secretary. He joined NATS in June 2007 from TUI Northern Europe Limited where he held the position of Group Legal Counsel. Richard has more than 30 years' experience in the aviation industry having begun his career as an undergraduate aerospace engineer with British Aerospace plc before qualifying as a solicitor with Norton Rose and subsequently as a Chartered Secretary. Richard has previously held positions at Thomsonfly, Virgin Atlantic Airways and DHL Worldwide Express and holds a private pilot's licence.

NATS governance framework

Introduction

NATS was formed as a PPP in July 2001. In addition to its memorandum and articles, a key element in its governance structure is the Strategic Partnership Agreement (SPA) between its main shareholders: the Secretary of State for Transport; The Airline Group Limited (AG); and LHR Airports Limited (LHRA).

The SPA sets out the relative responsibilities of the signatories and, in particular, requires the group and the directors to adhere to the UK Corporate Governance Code so far as reasonably practicable and save to the extent inconsistent with the other provisions of the SPA.

The Board and Directors

Ultimate responsibility for the governance of NATS rests with the Board of NATS Holdings, which provides strategic direction and leadership and is responsible for ensuring that the NATS group is run safely, efficiently, effectively and legally, with appropriate internal controls to safeguard shareholders' investment and group assets.

The boards of the subsidiary companies within the group are accountable to the NATS Holdings Board for all aspects of their business activities.

As at the date of approval of the accounts, the NATS Holdings Board comprised a non-executive Chair and 11 directors, as follows:

Executive Directors

> Chief Executive Officer (CEO); and
> Finance Director.

Non-Executive Directors

> a Chair, appointed by AG, subject to the prior approval of the Crown Shareholder;
> five directors appointed by AG;
> three Partnership directors, appointed by the Crown Shareholder; and
> one director appointed by LHRA.

Changes to the Directors

From 1 April 2018 to the date of approval of the accounts, the changes to the directors were:

Non-Executive Directors	
Kathryn Leahy	Appointed 31 May 2018
Chris Hope	Resigned 4 October 2018
Hugh McConnellogue	Appointed 4 October 2018
Louise Street	Appointed 29 November 2018

The roles of the Chair, Chief Executive and executive management

The Chair of the NATS group is responsible for the leadership of the Board and for its governance. He has no day-to-day involvement in the running of the group. Day-to-day management of the NATS group is the responsibility of the CEO, Martin Rolfe, supported by the NATS executive team. The NATS executive team is responsible for delivering NATS' overall strategy. To achieve its strategic priorities the executive team is structured as follows:

> CEO;
> Finance Director;
> Operations Director;
> Safety Director;
> Commercial Director;
> HR & Corporate Services Director;
> Technical Services Director;
> Communications Director; and
> Legal Director.

NATS governance framework

The responsibilities of the Board

The Board has adopted a schedule of matters reserved for its decision and has put in place arrangements for financial delegations to ensure that it retains overall control of the business. The Board also has oversight of key business drivers and risks. Matters reserved for the Board include the monitoring of NATS' safety performance, appointments to the NATS executive team, and issues with political, regulatory or public relations implications. In addition to the schedule of matters reserved to the Board, specific matters are reserved for Partnership directors, AG directors and the LHRA director, as follows:

Partnership and AG directors

> adoption of the business plan;
> entry into significant debts, charges or contingent liabilities;
> major agreements outside the ordinary course of business;
> significant litigation proceedings; and
> external investments, and acquisition and disposal of material assets.

LHRA director

> acquisition or disposal of any asset representing more than 10% of the total assets of the business;
> any aspects of the business plan which could adversely affect NERL's service to UK airports; and
> disposal of NATS Services shares by NATS.

Access to legal and professional advice

All directors have access to the advice and services of the Legal Director, Richard Churchill-Coleman, who acts as Secretary to the Board. If necessary, in furtherance of their duties, directors may take independent professional advice at the group's expense.

Board meetings

The Board routinely meets seven times per year in January, March, May, June, July, September and November, and supplements these scheduled meetings with additional meetings as business priorities require. This year, the Board met seven times with each member (who served as a director during the year) attending as follows:

Name	Number of meetings attended / Number of eligible meetings
Paul Golby	7/7
Martin Rolfe	7/7
Nigel Fotherby	7/7
Maria Antoniou	7/7
Harry Bush	7/7
Mike Campbell	7/7
Chris Hope	3/4
Richard Keys	7/7
Kathryn Leahy	6/6
Hugh McConnellogue	3/3
Iain McNicoll	7/7
Gavin Merchant	7/7
Louise Street	3/3

The non-executive directors meet with the Chair, but without the executive directors present, before and after each Board meeting. Reports and papers are circulated to Board members in a timely manner in preparation for meetings, and this information is supplemented by any information specifically requested by directors from time to time. The directors also receive monthly management reports and information to enable them to review the group's performance.

The group's performance is also reviewed monthly by the executive team. This includes reviewing performance against operational targets (including safety, delays, project performance and risk management) and against financial targets (including revenue and capital budgets).

NATS governance framework

The Board's performance

Board effectiveness review

The Board is committed to continuous improvement and a performance evaluation of the Board, its committees, and the Chair is conducted each year. This year, the Board Effectiveness Review was administered by an external provider, Board Evaluation Limited (as required under the 2016 UK Corporate Governance Code (the Code)). The results were assessed by the Board at its May 2019 meeting and appropriate actions agreed.

Director induction

Following their appointment, the Company Secretary consults with new directors on the scope of induction to NATS which they require and a personalised induction programme is developed.

During the year, such programmes were started for Kathryn Leahy, Hugh McConnellogue and Louise Street. These programmes included briefings on governance and the NATS business, presentations from relevant executive management, and visits to key operational centres. In addition to an induction programme, all Board members are briefed on a continuing basis on key business issues.

The Board's Committees

The Board has established five standing committees which operate within approved terms of reference. These are the:

> Audit Committee;
> Nomination Committee;
> Remuneration Committee;
> Safety Review Committee; and
> Transformation Review Committee (previously called the Technical Review Committee).

The number of meetings held by the principal Board committees, and attendance by non-executive director committee members, is provided in the table below.

	Number of meetings attended / Number of eligible meetings				
	Audit	Nomination	Remuneration	Safety Review	Transformation Review
Paul Golby	3/3	4/4			
Maria Antoniou		4/4	5/5		
Harry Bush	3/3				
Mike Campbell		4/4	5/5		7/7
Chris Hope				2/2	
Richard Keys	3/3	4/4			6/7
Kathryn Leahy				4/4	
Gavin Merchant			5/5		
Hugh McConnellogue				2/2	
Iain McNicoll				4/4	7/7

NATS governance framework

The Board's Committees (continued)

The terms of reference for the Board and its committees are available to all employees and shareholders and can be made available externally with the agreement of the Legal Director. Reports from each of the standing committees are set out on pages 43 to 65. However, in addition to the standing committees, from time to time the Board may form committees on an ad hoc basis to deal with specific business issues. During the year the Board continued two additional committees: the RP3 Subcommittee (comprising the Chair, Nigel Fotherby, Martin Rolfe, Harry Bush, Richard Keys and Iain McNicoll) to consider the RP3 Initial Performance Plan; and the Brexit Subcommittee (comprising the Chair, Nigel Fotherby, Martin Rolfe, Harry Bush and Richard Churchill-Coleman) to consider the implications of, and the company's position on, Brexit.

Meetings with shareholders

A shareholders meeting is held once a year and provides the group with an opportunity to update the shareholders on the progress of the annual business plan and long term strategy. The meeting was the Annual General Meeting (AGM) held on 26 July 2018. Shareholders may also meet informally with the Chair, CEO, Finance Director and other members of executive management upon request.

Due to the manner in which non-executive directors are appointed by the shareholders under the SPA, there is no senior independent director.

Compliance with the UK Corporate Governance Code

NATS is committed to maintaining the highest standards of corporate governance. The SPA requires the group and the directors to adhere to the UK Corporate Governance Code so far as reasonably practicable and save to the extent inconsistent with the other provisions of the SPA. For the financial year ended 31 March 2019, the applicable standard is the Code. The company will report in accordance with the Corporate Governance Code 2018 from 1 April 2019.

NATS has applied the principles of the Code to the extent considered appropriate by the Board throughout the year ended 31 March 2019. However, a number of principles and provisions in the Code are not relevant to the partnership nature of NATS' ownership and the principal areas where NATS did not comply are summarised below.

Code A.3.1: Independence of the Chair

The Chair is nominated by AG, his appointment being subsequently approved by the Secretary of State for Transport. He therefore does not fully meet the independence criteria as set out in the Code and this affects NATS' compliance with a number of the Code's provisions.

Code A.4.1, B.1: Independence of Directors and appointment of Senior Independent Director

The arrangements for appointing non-executive directors, as set out in the SPA, are such that none of the directors meet the Code's criteria for independence. This affects NATS' ability to comply with a number of the Code's provisions, including the requirement to appoint a senior independent director.

Code B.2.1, D.2.1: Composition of the Nomination and Remuneration Committees

Details of the work of the Nomination and Remuneration Committees are set out below. However, the manner in which directors are appointed, as noted above, means that these committees' processes do not fully comply with the Code as regards independence.

Code B.3.2: The terms and conditions of non-executive directors

As noted in the Remuneration Committee report, the AG nominee directors and Partnership directors do not have service contracts with NATS and, as a result, the terms and conditions of appointment cannot be made available for inspection. The Partnership directors are engaged on three-year fixed-term contracts and have letters of appointment from the DfT. The Chair has a service contract with NATS, details of which are set out in the Remuneration Committee report.

Code B.7: Re-election of directors

The non-executive directors are appointed by the shareholding groups and are therefore subject to the relevant shareholding groups' selection processes, rather than those included in the provisions of the Code. They are therefore not subject to periodic re-election as stipulated by Section B.7 of the Code, although Partnership directors are appointed by the Government on three-year fixed-term contracts. This aligns with the recommendation in B.7.1 that the maximum period between re-election is three years.

NATS governance framework

Compliance with the UK Corporate Governance Code (continued)

The tenure of non-executive directors at 31 March 2019 was as follows:

Name	Date of appointment	Years of service to 31/03/2019*
Paul Golby	1/9/14	4 years 7 months
Maria Antoniou	1/8/16	2 years 8 months
Harry Bush	27/5/14	4 years 10 months
Mike Campbell	26/5/17	1 year 10 months
Chris Hope	27/7/17	1 year 2 months**
Richard Keys	1/9/13	5 years 7 months
Kathryn Leahy	31/5/18	10 months
Hugh McConnellogue	4/10/18	6 months
Iain McNicoll	1/9/13	5 years 7 months
Gavin Merchant	20/3/14	5 years
Louise Street	29/11/18	4 months

* Years of service to resignation, if earlier
**Served until 4 October 2018

The group is mindful of the principles behind the guidance in the Code relating to directors who serve for longer than nine years.

Code Section E: Relations with shareholders

Within the PPP structure, there are no institutional or public shareholders. However, the nature of the SPA is such that the shareholders have representatives amongst the directors with whom they enjoy a close working relationship. All non-executive directors are invited to relay the views of their respective shareholders into Board discussions. The Board is therefore able to take decisions in the best interests of the group, having taken account of the views of the shareholders. The Chair also has regular discussions with shareholders in addition to the formal meetings noted under the 'Meetings with shareholders' section above.

Reports from Board Committees

Audit Committee report

The role of the Audit Committee

The Committee meets four times per year. It is chaired by Richard Keys; Paul Golby and Harry Bush are the remaining two members of the Committee. The Committee members all have wide-ranging commercial and management experience and Richard Keys, a former audit partner at PricewaterhouseCoopers LLP (PwC) has recent, relevant financial and audit experience. The Committee members maintain their competence in the sector and on company specific issues (such as pensions) through targeted training and briefing at Committee meetings. In line with the requirements of the Corporate Governance Code 2018, Paul Golby resigned as a member at the 20 March meeting and will be replaced by Louise Street.

The Chairman, CEO, Finance Director, Group Financial Controller, Head of Internal Audit and responsible partner from our co-source internal audit provider, NATS Risk Manager and the external auditors are invited to attend each meeting by standing invitation.

Part of each meeting is set aside as required for members of the Committee to hold discussions without executive management present, including holding separate discussions with the external and internal auditors.

The duties of the Committee include:

> monitoring the integrity and compliance of the group's financial statements;

> reviewing the effectiveness of the external auditors and the Internal Audit department;

> reviewing the scope and results of internal and external audit work; and

> reviewing NATS' systems of internal controls and risk management.

The Committee makes recommendations to the Board on matters relating to the appointment, independence and remuneration of the external auditors and, to ensure independence, monitors the extent of non-audit services provided by the external auditors (as explained below). The Committee also reviews whistleblowing arrangements under which employees may confidentially report suspected wrongdoing in financial reporting or other matters with the objective of confirming that arrangements in place for their investigation and follow-up are appropriate. The Committee reviews its Terms of Reference annually and recommends any changes to the Board for approval.

Main activities of the Committee during the year

a. Financial reporting

The primary role of the Committee in relation to financial reporting is to review with both management and the external auditors the annual financial statements of the group and its subsidiaries and NERL's regulatory accounts, having regard as appropriate to:

> the suitability of accounting policies adopted by the group;

> the clarity of disclosures and compliance with Companies Act legislation and financial reporting standards, including the requirements of NERL's air traffic services licence; and

> whether significant estimates and judgements made by management are appropriate.

In addition, the Committee assists the Board in its assessment of whether the Annual Report and Accounts taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the group's position and performance, business model and strategy.

To aid its reviews the Committee considers reports from the Finance Director and reports from the external auditors on the outcome of the annual audit.

The Committee considered the following significant accounting judgements and sources of estimation uncertainty in the year:

The carrying value of goodwill

This is a focus for the Committee because of the materiality of the group's goodwill (£198.3m at 31 March 2019) and the inherent subjectivity in impairment testing. The judgements relate to: the assumptions underlying the calculation of value in use, including the extent to which business plan cash flow projections are achievable taking account of the outcome of regulatory reference period reviews; and assessing fair value less costs of disposal, including the extent of any premium to the value of regulatory assets.

The Committee addressed these matters by having regard to the higher of value in use and fair value less costs of disposal and considering: NERL's revenue allowances from the RP2 settlement and the cash flows implied by its latest business plan; the cost of capital assumption used to discount value in use; and the value of NERL's regulatory assets, including a premium to reflect the scope for out-performance of regulatory settlements and premia implied by market transactions in regulated entities. The Committee also considered the costs of a theoretical disposal of NERL's regulatory assets and appropriate sensitivities. The Committee was satisfied with management's analysis and the explanations and disclosures provided in notes 2, 3 and 13 to the accounts.

Reports from Board Committees

Audit Committee report (continued)

Retirement benefits

The pension funding position determined under international accounting standards requires a number of actuarial assumptions to be made, including judgements in relation to long term interest rates, inflation, longevity and salary growth. The Committee reviewed the basis for determining these assumptions. The final calculations in respect of the defined benefit pension scheme are performed by a qualified actuary, independent of the scheme. Note 31 sets out the main actuarial assumptions used, including sensitivity analysis.

The Committee also considered the adequacy of the explanations for the different basis of valuation for the Trustees funding assessment and for the balance sheet position under international accounting standards.

Revenue recognition, including the adoption of IFRS 15: *Revenue from Contracts with Customers*

The economic regulatory price control for UK en route services allows for the recovery (or reimbursement) of revenue allowances where actual traffic volumes or inflation are different to the regulator's forecasts made at the start of the reference period, where actual service performance is different to the regulator's annual targets and for adjustments brought forward from the previous charge control period. NATS' policy is to recognise these revenue adjustments in the year of service, based on traffic, inflation and service performance experienced. Where regulatory revenue adjustments for pension costs are assessed after the end of a reference period, their recoverability (or reimbursement) is dependent on the assessment of the economic regulator and recognised on this basis.

The Committee reviewed the nature and value of the regulatory revenue adjustments and considered the relevant EC Charging Regulations and the conditions of NERL's air traffic services licence for RP2 in determining whether their recognition was appropriate. The recoverable and the reimbursable revenue allowances are reported in notes 17 and 21 respectively.

The Committee reviewed the impact of IFRS 15: *Revenue from Contracts with Customers*, the method of its first time adoption and the additional disclosures provided in notes 4 and 35, having regard to the detailed analysis and assessments conducted by management.

Other matters

The Committee also considered: the carrying value of the group's investments, including the fair value of its interest in Aireon; received reports on the impact of IFRS 16: *Leases* and the method of its adoption in the financial year ending 31 March 2020; and reviewed financial reports issued to shareholders under the terms of the SPA.

b. Internal control

The Board is responsible for the group's system of internal control and for reviewing its effectiveness.

NATS' system of internal control is designed to ensure that the significant financial, operational, safety, legal, compliance and business risks faced by the group are identified, evaluated and managed to acceptable levels. This system was in place during the year and up to the date of approval of the Annual Report and Accounts and was specifically considered during the year under review as part of the work being carried out by Internal Audit and, in particular, at its June 2018 Committee meeting. However, as with all such systems, internal controls can provide reasonable but not absolute assurance against misstatement or loss.

The Committee's ongoing work in the area of internal control includes reviewing reports by the internal and external auditors, reviewing reports of any attempted or actual frauds, receiving reports from the management's Tax and Treasury Committees, and consideration of the circumstances of whistleblowing reports.

In overseeing NATS' whistleblowing procedures, the Committee reviewed progress since the appointment of an independent provider for NATS' whistleblowing hotline in 2017. The Committee was satisfied that the appointment of the independent provider and the associated whistleblowing procedures continue to meet best practice and are promulgated effectively throughout the company and to interested stakeholders and third parties. The Committee is satisfied that the company's response to whistleblowing reports received during the year has been appropriate and, if necessary, appropriate actions have been taken in line with the high standards of governance which the Board requires.

Since its previous report, the Committee's reviews of internal audit work have covered reports on the effectiveness of controls which manage key risks including General Data Protection Regulations (GDPR), Brexit readiness, pensions risk, and revenue generation. The Committee also approved the scope and phasing of activity for the internal audit function for 2019/20 including the continuing review by internal audit of the assurance processes in place across the group audit universe through the operation of the 'three lines of defence', with particular focus on the first and second line activities and accountabilities. The Committee continues to monitor the follow-up by internal audit of management actions taken to address the internal audit recommendations arising from their work.

Reports from Board Committees

Audit Committee report (continued)

c. Risk management

Risk management is essential in seeking to minimise the threat that an event or action might have on the group's ability to achieve its objectives and to execute its strategies effectively. Successful risk management ensures that the group is prepared to deal with events that could disrupt the business' ability to consistently deliver services to its customers and meet the needs and expectations of its shareholders in a fast changing and uncertain environment.

The Board takes the management of risk very seriously, paying particular attention to areas such as safety, service delivery, operating efficiency, pension funding, financial control, project delivery, regulatory compliance, financing and IT.

This system for the identification, evaluation and management of risks is embedded within the group's management, business planning and reporting processes, accords with the Code, and is aligned with the ISO31000 risk management standard. Detailed risk identification is carried out at business unit, departmental, and executive levels and is recorded and measured in a structured and controlled enterprise-wide database. NATS' risks are mapped against risk tolerance statements which have been agreed by the Board. Risk update reports are submitted to the NATS Executive team which address changes in risk, risk tolerance, business controls and the progress of mitigating actions associated with NATS' risks.

The Committee reviews the processes in place to identify, assess, mitigate and manage risk in order to satisfy itself that they are appropriate and within the specified risk tolerance. The Board formally reviews the principal risks to NATS and the risk management processes and mitigations in place on a six monthly basis. NATS directors have carried out a robust assessment of the principal risks facing the business. In each monthly set of Executive reports to the Board, any changes in gross or residual risk of a 'top risk' are highlighted by exception, but particularly if the change means a risk falls outside the agreed tolerance. The Committee and Board have assessed the group's principal risks and the performance against mitigation plans during the year to 31 March 2019. The Committee and the Board also review the extent of warranties and guarantees entered into by the group, with particular focus on any unlimited liability indemnities entered into as part of commercial arrangements.

d. Internal audit

The group's internal audit department reviews the controls in place to mitigate NATS' business risks, which includes reviews of internal financial control. In order to access the specialist skills required to perform assessments across the wide range of areas in which NATS operates, the internal audit function is operated as a co-source arrangement, primarily with PwC but with other providers if required. For the latter part of the year, the role of Head of Internal Audit was temporarily performed by the co-source engagement partner from PwC.

The results of internal audits and agreed actions are reported as appropriate to relevant directors, executives and managers. The Committee also oversees and monitors the actions taken by management to address internal audit findings and considers the ongoing independence of internal audit. The Committee oversees the performance of internal audit through the receipt of a report on its work presented to each Committee meeting and agrees the annual work plan in the context of the group's audit and assurance universe.

e. External audit

BDO LLP was re-appointed as external auditor at the AGM on 26 July 2018. The Committee reviewed the performance and the continuing independence of BDO at its June meeting and recommended to the Board that BDO be re-appointed. Accordingly, a resolution recommending their re-appointment will be tabled at the AGM on 25 July 2019. Under the FRC's Ethical Standard requirement on audit partner rotation, Malcolm Thixton completed his final year of tenure as audit partner at the date of approval of these accounts. His successor is Chris Pooles.

f. Non-audit work performed by the external auditors

From time to time the external auditors perform non-audit services for the group. Part of the Committee's remit is to ensure that such engagements do not impair the auditors' objectivity or independence. The Committee does this by implementing a policy on non-audit services. It monitors the level of non-audit fees against a limit of 70% of the average statutory audit fee incurred over the prior three years and approves work by the external auditors in accordance with this policy.

The principal non-audit services performed by BDO in the year ended 31 March 2019 were an assurance certificate in respect of NERL's regulatory accounts, agreed upon procedures relating to the adoption of IFRS 15 and independent reviews of claims for European grant funding. The cost of non-audit services is disclosed in note 6 of the 'Notes forming part of the consolidated accounts'.

The Committee considered the nature and cost of these services and concluded that they did not impair the independence of the external auditor.

Richard Keys
Chairman of the Audit Committee

Reports from Board Committees

Nomination Committee report

The role of the Nomination Committee

The Nomination Committee is chaired by Paul Golby and, during the year, comprised three further non-executive directors, Mike Campbell, Richard Keys and Maria Antoniou. The Committee meets when considered necessary by its members and may invite executives and advisors to attend meetings as appropriate.

Appointments to the Board are made by the relevant sponsoring shareholder under the terms of the SPA. The Committee evaluates the balance of skills, knowledge and expertise required by the Board and makes recommendations to the shareholders with regard to Board appointments. It also reviews succession plans for executive directors and senior executives.

Main activities of the Committee during the year

During the year, the Committee met four times in June, November, January and February. It received an update on talent strategy, its implementation, and reviewed the succession plan with a particular focus on successors into executive roles including succession for the planned retirement of Nigel Fotherby as Finance Director. Harry Bush (an AG appointed non-executive director) attended the November 2018 meeting to provide input on economic regulation aspects of the Finance Director recruitment process and list of candidates. An external executive search firm, MWM Consulting Limited, was appointed to conduct the process for identifying an external replacement for the Finance Director. Alistair Borthwick, Group Finance Director of Regulated Networks & Enterprise, SSE plc, was appointed Chief Financial Officer following an extensive interview and assessment process. He joins on 5 August 2019.

The Committee also met on 1 April (without Richard Keys and Maria Antoniou, who were conflicted) to consider and make recommendations to the Secretary of State in relation to the re-appointment of all Partnership directors.

Kathryn Leahy was appointed as AG director on 31 May 2018. Chris Hope resigned as AG appointed director on 4 October 2018. The appointment of Hugh McConnellogue was made on 4 October 2018 and Louise Street on 29 November 2018 as AG appointed director.

The Committee's terms of reference require it to give due regard to the benefits of diversity, including gender, on the Board. Currently there are three female directors on the Board, representing 25%. There are two female members of the Executive, representing 22%.

Paul Golby
Chair of the Nomination Committee

Reports from Board Committees

Remuneration Committee report

Dear Shareholders,

I am pleased to present the directors' remuneration report for the year ended 31 March 2019. A key priority for NATS is to deliver a safe, efficient and reliable service to our key stakeholders (the airlines, the travelling public, Government and our shareholders) every day, and that we reward accordingly. In this context, we have incorporated safety overrides into our variable pay schemes to ensure that no additional reward is delivered to our executives if a safe and reliable service is not delivered.

Our remuneration policy's primary objective is to ensure we are able to attract, retain and motivate key executives to deliver strong sustainable business performance which is aligned with both the long-term success of the company and with the interests of our key stakeholders. This report highlights the remuneration decisions made by the Committee over the course of the year.

Key decisions made in 2019

The Committee undertook a detailed review of its variable pay incentives. It concluded that, while the Annual Management Performance Related Pay Scheme (AMPRPS) remained appropriate and aligned to the market, the Long Term Incentive Plan (LTIP) was perceived to be complex, difficult to communicate to participants and was not motivating over the long-term. The Committee concluded that, rather than an annual award as under the LTIP, a new LTIP should focus on delivering returns over and above that set by the regulator for the Reference Period as a whole.

During the year, executive directors were granted a cash-based award under the LTIP-RP2 which is designed to reward the achievement of group financial targets over the final two years of RP2 (i.e. calendar years 2018 and 2019). The Committee has also agreed in principle that a similar arrangement will be in place for RP3. Award levels for this five year period, and performance hurdles will be reported in next year's report, once the NPP for RP3 has been determined.

Reward for 2019

For this year, the AMPRPS for the executive directors reflects a year of good financial performance and delivery of some key operational milestones. Group EBITDA and customer focused targets were met in part, operational targets met in full and the personal performance of both executive directors was strong. The Chief Executive and Finance Director received AMPRPS awards of 89.8% and 88.6% of the maximum available, respectively.

Also, performance targets for LTIP cycle 6 were partly achieved (yielding 38% of the maximum): the NERL rate of return is forecast to achieve threshold value, NATS Services' EBITDA target was not met and strategic targets were met in part.

Remuneration for 2020

For the 2019/20 financial year, the Committee will operate the remuneration policy as set out over the following pages. The highlights include:

- base salary increases of 3% for the CEO and the Finance Director;
- an AMPRPS based on NATS Group EBITDA (40%); customer focus (15%); operational targets (20%); and personal performance (25%);
- no further LTIP award to existing executive directors under LTIP-RP2; and
- we anticipate a grant of an LTIP award at the start of 2020, aligned to the RP3 period.

Conclusion

We believe our policy delivers a robust link between reward and performance, that it is implemented in line with our stated objectives and the Group's strategic goals.

Maria Antoniou
Chair of Remuneration Committee

Reports from Board Committees

Remuneration Committee report (continued)

Purpose and responsibilities of the Committee

The Committee meets when necessary and is responsible for:

> considering and approving, on behalf of the Board, the arrangements for determining the remuneration, benefits in kind and other terms of employment for the Chairman and executive directors and the company's Personal Contract Group (which comprises c375 senior managers);

> considering and approving company incentive targets for executive directors and other members of the wider executive team;

> considering and approving a statement of remuneration policy;

> confirming details of the remuneration of each executive director for inclusion in the Annual Report and Accounts;

> confirming reward arrangements for all executive team members; and

> considering exit arrangements for executive team members.

The terms of reference for the Committee require it to ensure the company's remuneration policy complies with the current Corporate Governance Code, as far as practicable under the SPA. No director is involved in decisions relating to his or her own remuneration.

Activities in the year

The Committee met five times in the year and its main activities were to:

> review and approve the annual performance related pay targets for executive directors, the executive team and Personal Contract Group;

> review and approve achievement of all active LTIP cycle targets and resulting payments;

> review the effectiveness of the current LTIP against market practice and consider alternative structures to better align with objectives of the plan; and

> agree remuneration for new executive team members and termination payments for departing executive team members.

Membership

The Remuneration Committee of the Board is comprised entirely of non-executive directors. It is chaired by Maria Antoniou. Other members are Gavin Merchant and Mike Campbell. Paul Golby also attends the meeting (but is absent for discussion about his own remuneration).

Advisers and other attendees

As appropriate, the CEO and HR & Corporate Services Director are invited to attend Committee meetings.

Wholly independent advice on executive remuneration is received from the Executive Compensation practice of Aon plc. Aon is a member of the Remuneration Consultants Group and is a signatory to its Code of Conduct. Aon has no other commercial relationship with the company. Fees charged by Aon for advice provided to the Committee for 2018/19 amounted to £99,200 (excluding VAT).

Directors' Remuneration Policy

It is the company's policy to establish and maintain competitive pay rates that take full account of the different pay markets relevant to its operations. In return, employees are expected to perform to the required standards and to provide the quality and efficiency of service expected by our customers and also in line with the NATS values and behaviours. In fulfilling this policy, the company adheres where possible to the principles and provisions of the UK Corporate Code on directors' remuneration as outlined below.

The level of executive directors' remuneration takes into account competitive practice across comparator companies (as agreed with the Committee, companies from which NATS might seek to recruit employees or are considered similar to NATS) together with the need to attract and retain talent. Executive directors are rewarded based on responsibility, competence and contribution, and salary increases take account of pay awards made elsewhere in the group. Performance-related reward forms a substantial part of the total remuneration package and is designed to align the interests of directors with those of stakeholders and to promote the long-term success of the company.

Performance is measured against a portfolio of key business objectives and payment is determined based on performance beyond that expected of directors as part of their normal responsibilities. In implementing this strategy, the Committee adopts the principle that incentive scheme targets must be stretching and in line with the Board's agreed strategic growth and business plans.

The tables on pages 50 and 51 describe the key components of each element of the remuneration arrangements for the executive directors, and the company's policy in this respect. Actual pay and benefits are set out in the table of directors' remuneration on page 54.

Reports from Board Committees

Remuneration Committee report (continued)

Discretions retained by the Committee in operating the variable pay schemes

The Committee operates the group's various incentive plans according to their respective rules and, where applicable, in accordance with relevant legislation and HMRC guidance. In order to ensure efficient administration of these plans, certain discretions are reserved to the Committee, these include:

- determining who may participate in the plan;
- determining the timing of grants of awards and/or payments under the plans;
- determining the quantum of awards and/or payments (within the limits set out in the remuneration policy table);
- determining the performance measures and targets applicable to an award (in accordance with the remuneration policy table);
- where a participant ceases to be employed by the Company, determining whether 'good leaver' status applies;
- determining the extent of vesting of an award based on assessment of the performance conditions, including discretion as to the basis on which performance is to be measured if an award vests in advance of normal timetable (on cessation of employment as a 'good leaver' or on the occurrence of corporate events);
- whether recovery and/or withholding shall be applied to any award and, if so, the extent to which they shall apply; and
- making appropriate adjustments to awards on account of certain events, such as major changes to the constitution of the company.

Approach to recruitment remuneration

In the event that the Company recruits a new executive director (either from within the organisation or externally), when determining appropriate remuneration arrangements, the Committee will take into consideration all relevant factors to ensure that arrangements are in the best interests for the Company and its shareholders. This will include the application of the policy described in the policy table. In exceptional circumstances for externally recruited directors, the Committee may offer additional cash awards to compensate an individual for remuneration forfeited on leaving a previous employer. The awards would not exceed what is felt to be a fair estimate of the remuneration forfeited and would reflect (as far as possible) the nature and time horizons attached to that remuneration and the impact of any performance conditions.

For an internal appointment, any remuneration terms awarded in respect of the previous role may either continue on its original terms or be adjusted to reflect the new appointment.

When recruiting non-executive directors, the remuneration arrangements offered would normally be in line with those paid to existing non-executive directors, details of which are set out in the Annual report on remuneration.

Reports from Board Committees

Remuneration policy table:

Component	Link to strategy	Operation	Maximum opportunity	Framework to assess performance	Recovery and withholding
Base salary	To provide fixed remuneration for each role which reflects the size and scope of executive directors' responsibilities and their individual skills and experience.	Executive directors' salaries are normally reviewed annually and fixed for the 12 months commencing on 1 April. The Committee takes into consideration: > role, experience and performance of the individual; > internal and external relative positioning for total reward; and > the average budgeted increase in base salaries elsewhere in the group.		Not applicable	Not applicable
Benefits	To provide flexible, market aligned benefits on a cost-effective basis.	May include private health cover for the executive and their family, life insurance cover of up to eight times annual base salary, income protection and a car allowance. Relocation support and any associated costs or benefits may also be provided if considered by the Committee to be appropriate and reasonable to meet the requirements of the business. Other benefits may be offered from time to time broadly in line with market practice. Executive directors may participate in any all-employee share plan offers which may be operated by the company on the same terms as other employees.	The overall value of benefits will depend on the individual's circumstances and therefore there is no formal maximum. Participation in the all-employee share plan will be subject to the scheme's rules and in line with any relevant statutory limits.	Not applicable	Not applicable
Pension	To provide cost-effective and competitive post-retirement benefits.	Executive directors' pensions and life assurance are based on salary only, with performance-related incentive payments and other discretionary benefits excluded. The principal method of securing pensions for executive directors is auto-enrolment into the NATS Defined Contribution Pension Scheme (DC). NATS also offers a company-wide pension cash alternative in lieu of employer pension contributions for those with total pension savings close to the Lifetime Allowance, which is also available to eligible executive directors.	Maximum employer contributions are: > 18% for members of the DC; or > 15% of base salary as a pension cash alternative in lieu of employer contributions to the DC; or > for legacy members of the defined benefit pension scheme who have transferred out of that scheme, 25% of base salary as a pension cash alternative in lieu of employer contributions to the DB scheme.	Not applicable	Not applicable

Reports from Board Committees

Remuneration policy table:

Component	Link to strategy	Operation	Maximum opportunity	Framework to assess performance	Recovery and withholding
Annual incentive	To reward and incentivise the achievement of annual financial and strategic goals which are selected to align to the strategy of the business.	An Annual Management Performance Related Pay Scheme (AMPRPS) is in place for the executive team and all employees in the Personal Contract Group. AMPRPS is paid entirely in cash. As per the rules of the scheme, the Committee may determine that vesting should not be applied for any particular participant(s) should the Committee consider that individual performance or other circumstances makes this an appropriate outcome. This power would only be exercised in circumstances when the Committee decides that there has been or could be significant damage to the reputation of the company either during the performance years or as a result of the award. In these cases, the decision would be referred to the non-executive directors of the Board for ratification.	Maximum opportunity is capped at 70% of base salary. The AMPRPS starts accruing from threshold levels of performance. The current maximum potential for each executive director is set out in the Annual report on remuneration.	Targets are set annually and are a mix of corporate and personal performance. They are determined by the Remuneration Committee each year taking into account the group's key strategic priorities and the approved budget for the year and are set out in the Annual report on remuneration. The Committee may apply discretion as appropriate.	The rules of the AMPRPS include a recovery provision whereby individuals are liable to repay or forfeit some or all of their AMPRPS if there is a material misstatement of the results.
Long-term incentive	To incentivise executives to achieve the company's long-term strategy and enhance shareholder value.	Cash awards based on the achievement of financial targets over the relevant regulatory reference period. Transitional arrangements are in place for RP2. Any vesting under RP2 will translate into three distinct Payment Opportunities (PO): PO1: 20% at 1 June 2020; PO2: 30% at 1 June 2021; and PO3: 50% at 1 June 2022. The RP3 award shall have performance calculation dates of 1 April 2023 and 1 April 2025 and shall comprise up to four POs in 2023, 2024, 2025 and 2026 respectively.	110% of salary for each of the remaining two-years of RP2, covering the two calendar years 2018 and 2019. 110% of salary for each of the five years of Reference Period 3 (RP3: 2020 – 2024).	Awards vest based on performance measuring the weighted return performance of NERL and NATS Services over the applicable measurement and regulatory periods.	The rules of the current LTIP include provisions for recovery and withholding to apply if the Committee concludes that: > the performance on variable pay awards, that have been made or vested, was materially misstated or should have been assessed materially differently; > the assessment of any performance condition was based on an error, or inaccurate or misleading information or assumptions; > the relevant individual has committed serious misconduct; or > there is a major safety or operational incident resulting in serious consequences for the organisation, its customers or air passengers. Recovery and withholding may be applied for up to the third anniversary of the end of the LTIP award's performance period.
Legacy arrangements: **Long-term incentive (Cycles 5-7)**	To incentivise executives to achieve the company's long-term strategy and enhance shareholder value.	Awards of notional shares are made annually with vesting dependent on the achievement of performance conditions over the three subsequent years. To the extent that performance conditions are met, awards will normally vest in three tranches: 50% in the third financial year, 25% in the fourth financial year and 25% in the fifth financial year. Transitional arrangements were in place for Cycle 5. Notional shares are linked to the NATS all-employee share ownership plan share price and participants receive cash payments in relation to the value at the time of vesting and dividends paid in the period, representing a total shareholder return.	Maximum annual opportunity is capped at 110% of salary. Outstanding awards are set out in the Annual report on remuneration.	The LTIP is designed to reward the achievement of a set of financial and strategic targets for rolling three-year periods.	

Reports from Board Committees

Remuneration Committee report (continued)

Service contracts

Executive Directors

The employment contracts of the Chief Executive and Finance Director provide for 12 months' notice in the event of termination by the company or 6 months' notice from the Executive Director.

Exit payment policy

The Committee is committed to ensuring that it does not pay more than is necessary when executives leave NATS. The table below sets out the key provisions for executive directors under their service contracts and the Incentive Plan rules.

For all leavers, the Committee may also determine to make a payment in reimbursement of a reasonable level of outplacement and legal fees in connection with a settlement agreement.

Non-Executive Directors

Charges for the services of non-executive directors are determined in agreement with the relevant sponsoring body: the DfT in the case of the Partnership directors and the AG in the case of AG appointed directors.

Partnership directors are normally engaged on three-year fixed-term contracts and have letters of appointment from the DfT. The Chairman has a contract which will conclude on 31 August 2020 (unless renewed by agreement).

Exit payment policy table:

Element	Termination policy
Base salary, benefits and pension	Payment will be made up to the termination date in line with relevant contractual notice periods and will not exceed contractual entitlements.
Annual incentive	Unless otherwise provided in the service contract, executives are not entitled to accrued AMPRPS payments unless the individual is determined by the Committee to be a 'good leaver'. A 'good leaver' is any individual who leaves due to death, agreed retirement or for any other reason if the Committee so decides.
Long-term incentive plan-RP2	Unvested payment opportunities will generally lapse at the time of exit. Unpaid vested payment opportunities will remain payable. For individuals determined by the Committee to be a 'good leaver' (defined above), existing payment opportunities shall continue under the plan on existing terms save that the Committee may adjust down the size and/or life of such payment opportunities on such basis as it determines appropriate (for example, on account of assessment of performance conditions over curtailed periods and by reference to time elapsed into normal vesting periods) and retains discretion for early vesting.
Legacy arrangements: LTIP Cycles 5 – 7	Unvested tranches will generally lapse at the time of exit. Vested tranches will remain exercisable for a period of one month following the date of cessation. For individuals determined by the Committee to be a 'good leaver' (defined above), unvested tranches shall continue under the plan on existing terms save that the Committee may adjust down the size and/or life of such tranches on such basis as it determines appropriate (for example, on account of assessment of performance conditions over curtailed periods and by reference to time elapsed into performance periods) and retains discretion for early vesting.

Reports from Board Committees

Remuneration Committee report (continued)

Consideration of employee remuneration arrangements elsewhere in the group

When setting the policy for directors' remuneration, the Committee takes into account the pay and employment conditions elsewhere in the group. The Committee is informed of salary increases for the general employee population and is kept informed of pay negotiations. It takes these into account when determining salary increases for executive directors.

Where relevant, the Committee seeks to align the remuneration policy for executive directors with that of other senior managers. Selected employees are able to share in the success of the group through participation in the AMPRPS. Executive Directors and other members of the Executive management team are eligible for participation in the LTIP.

Consideration of the views of shareholders in setting the Remuneration Policy

The Committee is mindful of the views of the DfT and AG and the Regulator in determining the appropriate levels of remuneration and ensuring that shareholder, Regulator and director interests are aligned.

Illustrations of the application of the Remuneration Policy in 2019/20

A significant proportion of remuneration is linked to performance. The chart below shows the annualised value of pay for the executive directors under NATS' current remuneration policy under different performance scenarios. The following assumptions have been made:

> Minimum (performance below threshold): fixed pay only with no vesting under any of NATS' incentive plans;

> Target: fixed pay plus AMPRPS of 70% of the maximum and vesting of 70% of the annualised maximum under the LTIP-RP2;

> Maximum (performance meets or exceeds maximum): fixed pay plus maximum AMPRPS (CEO: 70%; FD: 55%) and annualised maximum vesting under the LTIP-RP2 (CEO: 110%; FD: 90%).

Fixed pay comprises:

> Salaries – effective 1 April 2019;

> Benefits – amount received in the 2018/19 financial year;

> Pension – 15% of salary contribution for the CEO; 25% of salary contribution for the Finance Director.

The remuneration policy enables executive directors to earn a long term incentive with an annualised value up to a maximum of 110% salary per year. The performance periods for outstanding LTIP plans end in the 2019/20 financial year and will be paid over the three years ending 31 March 2023 (according to the terms of each plan). As a result, actual payments to executive directors during this period may vary from the illustration given above.

Reports from Board Committees

Annual report on remuneration

This part of the directors' remuneration report summarises the emoluments of executive and non-executive directors for the 2019 financial year, including the outcomes of incentive schemes for executive directors, and sets out how the remuneration policy will be applied for the financial year ending 31 March 2020.

Remuneration received by directors for the year ended 31 March 2019 (audited)

The table below sets out the emoluments of the Chairman and directors for the year ended 31 March 2019. It shows all remuneration that was earned by each individual during the year and reports a single total remuneration figure for the year.

		Salary or fees*		Benefits*		Performance related payments*		Long term incentive plan*		Pension Cash Alternative*		Total*	
	Notes	2019 £000	2018 £000	2019 £000	2018 £000	2019 £000	2018 £000	2019 £000	2018 £000	2019 £000	2018 £000	2019 £000	2018 £000
Chairman													
Dr Paul Golby CBE	1	**168**	163	**8**	6	**-**	-	**-**	-	**-**	-	**176**	169
Executive directors													
Martin Rolfe	2, 3, 4	**450**	430	**15**	15	**283**	278	**197**	391	**68**	65	**1,013**	1,179
Nigel Fotherby	2, 3, 4	**305**	294	**17**	30	**148**	145	**118**	233	**69**	63	**657**	765
Non-executive directors													
Maria Antoniou		**44**	44	**-**	-	**-**	-	**-**	-	**-**	-	**44**	44
Richard Keys		**44**	44	**-**	-	**-**	-	**-**	-	**-**	-	**44**	44
Iain McNicoll CB CBE	1	**44**	49	**1**	1	**-**	-	**-**	-	**-**	-	**45**	50
Michael Campbell	5	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
Dr Harry Bush CB	5	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
Gavin Merchant	5	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
Hugh McConnellogue	5	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
Louise Street	5	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
Kathryn Leahy	6	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
Former directors (at 31 March 2019)													
Chris Hope	5	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	-
		1,055	1,024	**41**	52	**431**	423	**315**	624	**137**	128	**1,979**	2,251

* For year, or from date of appointment or up to date of resignation.

1 Benefits paid to the Chairman and non-executive directors represent the reimbursement of travel costs.

2 Martin Rolfe is a member of the defined contribution pension scheme in order to make employee contributions only and sacrificed £10,000 (2018: £10,000) of his salary under the company's salary sacrifice arrangements. These contributions are reported in his salary above. The company did not make any employer contributions. Nigel Fotherby was a member of the defined benefit pension scheme, until he transferred out on 31 March 2017. No pension benefits have accrued since that date.

3 Martin Rolfe and Nigel Fotherby were eligible for the pension cash alternative payment scheme in lieu of employer pension contributions. Under the pension cash alternative payment scheme, Martin Rolfe received £67,500 for the year (2018: £64,500) and Nigel Fotherby received £68,674 for the year (2018: £62,916).

4 Martin Rolfe and Nigel Fotherby participate in the Long Term Incentive Plan. The values for 2019 reflect the estimated value of Cycle 6 at 31 March 2019. The comparative value for 2018, which was previously an estimate for Cycle 5, has been restated to reflect the award paid in August 2018 and an estimate of the balance payable around August 2019.

5 These directors are appointed by The Airline Group (AG) who charged NATS a total of £54,320 per quarter (2018: £51,000 per quarter) for the services of the directors. Chris Hope resigned on 4 October 2018, Hugh McConnellogue was appointed on 4 October 2018 and Louise Street was appointed on 29 November 2018.

6 Kathryn Leahy was appointed by LHRA on 31 May 2018 and received no fees from NATS for her services.

Reports from Board Committees

Annual report on remuneration (continued)

AMPRPS award for the year ended 31 March 2019 (audited)

For 2018/19, the Committee measured performance against each target. Performance resulted in an AMPRPS of 64.8% out of an available 75.0% of the award. Personal performance is based on the NATS Personal Performance Rating System and the ratings for the executive directors ranged between 23.8% and 25.0% (out of an available 25.0%).

	Weighting	Outcome	Threshold	Stretch	% Payable
NATS Group EBITDA (£m - see below)	40%	£250.7m	£238.2m	£297.8m	30.5%
NERL C3 delay (impact score)	10%	17.0	24.0	16.0	9.3%
Minutes of staff and engineering delay at UK airports where NATS provides ATC	5%	2,946	15,540	14,060	5.0%
NERL Operational	20%	Fully achieved	Not applicable	Not applicable	20.0%
Total	**75%**				**64.8%**

EBITDA represents earnings before interest, tax, depreciation, amortisation and goodwill impairment. The measure was neutral to specified variances to budget including for: traffic volumes; IAS 19 pension costs; staff redundancy, relocation and share scheme costs; foreign exchange gains or losses; gains on the disposal of fixed assets; and above the line tax credits.

Vesting of LTIP Cycle 6 for the year under review (audited)

Performance targets were partly achieved (forecast 38% of the maximum achievable for Cycle 6).

	Weighting	Outcome	Threshold (20% vests)	Stretch (100% vests)	% Payable
NERL rate of return (%)	40%	5.76	5.76	6.9	8%
NSL EBITDA (£m - defined above)	20%	18.4	28.3	34.0	0%
Strategic targets	40%	Partially	Not applicable	Not applicable	30%
Total	**100%**				**38%**

50% of this award will vest following the outcome of the next independent valuation of employee shares (around July 2019), after which participants will be able to exercise this portion of the award, 25% will vest around a year later in July 2020 and the remaining 25% will vest around a year later in July 2021 after each respective share valuation.

Reports from Board Committees

Annual report on remuneration (continued)

Outstanding LTIP Cycles (audited)

Under the LTIP, awards of notional shares are made annually with vesting dependent on the achievement of performance conditions over the three subsequent years. Notional shares are linked to the price of employee shares and participants receive cash payments in relation to the total shareholder return at the time of vesting.

	Cycle	Date of award	% of salary awarded	Value of notional shares awarded	Share price at award	Vesting schedule
Martin Rolfe	Cycle 5*	April 2016	110%	£440,000	£4.20	75% July 2018; 25% July 2019
	Cycle 6	April 2016	110%	£440,000	£4.20	50% July 2019; 25% July 2020; 25% July 2021
	Cycle 7	April 2017	110%	£473,000	£3.95	50% July 2020; 25% July 2021; 25% July 2022
Nigel Fotherby	Cycle 5*	April 2016	90%	£262,547	£4.20	75% July 2018; 25% July 2019
	Cycle 6	April 2016	90%	£262,547	£4.20	50% July 2019; 25% July 2020; 25% July 2021
	Cycle 7	April 2017	90%	£264,385	£3.95	50% July 2020; 25% July 2021; 25% July 2022

* Transitional arrangements were in place for the Cycle 5 award, which created a shorter performance window for this Cycle to allow for a delay in implementation while considering scheme design. As disclosed in last years' report the performance targets for Cycle 5 were partly achieved (80% of the maximum). 75% of this award vested at the share valuation in July 2018 and the participants exercised this part of their award then. The total shareholder return value used to determine the award value was £4.57. The remaining 25% will vest around July 2019 at the next valuation date.

LTIP–RP2 awards granted in the year (audited)

The executive directors were both granted awards under the LTIP-RP2 in the year as follows. The award covers the remaining two years of RP2 and it is envisaged that no further awards to these executives will be made during this regulatory reference period.

> Chief Executive: 110% of salary for each of the remaining two years of RP2;

> Finance Director: 90% of salary for each of the remaining two years of RP2.

Any vesting under the plan will translate into three distinct payment opportunities (PO) as follows:

> PO1: 20% at 1 June 2020;

> PO2: 30% at 1 June 2021; and

> PO3: 50% at 1 June 2022.

Reports from Board Committees

Annual report on remuneration (continued)

Statement of directors' interest in shares (audited)

Aggregate emoluments disclosed above do not include any amounts for the value of shares awarded under the company's all-employee share ownership plan. The directors did not sell any shares during the year. NATS' all-employee share ownership plan is designed to give every employee (including executive directors but not non-executive directors) an equal opportunity to acquire a stake in the future success of the company.

The share plan holds 5% of the shares in NATS and is administered by a special trustee company with three directors – one each appointed by HM Government, AG and the Trades Unions (collectively known as the Trustee). Maria Antoniou chairs the Trustee meetings. Details of the shares held by directors during the year are as follows:

Director	Date from which exercisable: Exercisable (brought forward)	Exercisable (granted in year)	29/05/2019 (brought forward)	30/10/2021 (brought forward)	30/10/2023 (granted in year)	Total holding (number of shares)	Value at 31 March 2019 (£3.90 per share) £	Value at 31 March 2018 (£3.40 per share) £
Martin Rolfe	312	200	150	162	200	1,024	**3,994**	2,122
Nigel Fotherby	2,939	200	-	162	200	3,501	**13,654**	10,543
	3,251	**400**	**150**	**324**	**400**	**4,525**	**17,648**	12,665

In August 2017 employees, including executive directors, were offered the option to participate in an award of 200 partnership shares at fair value (being the lower of the share price at the start of the accumulation period of £3.30 and the end of the accumulation period) by deductions from gross salary over a 12 month accumulation period which ended in September 2018. Participants received one free matching share for every partnership share purchased. Both of the executive directors participated in this offer and each received 200 partnership and 200 matching shares in October 2018.

The executive directors received dividends in cash during the financial year based on their shareholdings at the distribution date.

Pay ratio of the Chief Executive to UK employees

Although the requirement to disclose the pay ratio is not a statutory requirement for NATS, the Committee felt that it would be appropriate to include the relevant disclosures on an entirely voluntary basis as it helps to demonstrate the link between the Chief Executive's pay and the remuneration of the wider workforce.

Date	Method of calculation adopted	25th percentile pay ratio (Chief Executive : UK employees)	Median pay ratio (Chief Executive : UK employees)	75th percentile pay ratio (Chief Executive : UK employees)
April 2018	Option B	18:1	13:1	9.3:1

The median, 25th percentile and 75th percentile figures used to determine the above ratios were calculated by reference to option B, which uses the most recent pay information available from the NATS gender pay report data to allow us to make best estimates on the 25/50/75th centile pay data for comparison. The Committee selected this calculation methodology as it was felt to produce the most statistically accurate result. The Committee considers that the median pay ratio disclosed above is consistent with the pay, reward and progression policies for the Company's UK employees taken as a whole.

Reports from Board Committees

Annual report on remuneration (continued)

Five-year history of Chief Executive remuneration

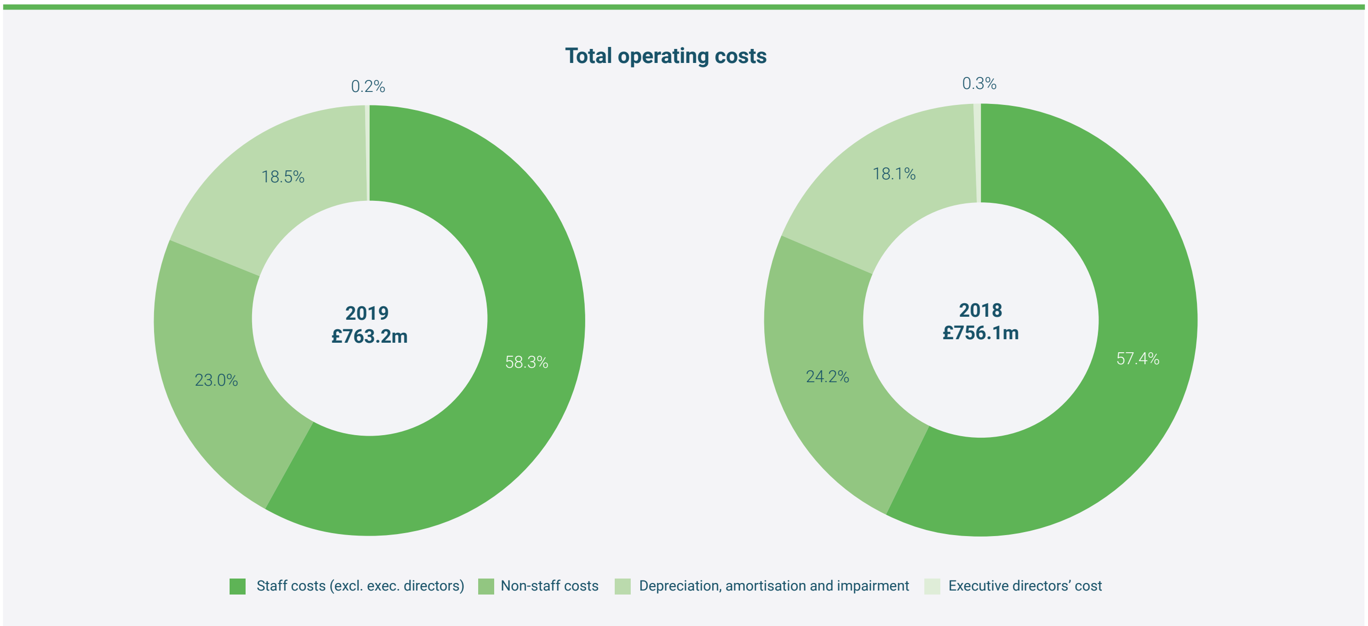
The following table sets out a five-year history of the total remuneration of the Chief Executive:

Financial years	2015	2016	2017	2018	2019
Total remuneration(£'000s): Martin Rolfe	-	748	944	1,179	1,013
Total remuneration(£'000s): Richard Deakin	1,075	444	-	-	-
AMPRPS (% of maximum entitlement): Martin Rolfe	-	91.6%	75.3%	92.5%	89.8%
AMPRPS (% of maximum entitlement): Richard Deakin	60.0%	-	-	-	-
LTIP (% of maximum entitlement): Martin Rolfe	-	Cycle 3 60.0%	Cycle 4 96.3%	Cycle 5 80.0%	Cycle 6 38.0%
LTIP (% of maximum entitlement): Richard Deakin	Cycle 2 60.0%	-	-	-	-

Richard Deakin resigned as a director on 18 May 2015 and left the company on 30 June 2015. His emoluments in the 2016 financial year included a contractual entitlement to six months pay in lieu of notice in addition to his contractual pay from 1 April to 30 June 2015. Martin Rolfe was appointed interim CEO on 18 May 2015, and his remuneration as CEO is shown from this date.

Relative importance of executive directors' remuneration to NATS operating costs

The Committee considers the cost of remuneration in relation to other factors such as total operating expenses. The chart below show how staff costs (excluding executive directors) makes up more that 55% of total operating costs, with executive costs representing around 0.2% of the total in 2019 compared to 0.3% in 2018.



Reports from Board Committees

Annual report on remuneration (continued)

Relative importance of spend on pay

The table below shows the relative importance of total employee remuneration compared with dividends to shareholders, profit before tax and capital expenditure:

	2019 £m	2018 £m	% change
Staff costs (incl. executive directors)	446.4	436.4	+2.3%
Dividends	59.0	57.0	+3.5%
Profit before tax	98.2	132.8	-26.1%
Capital expenditure	156.5	185.6	-15.7%

Implementation of the remuneration policy for the year ending 31 March 2020

Executive directors

Base salaries

	Salary effective 1 April		
	2019	2018	**% increase**
Martin Rolfe	**£463,500**	£450,000	3%
Nigel Fotherby	**£313,769**	£304,630	3%

Pension and benefits

Martin Rolfe receives a pension cash alternative of 15% of his base salary in lieu of employer contributions to the DC scheme. As a former member of the DB scheme, Nigel Fotherby receives a pension cash alternative of 25% of his base salary in lieu of employer contributions to the DB scheme.

Annual incentive scheme

For 2019/20 the maximum potential under the AMPRPS for the executive directors will be unchanged at 70% of salary for the CEO and 55% of salary for the Finance Director. It will be based on the achievement of a mixture of company performance measures and personal performance (based on the NATS Personal Performance Rating System) as follows:

- 40% NATS Group EBITDA (defined above);
- 15% customer focus;
- 20% operational; and
- 25% personal performance.

The performance elements are measured and calculated independently of each other and any payment is made entirely in cash. While the Committee has chosen not to disclose in advance the performance targets for the forthcoming year as these include items which the Committee considers commercially sensitive, retrospective disclosure of the targets and performance against them will be presented in next year's annual report on remuneration.

Reports from Board Committees

Implementation of the remuneration policy for the year ending 31 March 2020 (continued)

Long-term incentive plan – RP2

The objective of the LTIP-RP2 is to align the longer-term aspects of total remuneration with company performance over the course of the remaining two years of RP2 ending on 31 December 2019 for NERL and 31 March 2020 for NATS Services. Awards covering RP2 period were granted in January 2019 and we do not envisage any further awards relating to the RP2 period to be made during the 2019/20 financial year to current executive directors.

The awards comprise a cash payment. Under the LTIP-RP2, awards vest based on performance against the weighted pre-tax return for the performance period as follows:

Weighted return %	Award value
Below 3.3%	0% of grant value
3.3%	20% of grant value
6.5%	100% of grant value
Between 3.3% and 6.5%	Pro rata between 20% and 100% of grant value

Non-Executive Directors

The Company's approach to setting the fees of non-executive directors is by reference to those paid by similar companies. Fees are reviewed annually by the NATS CEO and HR & Corporate Services Director.

Chairman

The Chairman has a contract specifying the remuneration he receives, being £165,120 on an annualised basis. This will be considered by the Committee in January 2020 ahead of potential renewal in August 2020.

Partnership directors

	2019	2018	**% increase**
Base fee	**£36,900**	£36,000	2.5%
Fee for chairs of Board sub-committees *	**£8,200**	£8,000	2.5%

*Remuneration Committee; Audit Committee; Safety Review Committee; Transformation Review Committee

Airline Group (AG) appointed directors

AG Directors receive no remuneration for their services to the NATS Board. However, a payment of £217,280 for 2019/20 (2018/19: £204,000) will be made to AG in lieu of remuneration for these directors. This sum is used to fund the activities of AG.

LHR Airports (LHRA) appointed director

The LHRA Director is employed and remunerated by LHRA.

Maria Antoniou
Chair of the Remuneration Committee

Reports from Board Committees

Safety Review Committee report

The role of the Safety Review Committee

The Safety Review Committee (SRC) supports the Board in discharging its accountabilities for the safe provision of air traffic services and for security arrangements across NATS. It meets quarterly as a formal committee and receives separate in-depth briefings as required. Its remit includes the requirements to:

- monitor and review the effectiveness of the safety arrangements in place in the group;
- review the delivery of the group's safety objectives through its operations, structures and processes;
- review the group's safety performance;
- monitor the implementation of safety enhancement programmes; and
- make recommendations to the Board for improving the group's safety and security management systems (at the start of the year this included cyber security but, with the formation of the NATS executive Cyber Security Governance Group, responsibility for any more detailed examination of cyber aspects has recently been transferred to the Transformation Review Committee).

The Committee is chaired by Iain McNicoll and there were four other non-executive directors as members in 2019: Chris Hope, Derek Provan, Kathryn Leahy and Hugh McConnellogue. In addition, the NATS Chair regularly attends the Committee. Derek Provan stepped down in February 2018 and was replaced by Kathryn Leahy in May 2018. Chris Hope stepped down in October 2018 and was replaced in the same month by Hugh McConnellogue.

During the year, the Committee took advice from the following special advisors, who were invited to each meeting by standing invitation:

- George Bearfield, Director of Health and Safety, Rock Rail and Professor of Railway System Safety at the University of Huddersfield; and
- Captain John Monks, Head of Aviation Safety, British Airways.

At least two of the following four members of NATS Executive team are required to attend routine meetings: CEO, Safety Director, Operations Director and Technical Services Director.

Director Swanwick, Director Prestwick, Director Airports, Director Operations & Commercial Safety, and Director Safety & Assurance Technical Services are invited to attend routine meetings, but may not be required. Attendance is coordinated through the executive team.

The Head of Facilities Management formally reports to the Committee on the security arrangements in NATS twice per annum. In addition, FerroNATS and Aquila provide an update on their safety performance once per annum.

The CAA's Head of Airspace, ATM and Aerodromes has an annual invitation to meet and brief the Committee. These briefings provide the Committee and the regulator with the opportunity to review progress on joint areas of work and priorities. This year the conversations with the regulator have focused on airspace change, electronic conspicuity, airspace infringements and drones. The Committee acknowledges that progress has been made in these areas, agrees that more needs to be done, and fully supports the effort required in the coming years.

As noted, in addition to the standing items on the Committee's quarterly agenda, the Committee may also request specific briefings. Subject briefings may take place outside the meetings in dedicated workshop sessions. This year the Committee has received specific briefings from subject matter experts on the safety assurance of deploying the SESAR programme, how NATS will meet the performance challenges for RP3, developing the NATS safety strategy and drone safety risk.

A workshop for the SRC members and the Board took place during the summer. This and other activities carried out during the year are described below.

Safety Governance and Oversight of the NATS Operations

> Safety Performance

For RP2 the EU/CAA set, for all European ANSPs, a target to achieve a level of Safety Management System (SMS) maturity. NATS did not believe that this target alone would drive our expectations for safety behaviours and safety performance. Therefore, appropriately challenging internal targets were set to ensure a continuous improvement safety culture. NATS has continued to meet the EU/CAA RP2 target during the financial year. Notwithstanding the higher than anticipated increase in air traffic over RP2, our safety performance has also improved, bringing us close to or even bettering the NATS internal targets. Some of that improvement is due to the introduction of electronic flight strips in TC: a well-managed project that has given confidence in NATS' ability to introduce major technological change safely and efficiently. There has also, crucially, been a clear focus on incremental improvement, in every aspect of our business. These twin factors have provided reassurance that, even before the full technological and airspace changes are achieved during and beyond RP3, NATS is on track to maintain or improve its high level of safety in a period of rapid traffic growth.

The Committee has compared NATS performance with international peers (the Civil Air Navigation Services Organisation, CANSO, has been instrumental in increasing transparency in safety statistics) and has been reassured that NATS is at the forefront of European and North American safety practice and outcomes. However, there is no complacency and effective efforts have been made to share and learn from best practice.

Reports from Board Committees

Safety Review Committee report (continued)

During the planning for RP3 the Committee reviewed the internal safety performance targets. The Board agreed a recommendation to widen the scope from a single measure, currently the NATS RAT score. The Committee and the Board therefore now receive a safety performance scorecard that sets out a range of metrics, including: the number of category A and B Airprox events; the number of losses of separation minima; the number of NATS' RAT A and B events; the NATS RAT score per 100,000 movements, and the overall RAT score per 100,000 movements for en route and airports. This gives a more comprehensive view of safety risk. The CAA has been consulted on new internal targets based on these metrics and is supportive.

> Meeting the Performance Challenges for Reference Period 3

The Committee has reviewed the predictive methodologies used by NATS to estimate future performance. The methods take into account how strategic and tactical safety improvements, as well as traffic predictions, are likely to influence the ability to reach the safety targets set for RP3. Central to this innovative methodology is the use of specialist operational knowledge to assess the benefits associated with the NATS transformation programme.

> Board Safety Workshop

A safety workshop in July provided an opportunity for the Board and SRC members to engage directly with representatives from across the business and operational teams on the topic of safety performance and the relationship between safety and service. The session gave insight into enhancing performance in the high-intensity environment of TC and an understanding of how the network is proactively managed to ensure a cycle of continuous improvement in terms of both safety and efficiency.

> General Aviation Infringements

NATS continues to support the CAA's implementation of the five point plan to reduce airspace infringements. Promoting the use of technology is critical to the plan and NATS is actively engaged in influencing the national adoption of electronic conspicuity technology. NATS also continues to work with local airspace infringement teams and with the CAA aircrew inspectors and enforcement team on pursuing infringing pilots.

> Managing Drone Safety Risk

The number of drone Airprox and infringements of controlled airspace has continued to increase year-on-year. Safety measures to help mitigate the risk from drones have therefore been ramped up, including education campaigns, online training for drone users and development of the UK Drone Assist safety application, for which we now have over 100,000 registered users. There has also been a focused, high-priority effort on the development of Unmanned Traffic Management (UTM) solutions that can safely integrate with existing ATM operations. During the year NATS has engaged with industry, UK and international regulators and wider stakeholders to promote the safe development of the drone and unmanned traffic market. Towards the end of the year Operation Zenith proved to be a highly successful demonstration, showing how drones can be flown safely alongside manned aircraft in controlled airspace. In the coming year the Committee will maintain its oversight of NATS' strategic direction for the development of UTM, with the aim of ensuring that during this period of rapid industry and technological development the protection of existing commercial and General Aviation users is maintained.

> NATS Safety Strategy

This year has seen a refresh of the NATS Safety Strategy, which the SRC has input to and fully supported. However, the four themes of the strategy - people create safety, safety intelligence, tailored and proportionate, and challenging and learning - remain unchanged, not least because these themes have been widely adopted internationally and are becoming the de facto industry standard. The purpose of the refresh was focused on making the safety strategy more tangible, and directly connected to business actions, through a set of safety capabilities. These safety capabilities form the foundation for a programme of strategic work, which will provide the means to identify new risks and opportunities, and which is closely aligned with NATS' work on its long term strategy and vision.

Reports from Board Committees

Safety Review Committee report (continued)

Physical Security

NATS' Corporate Security department provides assurance reports to the SRC, covering all aspects of physical security, internal and external threats, vetting, travel security, data protection and crisis management (incorporating business continuity). The principal focus for the Committee in the past year has been:

> **Independent Physical Penetration Testing:** Independent testing was conducted at Prestwick, Swanwick and Whiteley. Tests involved attempted covert entry, social engineering and direct attacks. Overall the uniformed security teams performed very well. Where potential weaknesses were identified, remedial actions/training have been undertaken.

> **Independent Audits – Physical Security & Incident Management:** Corporate Security has been subject to independent audits by both DNV and PwC (twice). The audits have covered Incident Management, Physical Security and the Security/Incident Management aspects associated with Operational Contingency. No major findings were identified, and a number of laudatory comments were made.

> **Vetting:** National security vetting within NATS has continued. There has been a notable increase in the average time taken to clear individuals (29 days in 2017 to 38 days in 2018). This was attributable to a number of factors, including the UK Security Vetting prioritising vetting activities associated with Brexit. Another major factor was a delay in candidates providing appropriate reference sources. Planned process improvements include the outsourcing of reference checking to a specialist third party supplier.

> **Centre for the Protection of National Infrastructure (CPNI):** Close liaison has been maintained with CPNI and they have been extremely supportive in discussions with both the Scottish Government and Police Scotland, as we mirror in Prestwick the security response work already undertaken in Swanwick and Whiteley.

> **General Data Protection Regulations (GDPR):** Following the introduction of the GDPR in May 2018, work has continued to ensure continued compliance. A formal Steering Group is now well established, and a programme of audits scheduled. Work has also been focused on ensuring employees have a good understanding of their individual rights under the new legislation. Since June 2018, NATS has received over thirty Subject Access requests, a number of which have been very complex and time consuming. Work is now in progress to recruit a dedicated GDPR professional to build on the work done to date.

> **Insider Threat:** Work aimed at mitigating the potential risk of an insider threat, including early recognition of counter-productive work behaviours, has continued. A CPNI generated Personnel Security Maturity Model has been completed for NATS. The initial assessment was very favourable (a detailed analysis by CPNI is awaited). A working group has been formed, consisting of representatives from key business areas (including Trades Unions representation) to drive the awareness and education aspects forward across the business, including all overseas entities.

> **Incident Management:** Work has continued to ensure that NATS is fully prepared should it be necessary to invoke our incident management procedures. Exercising at all levels (Gold, Silver and Bronze) has continued with diverse scenarios including a mid-air collision, cyber incidents, operational outages and weather events. Initial and refresher training has continued together with a detailed review of all associated plans, processes and documentation.

Iain McNicoll, CB CBE
Chair of the Safety Review Committee

Reports from Board Committees

Transformation Review Committee report

The role of the Transformation Review Committee

The Transformation Review Committee (TRC) (previously the Technical Review Committee) is a sub-committee of the Board established in 2008 to improve oversight of NATS' technology programmes and to provide the Board with increased assurance on the quality of the strategy, planning and delivery of relevant technology programmes. The Committee has increasingly recognized that delivering the technology programmes requires a broader transformation including people, organisation, procedure and operational changes. For this reason, during the year the Board approved a change to the terms of reference of the Committee, widening its remit to transformation, and changing its name.

The role of the TRC is to support the Board in monitoring the planning and delivery of effective business transformation within NATS. This includes, but is not limited to, development of plans and the provision of adequate and cost-effective technical systems and services to support NATS' operations together with the people and procedure changes required to realise the operational and commercial benefits. Its remit includes:

- ensuring that business objectives are clearly reflected in the requirements for technology and associated transformation programmes;
- reviewing the technical and transformation strategies proposed to meet the agreed requirements, with appropriate regard to other (European and worldwide) initiatives and developments, and the likely impact on service provided to customers;
- reviewing the effectiveness of the operations, programmes, structures and processes employed in delivering the group's technical objectives; and
- making recommendations to the Board on means for improving the group's technical systems, their implementation through programmes and their performance.

The Committee is chaired by Mike Campbell with two other non-executive directors as members: Iain McNicoll and Richard Keys. The NATS Chair, Paul Golby, also attends. The following are invited to attend each meeting by standing invitation:

- CEO;
- Technical Services Director;
- NATS' Operations Director*;
- HR & Corporate Services Director*;
- Director Service Design and Transition;
- Director Service Strategy and Transformation;
- Director Strategic Assurance; and
- Chief Engineer.

* Added in recognition of the wider transformation remit.

Main activities of the Committee during the year

As part of its governance and oversight of the NATS operations, the Committee receives regular in-depth reports and briefings on the existing and planned investment programmes, and the technical and organisational risk profiles. The following issues have received significant focus by the Committee.

Deploying SESAR

SESAR is the European wide standard for future systems, designed to produce a step change in safety, performance, and efficiency. The main challenge in the years ahead is the introduction of SESAR compliant systems which NATS will achieve through its Deploying SESAR Programme. Each of the main programme components represents a significant change to the operation and its systems. The size and complexity of the composite programme brings an additional scale of risk to the business as a whole, which the Committee is committed to review on a continuing basis, in order to provide the necessary levels of reassurance to the Board.

At the heart of the programme is iTEC. This is the new generation of core flight data processing systems which will underpin all NATS future operations and will operate on a common modern architecture to support all of UK airspace.

Following significant progress in previous years in defining requirements and in developing delivery plans, this year has focused on a major period of delivery, including completing Factory Acceptance Testing (FAT) and Site Acceptance Testing (SAT) of many aspects of the programme. During this time the TRC has maintained its oversight of all aspects of the programme including investment governance, programme delivery and lessons learned. Additionally, during the last year the Committee has increased its focus on the business transformation approach that will be implemented with the system changes to ensure that the benefits of the programme can be fully realised. This included improved approaches to transition and training to assist implementation and new methods of working that will be in place once the transformation is complete. Key elements of the programme delivered this year are described below:

a. Deployment Point Flight Strips

This deployment point moved London TC from paper flight strips onto electronic flight strips using the Extended Computer Display System (ExCDS) providing safety and efficiency benefits. The ExCDS product has been integrated into our existing operational systems as a stepping stone towards deployment of iTEC in lower airspace. During 2017 an extended period of configuration and evaluation took place to ensure that it could operate effectively leading to a phased transition which took place from November 2017 to June 2018. NATS worked closely with airlines to minimise impact during transition and this process worked very effectively to date receiving positive feedback from customers. The TRC reviewed both lessons learned from the programme that will support future developments and benefits delivered which are now forecast to be better than originally planned. The ExCDS project was awarded Project of the Year: Transformation 2018 and the Overall Project of the Year award at this year's APM Project Management awards.

Reports from Board Committees

Transformation Review Committee report (continued)

b. Deployment Point Voice

This deployment point will introduce a modern voice over IP communications system initially into Area Control, together with a higher performance backup system. This will reduce the risk associated with the existing system which is nearing end of life and provides improved resilience and increased flexibility to operations. During the year, the initial SAT was completed for the second system while detailed development continued for the main system leading towards FAT which took place in late 2018. Delivery of the new voice solution is a necessary pre-cursor to Deployment Point En Route.

c. Deployment Point En Route

This deployment point will transition Upper Airspace at both Swanwick and Prestwick onto a common ATM system based on iTEC and advanced tools called FourSight. For Swanwick this will move Area Control and military into a new common operations room based on the new systems, while for Prestwick this will mean an upgrade to the latest version of iTEC supported by FourSight. During 2018 we saw a number of significant milestones achieved in preparation for this deployment point, including completion of the new combined operations room at Swanwick[14] and validation completed on a key build of iTEC. Also during 2018 we experienced delays to delivery of our core infrastructure which is the computing and storage capability required to support our new operations. While we worked hard with our supplier to first avoid and then mitigate this delay it will have an impact on the deployment dates for the programme. We envisage we will be able to commence early transition activities in April 2020 as planned but the programme will now deliver a system fully ready for use in autumn 2020 with full operation service achieved for Prestwick in November 2020. The detailed transition timescale and approach will be developed and agreed between customers and operations building on experience gained through ExCDS deployment.

Airspace Change

The second key element of NATS' modernisation programme is airspace change, which will deliver significant customer benefits by redesigning airspace routes and procedures whilst at the same time making use of the latest airborne and ground-based technology. However, a number of developments in the industry environment gave rise to challenges in the delivery of the planned airspace programme during RP2, particularly in lower level airspace. These included:

> Unprecedented public reaction to changes in noise patterns;

> Planned public consultation on both the Airspace Change Process and UK Government policies including the treatment of noise;

> Government decision timeline on runways in the South East; and

> Negative public reaction linked to uncertainty about runway expansion, severely limiting airports' willingness to support LAMP developments.

As a result, NATS engaged with key stakeholders around the impact of these challenges and subsequently consulted customers around revisions to the planned delivery of major airspace changes. The new plan focuses on the inclusion of mainly higher level airspace changes during RP2 with the necessary lower level airspace changes now included in our plan for RP3.

The TRC continues to maintain high level oversight of the airspace programme, particularly in light of the revised Airspace Change Process now in place and the continuing challenge to delivering lower level airspace change. Notably, several aspects of NATS' planned programme have been delayed by decisions at airports relating to the consultation process, including the Prestwick Lower Airspace Systemisation project and the plan for Independent Parallel Approaches at Heathrow.

Key aspects of the revised airspace programme delivered this year have included airspace changes in both Swanwick and Prestwick airspace as well as enhancements to the Arrival Management capability and Time-Based Separation. All have delivered tangible benefits to customers and are the prelude to further enhancements during RP2 and RP3.

In preparation for planned changes during RP3 NATS continued to highlight the need for an industry-wide approach and has supported DfT by producing a Feasibility Report on how to modernise airspace to meet anticipated airport growth. Subsequently the CAA/DfT has asked NATS to establish an ACOG which will create and maintain a single delivery plan in support of the UK Airspace Modernisation Strategy.

Resilience

Resilience of operational systems results from a combination of reliability and powers of recovery. Over many years NATS has been successful in implementing highly resilient systems, necessary to the fulfilment of its mission. The Committee regularly reviews the approach taken to deliver and maintain resilience with the objective to balance the levels of investment against realistic expectations of resilience in a complex systems environment. This year the Committee has conducted a review of the NERL Resilience Plan (required under the terms of the NERL Licence) as well as continuing to look at the resilience of new systems being developed under the DSESAR Programme.

Mike Campbell
Chair of the Transformation Review Committee

Report of the directors

The directors present their annual report on the affairs of the group, together with the financial statements and the auditor's report for the year ended 31 March 2019.

The Governance report is set out on pages 31 to 73 and forms part of this report.

A review of the group's key business developments in the year and an indication of likely future developments are included within the Strategic report.

Information about the use of financial instruments by the group is given in note 21 to the financial statements.

Dividends

The company paid two interim dividends of £29.5m each (20.62 pence per share) during the year, totalling £59.0m (2018: £57.0m). The Board recommends a final dividend for the year of £nil (2018: £nil).

In May 2019, the Board approved and the company paid an interim dividend for the year ending 31 March 2020 of 20.97 pence per share, totalling £30.0m.

Directors and their interests

The directors of the company at the date of this report are set out on pages 33 to 37. Details of changes in the Board during the year and to the date of this report are set out in the Governance report on page 38.

The interests of the directors in the share capital of the parent company, through their participation in the All-Employee Share Ownership Plan, are set out on page 57.

None of the directors have, or have had, a material interest in any contract of significance in relation to the group's business.

Directors' indemnities

The company has made qualifying third party indemnity provisions for the benefit of its directors which were made during the year and remain in force at the date of this report.

Employees

The group continues its commitment to the involvement of employees in the decision-making process through effective leadership at all levels in the organisation. Employees are frequently involved through direct discussions with their managers, cross company working groups and local committees. Regular employee consultations cover a range of topics affecting the workforce, including such matters as corporate performance and business plans. The NATS CEO maintains high visibility with employees through visits to NATS sites where he talks to them about current business issues and takes questions in an open and straightforward manner. Also, employees' views are represented through an open dialogue with Prospect and the Public and Commercial Services Union (PCS), the recognised unions on all matters affecting employees. This has been enhanced through the Working Together programme aimed at working towards partnership principles as the basis for our relationship with the Trades Unions. Formal arrangements for consultation with employees exist through a local and company-wide framework agreed with the Trades Unions.

It is the group's policy to establish and maintain competitive pay rates which take full account of the different pay markets relevant to its operations. In return, employees are expected to perform to the required standards and to provide the quality and efficiency of service expected by its customers.

The group is an equal opportunities employer. Its policy is designed to ensure that no applicant or employee receives less favourable treatment than any other on the grounds of sex, age, disability, marital status, colour, race, ethnic origin, religious belief or sexual orientation, nor is disadvantaged by conditions or requirements applied to any post which cannot be shown to be fair and reasonable under relevant employment law or codes of practice.

The group is also committed to improving employment opportunities for disabled people. The group will continue to promote policies and practices which provide suitable training and retraining, and development opportunities for disabled employees, including any individuals who become disabled, bearing in mind their particular aptitudes and abilities and the need to maintain a safe working environment.

The group strives to maintain the health, safety and wellbeing of employees through an appropriate culture, well-defined processes and regular monitoring. Line managers are accountable for ensuring health and safety is maintained and responsibility for ensuring compliance with both legal requirements and company policy rests with the Safety Director.

Going concern, viability statement and subsequent events

The directors' assessment of going concern and their viability statement are set out on page 15. Subsequent events are disclosed in note 36 to the financial statements.

Report of the directors

Directors' responsibilities

The directors are responsible for preparing the annual report and the financial statements in accordance with applicable laws and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have elected to prepare the financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the EU. Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the group and of the parent company, and of the profit or loss of the group and the parent company for that period. In preparing these financial statements, International Accounting Standard 1 requires that directors:

- properly select and apply accounting policies;
- present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information;
- provide additional disclosures when compliance with the specific requirements in IFRSs are insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity's financial position and financial performance; and
- make an assessment of the group's ability to continue as a going concern.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the group's transactions and disclose with reasonable accuracy at any time the financial position of the group and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Each person who is a director at the date of approval of these financial statements confirms that:

- so far as the director is aware, there is no relevant audit information of which the group's auditors are unaware; and
- the director has taken all the steps that he/she ought to have taken as director in order to make himself/herself aware of any relevant audit information and to establish that the group's auditors are aware of that information.

This information is given and should be interpreted in accordance with the provisions of s418 of the Companies Act 2006.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the group's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

We confirm that to the best of our knowledge:

- the financial statements, prepared in accordance with IFRS as adopted by the EU, give a true and fair view of the assets, liabilities, financial position and profit of the group;
- the Strategic report includes a fair review of the development and performance of the business and the position of the group, together with a description of the principal risks and uncertainties that it faces; and
- the annual report and financial statements, taken as a whole, are fair, balanced and understandable and provide the information necessary for shareholders to assess the group's position and performance, business model and strategy.

Auditor

A resolution to re-appoint BDO LLP as statutory auditor will be proposed at the Annual General Meeting.

Approved by the Board of directors and signed by order of the Board by:

Richard Churchill-Coleman
Secretary

27 June 2019

Registered office
4000 Parkway, Whiteley, Fareham, Hampshire PO15 7FL

Registered in England and Wales
Company No. 04138218

Independent auditor's report to the members of NATS Holdings Limited

Opinion

We have audited the financial statements of NATS Holdings Limited (the 'parent company') and its subsidiaries (the 'group') for the year ended 31 March 2019 which comprise the consolidated income statement, the consolidated statement of comprehensive income, the consolidated and company balance sheets, the consolidated and company statement of changes in equity, the consolidated cash flow statement and the notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union and, as regards the parent company financial statements, as applied in accordance with the provisions of the Companies Act 2006.

In our opinion:

> the financial statements give a true and fair view of the state of the group's and of the parent company's affairs as at 31 March 2019 and of the group's profit for the year then ended;

> the group financial statements have been properly prepared in accordance with IFRSs as adopted by the European Union;

> the parent company financial statements have been properly prepared in accordance with IFRSs as adopted by the European Union and as applied in accordance with the provisions of the Companies Act 2006; and

> the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Separate opinion in relation to IFRSs as issued by the IASB

As explained in note 2 to the consolidated financial statements, the group, in addition to preparing consolidated financial statements in accordance with IFRSs as adopted by the European Union, has also applied IFRSs as issued by the International Accounting Standards Board (IASB).

In our opinion, the group financial statements give a true and fair view of the consolidated financial position of the group as at 31 March 2019 and of its consolidated financial performance and consolidated cash flows for the year then ended in accordance with IFRSs as issued by the IASB.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the group and the parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to principal risks, going concern and viability statement

We have nothing to report in respect of the following information in the annual report, in relation to which the ISAs (UK) require us to report to you whether we have anything material to add or draw attention to:

> the disclosures in the annual report set out on page 22 that describe the principal risks and explain how they are being managed or mitigated;

> the directors' confirmation set out on page 15 in the annual report that they have carried out a robust assessment of the principal risks facing the group, including those that would threaten its business model, future performance, solvency or liquidity;

> the directors' statement set out on page 15 in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting in preparing the financial statements and the directors' identification of any material uncertainties to the group and the parent company's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;

> whether the directors' statement relating to going concern is materially inconsistent with our knowledge obtained in the audit; or

> the directors' explanation set out on page 15 in the annual report as to how they have assessed the prospects of the group, over what period they have done so and why they consider that period to be appropriate, and their statement as to whether they have a reasonable expectation that the group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified, including those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team.

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Independent auditor's report to the members of NATS Holdings Limited

Key audit matter	How we addressed the key audit matter in the audit
Revenue recognition: IFRS 15 IFRS 15 is applicable for the first time in the financial statements to 31 March 2019 and includes detailed changes to the principles of revenue recognition and will require changes to disclosures and additional notes on the impact of transition to the new standard. The group has applied transitional adjustments as described in note 35 and has chosen not to restate comparatives. The main changes are detailed in note 35. Recoverability of the regulatory assets As detailed on page 89, in determining airspace revenues recognised, management makes key judgements about material revenue allowances that are recoverable or payable in subsequent accounting periods. Long-term contracts As detailed on page 89 the group has significant long-term contracts which include material assumptions on margin and percentage completion.	We reviewed each significant revenue stream to ensure that we concur with the accounting policies applied and that it is accounted for in accordance with IFRS 15 including those relating to the transition to the new standard. We have reviewed and tested each of the revenue streams to ensure that the revenue is being recognised in line with the group policy and, in the case of Airspace, to ensure that it is in line with the provisions of the air traffic services licence, the regulatory charging mechanisms for the reference period and the RP2 settlement. We have specifically considered and challenged management over the amounts recoverable or payable as revenue allowances under the EC Charging Regulation. We have also reviewed individual judgements to management calculations and tested against contract documentation, performance to-date and any subsequently agreed modifications including the margin assumptions on significant long-term projects, and contract accounting judgements in relation to percentage of completion and margin.
Pension scheme actuarial valuation: The NATS Holdings Limited group operates a defined benefit pension scheme, which is accounted for in accordance with IAS 19: *Employee Benefits* which requires complex calculations and disclosures. As detailed on page 89 and in note 31, management makes a number of judgements and actuarial assumptions, with assistance from their actuaries, which have a significant impact on the valuation of pension scheme assets and liabilities shown in the balance sheet and hence on the amounts shown in the consolidated income statement and the consolidated statement of comprehensive income.	We have reviewed the pension scheme data and accounting treatment and disclosures and considered them in light of the pension assumptions made. We have worked with our pension specialists to assess the validity of assumptions applied, in particular discount and inflation rates and mortality assumptions and performed a detailed review of the scheme actuary's annual valuation report. In addition we have performed audit procedures in order to substantiate the value of the scheme assets. This included selecting a sample of investments held at the balance sheet date and comparing their value to third party asset confirmations and statements.

Independent auditor's report to the members of NATS Holdings Limited

Key audit matter	How we addressed the key audit matter in the audit
Carrying value of goodwill:	
In accordance with the group's accounting policies, management has undertaken an impairment review of the carrying value of goodwill by comparison with the recoverable amount. This has resulted in no impairment in the year. In calculating an appropriate valuation for the recoverable amount of the regulatory business, the premium applied to the regulatory asset base (RAB) continues to be a key judgement.	We have reviewed and tested management's current assessment of the carrying amount of goodwill. We have reviewed, with the assistance of our own specialists, the overall methodology, which in accordance with IAS 36 this year is based on fair value less costs of disposal, as it is higher than value in use. We have also reviewed benchmarking available to support the RAB premium applied in determining the fair value less costs of disposal.
Capital investment programme:	
As detailed on page 89 and notes 14 and 15, the group invests significant sums in the sustainment and development of air traffic control infrastructure. A substantial proportion of the costs incurred are the amounts charged by staff employed by the group which are capitalised to specific projects. A key element is that either time is not appropriately capitalised or the quantum of the labour rate used could be misstated. In addition management makes judgements around the useful economic lives of currently deployed systems, assesses indicators of impairment and considers feasibility.	We have worked with the project managers outside of the group finance team in order to gain an understanding of the capital projects, and assessed them for impairment factors. We have tested a sample of capitalised projects which included reviewing the appropriateness of the labour rates being used and the amount of labour time being capitalised per project. By reviewing useful economic lives to prior years and working with project managers to assess performance to date and expected out-turn we have assessed management's judgement of the useful economic lives of currently deployed systems to ensure that the position taken is reasonable. We have considered management's assessment of any indicators of impairment for a sample of current capital projects carried forward as either tangible or intangible fixed assets. In addition we have tested a sample of externally generated assets to test existence and that costs are materially accurate.

Independent auditor's report to the members of NATS Holdings Limited

Our application of materiality

We apply the concept of materiality both in planning and performing our audit, and in evaluating the effect of misstatements. We consider materiality to be the magnitude by which misstatements, including omissions, could influence the economic decisions of reasonable users that are taken on the basis of the financial statements. Importantly, misstatements below these levels will not necessarily be evaluated as immaterial as we also take account of the nature of identified misstatements, and the particular circumstances of their occurrence, when evaluating their effect on the financial statements as a whole.

The materiality we applied to the group equates to 5% of profit before tax (2018: 5% of profit before tax). We consider profit before tax to be the most significant determinant of the group's financial performance used by shareholders. The materiality we applied to the parent company equates to 2% of total assets (2018: 2% of total assets).

Whilst materiality for the financial statements as a whole was £4.7 million (2018: £6.0 million), each significant component of the group was audited to a lower materiality of between £0.8 million and £4.2 million.

Performance materiality is set at a level lower than materiality, which was 75% of group materiality totalling £3.5 million. In setting the level of performance materiality, we considered a number of factors including the expected total value of known and likely misstatements (based on past experience and other factors) and management's attitude towards proposed adjustments. Performance materiality is set to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements in the financial statements exceeds materiality for the financial statements as a whole.

We agreed with the Audit Committee that we would report to them all individual audit differences identified during the course of our audit above clearly trivial, which for significant components was in excess of £94,000 (2018: £55,000). We also agreed to report differences below that threshold that, in our view, warranted reporting on qualitative grounds.

An overview of the scope of our audit

Our group audit was scoped by obtaining an understanding of the group and its environment, including the group's system of internal control, and assessing the risks of material misstatement in the financial statements at the group level.

We carried out full scope audits on all significant components, being NATS Holdings Limited, NATS Limited, NATS (En Route) plc, NATS (Services) Limited, which covered 99% of the group's revenue and 99% of the group's profit before tax. We performed both audit procedures and limited procedures on the remaining components. Together with the parent company, which was also subject to a full scope audit, these represent the four significant components of the group.

There has been no significant change in the group's operations, therefore the assessed risks of material misstatement described above, which are those that had the greatest effect on the audit strategy, the allocation of resources in the audit and directing the efforts of the audit team, are the same risks as in the prior year.

Audits of the four components were performed at a materiality level calculated by reference to a proportion of group materiality appropriate to the relative scale of the business concerned. The audits of each of these components were principally performed in the UK at both the Scottish Accounting Unit, Edinburgh, and Corporate & Technical Centre, Whiteley. Each of the audits was conducted by the BDO LLP group audit team using a team with experience of auditing the business before, and large corporate entities.

The remaining components of the group were considered non-significant and these components were principally subject to analytical review procedures, together with audit procedures being completed on those components requiring a statutory audit opinion.

We also gained an understanding of the legal and regulatory framework applicable to the group and the industry in which it operates, and considered the risk of acts by the group that were contrary to applicable laws and regulations, including fraud. We designed audit procedures at group and significant component level to respond to the risk, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion. We focussed on laws and regulations that could give rise to a material misstatement in the financial statements, including, but not limited to the Companies Act 2006 and tax legislation.

Our tests included agreeing the financial statement disclosures to underlying supporting documentation, enquiries with management and enquiries of those charged with governance. There are inherent limitations in the audit procedures described above and, the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we would become aware of it. We did not identify any key audit matters relating to irregularities, including fraud. As in all of our audits, we also addressed the risk of management override of internal controls, including testing journals and evaluating whether there was evidence of bias by the directors that represented a risk of material misstatement due to fraud.

Opinion on other matters

In our opinion the part of the directors' remuneration report on pages 54 to 57 to be audited has been properly prepared in accordance with the Companies Act 2006 that would apply if the company was a listed company.

Independent auditor's report to the members of NATS Holdings Limited

Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

In this context, we also have nothing to report in regard to our responsibility to specifically address the following items in the other information and to report as uncorrected material misstatements of the other information where we conclude that those items meet the following conditions:

> **Fair, balanced and understandable** set out on page 67, the statement given by the directors that they consider the annual report and financial statements taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the group's position, performance, business model and strategy, is materially inconsistent with our knowledge obtained in the audit; or

> **Audit Committee reporting** set out on page 43, the section describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee; or

> **Directors' statement of compliance with the UK Corporate Governance Code** set out on page 41, the parts of the directors' statement relating to the company's compliance with the UK Corporate Governance Code do not properly disclose a departure from a relevant provision of the UK Corporate Governance Code.

Opinions on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

> the information given in the Strategic report and the Report of the directors' for the financial year for which the financial statements are prepared is consistent with the financial statements; and

> the Strategic report and the Report of the directors' have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic report or Report of the directors'.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

> adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or

> the parent company financial statements are not in agreement with the accounting records and returns; or

> certain disclosures of directors' remuneration specified by law are not made; or

> we have not received all the information and explanations we require for our audit.

Responsibilities of directors

As explained more fully in the directors' responsibilities statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group's and the parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Independent auditor's report to the members of NATS Holdings Limited

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Other matters

Following the recommendation of the Audit Committee in 2014, we were appointed to audit the financial statements for the year ended 31 March 2015 and subsequent financial periods. The period of total uninterrupted engagement is five years, covering the years ended 31 March 2015 to 31 March 2019.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the parent company and we remain independent of the group and the parent company in conducting our audit.

Our audit opinion is consistent with the additional report to the Audit Committee.

Use of our report

This report is made solely to the parent company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the parent company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the parent company and the parent company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Malcolm Thixton
(senior statutory auditor)

For and on behalf of BDO LLP, statutory auditor
Southampton
United Kingdom

27 June 2019

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

Annual Report and Accounts 2019

Financial statements

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Consolidated income statement

for the year ended 31 March

	Notes	2019 £m	2018* £m
Revenue	4	**885.7**	913.1
Staff costs	7	**(446.4)**	(436.4)
Services and materials		**(71.3)**	(90.1)
Repairs and maintenance		**(48.5)**	(40.7)
Depreciation, amortisation and impairment	6	**(141.7)**	(137.7)
Profit on disposal of non-current assets		**2.1**	-
Other operating charges		**(64.1)**	(57.4)
Other operating income		**6.1**	5.5
Deferred grants released	6	**0.6**	0.7
Net operating costs		**(763.2)**	(756.1)
Operating profit	6	**122.5**	157.0
Share of results of associate and joint ventures	33	**1.6**	(0.9)
Investment income	8	**4.4**	2.0
Fair value movement on financial instruments	9	**(4.9)**	1.3
Finance costs	10	**(25.4)**	(26.6)
Profit before tax		**98.2**	132.8
Tax	11	**(15.9)**	(20.1)
Profit for the year attributable to equity shareholders		**82.3**	112.7

*The group has chosen not to restate comparatives on adoption of IFRS 9 and IFRS 15. See note 35.

Consolidated statement of comprehensive income

for the year ended 31 March

	Notes	2019 £m	2018* £m
Profit for the year after tax		**82.3**	112.7
Items that will not be reclassified subsequently to profit and loss:			
Actuarial (loss)/gain on defined benefit pension scheme	31	**(166.4)**	449.9
Deferred tax relating to items that will not be reclassified subsequently	24	**28.9**	(80.6)
Items that may be reclassified subsequently to profit and loss:			
Change in fair value of hedging derivatives		**0.4**	(0.9)
Transfer to income statement on cash flow hedges		**(1.3)**	(0.7)
Exchange differences arising on translation of foreign operations		**1.8**	(0.3)
Currency translation differences arising on consolidation of equity accounted foreign operations	33	**(0.1)**	0.1
Deferred tax relating to items that may be reclassified subsequently	24	**0.2**	0.2
Other comprehensive (loss)/income for the year, net of tax		**(136.5)**	367.7
Total comprehensive (loss)/income for the year attributable to equity shareholders		**(54.2)**	480.4

* The group has chosen not to restate comparatives on adoption of IFRS 9 and IFRS 15. See note 35.

Consolidated balance sheet

at 31 March

	Notes	2019 £m	2018* £m
Assets			
Non-current assets			
Goodwill	13	**198.3**	198.3
Other intangible assets	14	**567.2**	571.5
Property, plant and equipment	15	**497.0**	478.0
Investment	16	**50.9**	-
Interests in associate and joint ventures	33	**9.4**	9.2
Loans to joint ventures	33	**21.1**	19.7
Retirement benefit asset	31	**-**	110.6
Trade and other receivables	17	**24.3**	20.2
Derivative financial instruments	19	**1.7**	1.2
		1,369.9	1,408.7
Current assets			
Loans to joint ventures	33	**1.4**	-
Trade and other receivables	17	**176.2**	181.3
Current tax assets		**-**	1.5
Short term investments	20	**46.4**	38.3
Cash and cash equivalents	20	**214.6**	269.6
Derivative financial instruments	19	**2.7**	2.0
		441.3	492.7
Total assets		**1,811.2**	1,901.4
Current liabilities			
Trade and other payables	21	**(260.5)**	(213.1)
Current tax liabilities		**(0.7)**	-
Borrowings	18	**(42.7)**	(44.6)
Provisions	23	**(3.8)**	(5.0)
Derivative financial instruments	19	**(13.9)**	(11.0)
		(321.6)	(273.7)
Net current assets		**119.7**	219.0
Non-current liabilities			
Trade and other payables	21	**(181.8)**	(170.2)
Borrowings	18	**(292.2)**	(334.8)
Retirement benefit obligations	31	**(22.1)**	-
Deferred tax liability	24	**(97.8)**	(115.5)
Provisions	23	**(7.4)**	(6.8)
Derivative financial instruments	19	**(110.3)**	(119.5)
		(711.6)	(746.8)
Total liabilities		**(1,033.2)**	(1,020.5)
Net assets		**778.0**	880.9
Equity			
Called up share capital	25	**140.6**	140.6
Share premium account	26	**0.4**	0.4
AESOP reserve		**(0.3)**	(0.3)
Hedge reserve		**0.6**	1.3
Translation reserve		**1.1**	(0.6)
Other reserves		**(34.7)**	(34.7)
Retained earnings		**670.2**	774.1
Equity attributable to the shareholders		**777.9**	880.8
Non-controlling interest	27	**0.1**	0.1
Total equity		**778.0**	880.9

*The group has chosen not to restate comparatives on adoption of IFRS 9 and IFRS 15. See note 35.

The financial statements (Company No. 04138218) were approved by the Board of directors and authorised for issue on 27 June 2019 and signed on its behalf by:

Paul Golby

Paul Golby
Chairman

Nigel Fotherby

Nigel Fotherby
Finance Director

Consolidated statement of changes in equity

for the year ended 31 March

	Equity attributable to equity holders of the group									
	Share capital £m	Share premium account £m	AESOP reserve £m	Hedge reserve £m	Translation reserve £m	Other reserves [1] £m	Retained earnings £m	Sub-total £m	Non-controlling interest £m	Total equity £m
At 1 April 2017 (as previously stated)	140.6	0.4	(0.3)	2.7	(0.4)	(34.7)	349.1	457.4	0.1	457.5
Profit for the year	-	-	-	-	-	-	112.7	112.7	-	112.7
Other comprehensive (loss)/income for the year	-	-	-	(1.4)	(0.2)	-	369.3	367.7	-	367.7
Total comprehensive (loss)/income for the year	**-**	**-**	**-**	**(1.4)**	**(0.2)**	**-**	**482.0**	**480.4**	**-**	**480.4**
Dividends paid	-	-	-	-	-	-	(57.0)	(57.0)	-	(57.0)
At 31 March 2018 (as previously stated)	**140.6**	**0.4**	**(0.3)**	**1.3**	**(0.6)**	**(34.7)**	**774.1**	**880.8**	**0.1**	**880.9**
At 1 April 2018 (as previously stated)	140.6	0.4	(0.3)	1.3	(0.6)	(34.7)	774.1	880.8	0.1	880.9
Adjustment on initial application of IFRS 9 (see note 35)	-	-	-	-	-	-	0.3	0.3	-	0.3
Adjustment on initial application of IFRS 15 (see note 35)	-	-	-	-	-	-	10.0	10.0	-	10.0
At 1 April 2018 (as restated for IFRS 9 and IFRS 15)	**140.6**	**0.4**	**(0.3)**	**1.3**	**(0.6)**	**(34.7)**	**784.4**	**891.1**	**0.1**	**891.2**
Profit for the year	-	-	-	-	-	-	82.3	82.3	-	82.3
Other comprehensive (loss)/income for the year	-	-	-	(0.7)	1.7	-	(137.5)	(136.5)	-	(136.5)
Total comprehensive (loss)/income for the year	**-**	**-**	**-**	**(0.7)**	**1.7**	**-**	**(55.2)**	**(54.2)**	**-**	**(54.2)**
Dividends paid	-	-	-	-	-	-	(59.0)	(59.0)	-	(59.0)
At 31 March 2019	**140.6**	**0.4**	**(0.3)**	**0.6**	**1.1**	**(34.7)**	**670.2**	**777.9**	**0.1**	**778.0**

[1] Other reserves arose on the completion of the PPP transaction in July 2001.

Consolidated cash flow statement

for the year ended 31 March

	Notes	2019 £m	2018 £m
Net cash from operating activities	28	**294.5**	338.0
Cash flows from investing activities			
Interest received on short term investments		**1.9**	1.1
Purchase of property, plant and equipment and other intangible assets		**(156.7)**	(180.7)
Proceeds of disposal of property, plant and equipment		**0.1**	-
Investment in joint venture		**-**	(4.9)
Investment in Aireon		**(51.1)**	-
Changes in short term investments		**(8.1)**	1.1
Dividends received from joint venture and associate		**1.2**	1.1
Loans to joint ventures		**(1.7)**	(3.9)
Net cash outflow from investing activities		**(214.4)**	(186.2)
Cash flows from financing activities			
Interest paid		**(20.6)**	(23.5)
Interest (paid)/received on derivative financial instruments		**(0.2)**	0.2
Repayment of bond principal		**(45.2)**	(47.2)
Repayments of obligations under finance leases		**(0.2)**	(0.2)
Index-linked swap repayments		**(10.1)**	(8.1)
Bank facility arrangement fees		**-**	(0.4)
Dividends paid		**(59.0)**	(57.0)
Net cash outflow from financing activities		**(135.3)**	(136.2)
(Decrease)/increase in cash and cash equivalents during the year		**(55.2)**	15.6
Cash and cash equivalents at 1 April		**269.6**	254.2
Exchange gain/(loss) on cash and cash equivalents		**0.2**	(0.2)
Cash and cash equivalents at 31 March		**214.6**	269.6
Net debt (representing borrowings net of cash and short term investments)		**(73.9)**	(71.5)

Notes forming part of the consolidated accounts

1. General information

NATS Holdings Limited is a private limited company incorporated in England and Wales and domiciled in the United Kingdom and acting under the Companies Act 2006. The address of the registered office is on page 67. The nature of the group's operations and its principal activities are set out in the Report of the directors and in the Strategic report.

These financial statements are presented in pounds sterling because that is the currency of the primary economic environment in which the group operates.

2. Basis of preparation and accounting policies

The financial statements have been prepared on the going concern basis, as explained on page 15, and in accordance with International Financial Reporting Standards (IFRSs) and International Financial Reporting Interpretations Committee (IFRIC) interpretations as endorsed by the European Union (EU). Therefore, the group financial statements comply with Article 4 of the EU IAS Regulation. The financial information has also been prepared in accordance with IFRSs issued by the International Accounting Standards Board (IASB).

Accounting standards adopted in the year

The group has adopted the requirements of IFRS 9: *Financial Instruments* and IFRS 15: *Revenue from Contracts with Customers* from 1 April 2018. The impacts of these standards are set out in note 35.

In addition, the group has adopted IFRIC 22: *Foreign Currency Transactions and Advance Consideration*, an interpretation to a standard, which had no material impact on the consolidated or company financial statements.

Other new and amended standards and Interpretations issued by the IASB have not resulted in any material impact on the financial statements of the group.

Future accounting developments

At the date of authorisation of these financial statements, the following Standards and Interpretations which have not been applied in these financial statements were in issue but not yet effective (and in some cases had not yet been adopted by the EU):

> IFRS 16: *Leases*

> IFRS 3 (amendments): *Definition of a Business*

> IFRS 9 (amendments): *Prepayment Features with Negative Compensation and Clarification regarding the modification of financial liabilities*

> IAS 1 and IAS 8 (amendments): *Definition of Material*

> IAS 19 (amendments): *Plan Amendment, Curtailment or Settlement*

> IAS 28 (amendments): *Long-term Interests in Associates and Joint Ventures*

> IFRIC 23: *Uncertainty over Income Tax Treatments*

IFRS 16: *Leases* has an effective date for annual periods beginning on or after 1 January 2019 and will be adopted by the group from 1 April 2019. IFRS 16 results in lessees accounting for most leases within the scope of the standard in a manner similar to the way in which finance leases are currently accounted for under IAS 17: *Leases*. Lessees will recognise a right of use asset and a corresponding financial liability on the balance sheet. The asset will be amortised over the length of the lease, and the financial liability measured at amortised cost. Lessor accounting remains substantially the same as under IAS 17. The group expects to adopt the standard using a modified retrospective approach where the fair value of right of use assets and the lease liabilities are equal in value on initial application, and comparatives are not restated.

As at 31 March 2019, the group has non-cancellable operating lease commitments of £84.0m as disclosed in note 29. We expect these arrangements will meet the definition of a lease under IFRS 16, and hence the group will recognise an increase to total property, plant and equipment and a corresponding liability in respect of these leases, unless they qualify for exemption as low value or short-term leases upon the application of IFRS 16.

The effect of adoption of IFRS 16 at 1 April 2019 is expected to recognise right of use assets of c£67m and lease liabilities of c£76m, and for prepayments to decrease by c£1m and accruals (relating to the balance of rent free period incentives not recognised on transition) to decrease by c£10m. Over the life of leased assets, there will be no profit impact from adopting IFRS 16 but profit will vary between financial years as interest charges on finance leases are higher at the beginning of the lease term and reduce as the lease principal is repaid. Profit before tax for the year ending 31 March 2020 is expected to be £0.8m lower following adoption of this standard.

The directors do not expect that the adoption of the other standards and interpretations listed above will have a material impact on the financial statements in future periods.

The financial information has been prepared on the historical cost and fair value basis. The principal accounting policies adopted are set out below.

Notes forming part of the consolidated accounts

Basis of consolidation

The consolidated financial statements incorporate the financial statements of the company and entities controlled by the company (its subsidiaries). Control is achieved where the company has the power over the investee, exposure or rights to variable returns from involvement with the investee and the ability to use power over the investee to affect the amount of an investor's returns.

All intra-group transactions, balances, income and expenses are eliminated on consolidation.

Revenue recognition

Revenue is recognised from the transfer of goods or services at an amount that the group expects to be entitled to in exchange for those goods or services. Revenue is recognised based on the satisfaction of performance obligations, which are characterised by the transfer of control over a product or service to a customer. Revenue excludes amounts collected on behalf of third parties.

For the comparative year, revenue was measured at the fair value of the consideration received or receivable. Revenue from the rendering of services was recognised when the outcome could be reliably estimated and then by reference to the stage of completion of the transaction at the balance sheet date and in accordance with NATS (En Route) plc's air traffic services licence (including volume risk sharing, service performance incentives, costs exempt from risk sharing and inflation adjustments) and airport contracts and other contracts. Revenue for the sale of goods was recognised when the goods were delivered and title passed.

Airspace

Airspace services are economically regulated activities which are governed by NATS (En Route) plc's air traffic services licence. These include en route ATC services provided in UK airspace and the eastern part of the North Atlantic, approach services for London airports and an advisory service for helicopters operating in the North Sea. Each of these services has the same pattern of transfer to the customer. Revenue from each service is recognised over time (as the customer simultaneously receives and consumes all of the benefits provided by the group as the group performs).

The revenue which NERL is entitled to generate from each service is governed by licence conditions and is established by periodic regulatory reviews (this process is explained in the section on Our business model within the Strategic report). Revenue allowances are set ex ante based on the regulator's forecasts of air traffic volumes, inflation and defined benefit scheme pension contributions. The regulator also sets targets and incentives for service performance. Variable consideration arises where air traffic volumes, inflation and financial market conditions affecting pension contributions are different to the regulator's forecasts and where the group's service performance results in bonuses or penalties.

The group recognises variable consideration relating to air traffic volumes, inflation and service performance in the financial year in which the service is provided, reflecting its legal entitlement/obligation to recover/rebate this consideration, as it considers that it is highly probable that its inclusion will not result in a significant revenue reversal in the future. This variable consideration is recovered/rebated by way of an adjustment to charges on an 'n+2' basis. Amounts recoverable/payable are discounted at a rate incremental to the party receiving the financing.

The group recognises variable consideration relating to true-ups for the difference between actual pension contributions arising from unforeseen changes in financial market conditions and the regulator's assumption, after review and approval by the regulator and endorsement by the EC. This variable consideration is recovered/rebated by way of an adjustment to charges over a 15-year period. Amounts recoverable/payable are discounted at NERL's regulatory cost of capital.

Also within Airspace, the group provides ATC services to the MOD, including training services. Revenue is recognised over time, as the service is provided. The MOD contract includes variable consideration relating to a gain share term which enables the MOD to share in cost efficiencies relative to the original contract assumption. Amounts due to the MOD for gain share are recognised over time as the service is provided, and settled at future contractual payment dates. Amounts payable are discounted at NERL's regulatory cost of capital to reflect the financing component.

Revenue for assets funded by customers is recognised over the service life of the asset or the remaining contract term, if shorter.

UK airports

The group provides ATC, engineering support and airport optimisation services to UK airport customers. Each of these services represents a distinct performance obligation, but with a consistent pattern of delivery over the life of the contract. Revenue for these services is recognised on a time lapse basis using the work output approach.

Variable consideration for traffic volume risk sharing and service performance incentives is recognised in the financial year in which the service is provided.

Defence services

The group provides ATC, asset provision and engineering maintenance services under the MOD's Project Marshall contract to the Aquila joint venture. These are separate contracts priced on a standalone basis, using a cost plus a margin approach. The ATC and engineering maintenance services represent distinct performance obligations. The asset provision contract contains two performance obligations. In each case, revenue is recognised over time.

Notes forming part of the consolidated accounts

Other UK business

The group provides other services to UK customers including consultancy, training and information. These contracts can contain multiple deliverables that are considered distinct. The transaction price is allocated to each performance obligation based on stand-alone selling prices. Where the transaction price is not directly observable, the prices are estimated based on a cost plus margin. Revenue is recognised in line with costs incurred or labour hours expended for work performed to date, as a proportion of the estimated total contract costs.

International

The group provides ATC and related services (including consultancy, engineering, training and information services) to overseas customers. Revenue is recognised as for similar services described above.

Income from other sources

Rental income from operating leases is recognised on a straight-line basis over the relevant lease term.

Dividend income is recognised when a shareholder's rights to receive payment has been established.

Interest income is recognised on a time proportion basis using the effective interest method. This is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount.

Operating segments

Operating segments are reported in a manner consistent with the internal reporting provided to the group's Executive team, which is considered to be the chief operating decision maker. An operating segment represents a service line organised by customers who receive common products or services. Operating segment results are reviewed regularly by the Executive team to make decisions about resources to be allocated to the segment and to assess its performance, and for which discrete financial information is available.

Inter-segment transfers or transactions are entered into under the normal commercial terms and conditions that would also be available to unrelated third parties. Segment performance is assessed by service line revenue and contribution. Further information is provided in note 5.

Operating profit

Operating profit is stated after charging restructuring costs but before the group's share of results of joint ventures and associates, investment income, the fair value movement in the index-linked swap contracts, finance costs and taxation.

Goodwill (see note 3)

Goodwill is recognised as an asset and reviewed for impairment at least annually. Any impairment is recognised immediately in the income statement and is not subsequently reversed. For the purpose of impairment testing NATS assesses the carrying value of goodwill against the recoverable amount of the cash generating unit to which goodwill has been allocated. Where the recoverable amount is less than the carrying value, the impairment loss is allocated to goodwill.

Recoverable amount is the higher of fair value less costs of disposal and value in use. Fair value less costs of disposal is assessed by reference to the RAB of the economically regulated activities and costs of disposal. In assessing value in use, the estimated future cash flows (with a RAB terminal value, as a proxy for future cash flows) are discounted to their present value using the pre-tax nominal regulated rate of return. A premium is applied to the RAB, as market precedent transactions indicate economically regulated businesses attract valuations in excess of RAB (currently assumed at the upper end of the range of 5%-6% of RAB).

Leases

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other items are classified as operating leases.

Assets held under finance leases are recognised as assets of the group at their fair value or, if lower, at the present value of the minimum lease payments, each determined at the inception of the lease. The corresponding liability to the lessor is included in the balance sheet as a finance lease obligation. Lease payments are apportioned between finance expenses and the reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognised immediately in profit or loss, unless they are directly attributable to qualifying assets in which case they are capitalised in accordance with the group's policy on borrowing costs (see below).

Rentals payable under operating leases are charged to income on a straight-line basis over the term of the relevant lease. Benefits received and receivable as an incentive to enter into an operating lease are also spread on a straight-line basis over the lease term.

Notes forming part of the consolidated accounts

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and any provision for impairment in value. The cost of property, plant and equipment includes internal and contracted labour costs directly attributable to bringing the assets into working condition for their intended use. Depreciation is provided on a straight-line basis to write off the cost, less estimated residual value, of property, plant and equipment over their estimated useful lives as follows:

- Freehold buildings: 10-40 years
- Leasehold buildings: over the remaining life of the lease to a maximum of 20 years
- Air traffic control systems: 8-15 years
- Plant and other equipment: 3-15 years
- Furniture, fixtures and fittings: 10 years
- Vehicles: 5 years

Freehold land and assets in the course of construction and installation are not depreciated.

The gain or loss arising on the disposal or retirement of an asset is determined as the difference between the sale proceeds and the carrying amount of the asset and is recognised in income.

Borrowing costs

IAS 23: *Borrowing Costs,* requires costs of borrowings directly attributable to the acquisition, construction or production of a qualifying asset are capitalised as part of the cost of the asset. Qualifying assets are those which take a substantial time to get ready for intended use. These do not include assets which are ready for use when acquired.

For NATS, qualifying assets relate to any additions to new projects that began from 1 April 2009, included in assets under construction.

When funds are borrowed specifically for the purpose of acquiring or constructing a qualifying asset, the amount of borrowing costs eligible for capitalisation is the actual cost of borrowing incurred in the period. IAS 23 requires that where a qualifying asset is funded from a pool of general borrowings, the amount of borrowing costs eligible for capitalisation should be determined by applying an appropriate capitalisation rate (based on the weighted average of borrowing costs applicable to the general outstanding borrowings during the period) to the expenditure during the period, to determine the borrowing costs eligible for capitalisation.

For NATS, the percentage rate for interest capitalisation is calculated as a proportion of the interest costs to the average level of borrowings in the period that relate to qualifying capital expenditure. All qualifying capital expenditure is then inflated by this percentage which has the effect of capitalising related interest costs.

Government grants and other grants

Government grants relating to property, plant and equipment are treated as deferred income and released to the income statement by equal annual instalments over the expected useful economic lives of the related assets. Grants of a revenue nature are credited to income in the period to which they relate (and are reported on the face of the income statement).

In order to benefit airspace users, NERL obtains funding from the EC's Innovation and Network Executive Agency (INEA) for SESAR deployment projects. This is initially deferred on the balance sheet, and reported within contract liabilities. Under EC Regulations, and as required by the CAA as NERL's economic regulator, all of the benefit of INEA funding is passed on to airspace users as a reduction in the unit rate charged by NERL for its UK en route services. Accordingly, INEA funding is recognised as a grant relating to income and reported as other revenue in the income statement, offsetting the cost of amounts passed on to customers through the unit rate adjustment.

Investments in associates and joint ventures

An associate is an entity over which the group is in a position to exercise significant influence, but not control, through participation in the financial and operating policy decisions of the investee. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control over those policies.

The results, assets and liabilities of associates are incorporated in these financial statements using the equity method of accounting.

A joint venture is an arrangement in which two or more parties have joint control. The investors in the joint venture have rights to the net assets of the jointly controlled entity. The results of joint ventures are incorporated in these financial statements using the equity method of accounting.

Investments in associates and joint ventures are carried in the balance sheet at cost as adjusted by post-acquisition changes in the group's share of the net assets of the associate or joint venture, less any impairment in the value of individual investments.

Internally-generated intangible assets – research and development expenditure

Expenditure on research activities is recognised as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from the group's development activities is recognised only if all of the following conditions are met:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- the intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;

Notes forming part of the consolidated accounts

- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

Internally-generated intangible assets are amortised on a straight-line basis over their useful lives, typically over 3 to 12 years. Assets in the course of construction are not amortised until ready for use. Where no internally-generated intangible asset can be recognised, development expenditure is recognised as an expense in the period in which it is incurred.

Impairment of tangible and intangible assets, excluding goodwill

At each balance sheet date, the group reviews the carrying amounts of its tangible and intangible assets, including those in the course of construction, to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment (if any). Where the asset does not generate cash flows that are independent from other assets, the group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher of fair value less costs of disposal and the value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using the pre-tax nominal regulated rate of return for NERL (with a RAB terminal value as a proxy for future cash flows) and for NATS Services the weighted average cost of capital.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised as an expense immediately.

Where an impairment loss on an intangible or tangible asset subsequently reverses, the carrying amount of the asset (cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (cash-generating unit) in prior years. A reversal of an impairment loss is recognised in the income statement immediately.

Share-based payments

The group has applied the requirements of IFRS 2: *Share-Based Payments*.

In 2001, the company established an All Employee Share Ownership Plan (AESOP) for the benefit of its employees to hold 5% of the share capital of NATS Holdings Limited. The Plan was initially established through the transfer of shares by the Crown Shareholder at the PPP to NATS Employee Sharetrust Limited (NESL) for £nil consideration. Following financial restructuring in March 2003, further shares were transferred to NESL by AG for £nil consideration and NESL was gifted cash of £279,264 to acquire additional shares to maintain the Plan's interest at 5% of the share capital of NATS Holdings Limited. This amount is reflected in the AESOP reserve. The Plan is administered by NESL, a trustee company. The employee ordinary shares may only be owned by employee shareholders and can only be sold to the trust company.

Shares awarded by the Plan are treated as cash-settled liabilities. A liability is recognised for shares awarded over the period from award to when the employee becomes unconditionally entitled to the shares and are measured initially at their fair value. At each balance sheet date until the liability is settled, as well as at the date of settlement, the fair value of the liability is re-measured based on independent share valuations with any changes in fair value recognised in profit or loss for the year.

In respect of the award schemes, the group provides finance to the NESL to enable the trust company to meet its obligations to repurchase vested or eligible shares from employees.

The costs of running the employee share trust is charged to the income statement.

Taxation

The tax expense represents the sum of the tax currently payable and deferred tax.

Current tax is provided at amounts expected to be paid or recovered using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying values of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the balance sheet liability method. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from the initial recognition of goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the tax profit nor the accounting profit.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the balance sheet date. Deferred tax is charged or credited to the income statement, except when it relates to items charged or credited directly to equity, in which case the deferred tax is also dealt with in equity.

Notes forming part of the consolidated accounts

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current liabilities and when they relate to taxes levied by the same taxation authority and the group intends to settle its current tax assets and liabilities on a net basis.

Under the Finance Act 2016, the corporation tax rate will be reduced to 17% with effect from 1 April 2020. The future main tax rate reductions are expected to have a similar impact on the group's financial statements as outlined above, subject to the impact of other developments in the group's tax position which may reduce the beneficial effect of this in the group's tax rate.

Foreign currency translation

The individual financial statements of each group company are presented in the currency of the primary economic environment in which it operates (its functional currency). For the purpose of the consolidated financial statements, the results and financial position of each group company are expressed in pounds sterling, which is the functional currency of the holding company, and the presentation currency for the consolidated financial statements. For the purpose of presenting consolidated financial statements, the assets and liabilities of the group's foreign operations are translated at exchange rates prevailing at the balance sheet date. Income and expense items are translated at the average rates for the period, unless exchange rates fluctuate significantly during the period, in which case the exchange rate at the date of transactions is used. Exchange differences arising, if any, are recognised in other comprehensive income and accumulated in equity in the Translation reserve (and attributed to non-controlling interests as appropriate).

In preparing the financial statements of the individual companies, transactions in currencies other than pounds sterling are recorded at the rates of exchange prevailing on the dates of the transactions. At each balance sheet date, monetary assets and liabilities that are denominated in foreign currencies are retranslated at the rates prevailing at the balance sheet date. Non-monetary assets and liabilities carried at fair value that are denominated in foreign currencies are translated at the rates prevailing at the date when the fair value was determined. Gains and losses arising on retranslation are included in the income statement for the period.

In order to hedge its exposure to certain foreign exchange risks, the group enters into forward contracts (see below for details of the group's accounting policies in respect of such derivative financial instruments).

Retirement benefit costs

The CAA Pension Scheme is a funded defined benefit scheme. The assets of the scheme are held in a separate trustee administered fund. The cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. Remeasurement comprising actuarial gains and losses and return on scheme assets (excluding interest) are recognised immediately in the balance sheet with a charge or credit to the statement of comprehensive income in the period in which they occur. Remeasurement recorded in the statement of comprehensive income is not recycled.

Past service cost is recognised immediately to the extent that the benefits are already vested.

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. Defined benefit costs are split into three categories:

> current service cost, past service cost and gains and losses on curtailments and settlements;

> net interest expense or income; and

> remeasurement.

The retirement benefit obligation recognised in the balance sheet represents the deficit or surplus in the group's defined benefit scheme. Any surplus resulting from this calculation is limited to the present value of available refunds or reductions in future contributions to the scheme.

Since 2009, the group and Trustees have introduced a number of pension reforms, as explained in note 31. These include: closing the defined benefit scheme to new entrants with effect from 1 April 2009, and establishing a defined contribution scheme for new entrants from 1 April 2009, limiting the rate of increase in pensionable pay and changing the indexation reference rate for future service.

Contributions to the defined contribution pension scheme are expensed as incurred.

Provisions

Provisions are recognised when the group has a present obligation as a result of a past event, and it is probable that the group will be required to settle that obligation. Provisions are measured at the directors' best estimate of expenditure required to settle the obligation at the balance sheet date, and are discounted to present value where the effect is material.

Notes forming part of the consolidated accounts

Financial instruments

Financial assets and financial liabilities are recognised in the group balance sheet when the group becomes a party to the contractual provisions of the instrument. Financial assets are classified as either fair value through profit or loss, fair value through other comprehensive income, or amortised cost. Classification and subsequent re-measurement depends on the group's business model for managing the financial asset and its cash flow characteristics.

The group has financial assets in the categories of fair value through the profit or loss and at amortised cost. The group does not have financial assets at fair value through other comprehensive income. Detailed disclosures are set out in notes 16 to 21.

Financial assets:
Fair value through profit or loss

The group does not have any assets held for trading. The group holds an equity investment in Aireon at fair value through profit or loss. This is carried in the statement of financial position at fair value with changes in fair value recognised in the consolidated income statement in the fair value movement in financial instruments line item.

Amortised cost

These assets arise principally from the provision of goods and services to customers (such as loans and trade receivables), but also incorporate other types of financial assets where the objective is to hold these assets in order to collect contractual cash flows and the contractual cash flows are solely payments of principal and interest. They are initially recognised at fair value and are subsequently carried at amortised cost using the effective interest rate method, less provision for impairment.

Impairment of financial assets

Equity instruments are assessed at each reporting date to determine whether there was objective evidence of impairment. Impairment losses are recognised in the income statement.

Impairment provisions for trade receivables are recognised based on the simplified approach within IFRS 9 using the lifetime expected credit losses. During this process, the probability of the non-payment of trade receivables is assessed. This probability is then multiplied by the amount of the expected loss arising from default to determine the lifetime expected credit loss for the trade receivables. For trade receivables, such provisions are recorded in a separate provision account with the loss being recognised in the income statement. On confirmation that the trade receivable will not be collectable, the gross carrying value of the asset is written off against the associated provision.

In the prior year, impairment losses on trade receivables were recognised using allowance accounts. When a trade receivable was considered irrecoverable, it was written off against the allowance account, any subsequent recoveries were credited to the allowance account. Changes in the allowance account were recognised in the income statement.

Impairment provisions for other receivables are recognised based on a forward looking expected credit loss model. The methodology used to determine the amount of the provision is based on whether at each reporting date, there has been a significant increase in credit risk since initial recognition of the financial asset.

For those financial assets where the credit risk has not increased significantly since initial recognition, 12 month expected credit losses along with gross interest income are recognised. For those for which credit risk has increased significantly, lifetime expected credit losses along with the gross interest income are recognised. For those that are determined to be credit impaired, lifetime expected credit losses along with interest income on a net basis are recognised.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and demand deposits and other highly liquid investments (with a maturity of 3 months or less) that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value.

Financial liabilities:

Financial liabilities are classified according to the substance of the contractual arrangements entered into. Financial liabilities are either financial liabilities at fair value through the profit or loss or other financial liabilities.

Fair value through the profit or loss

Financial liabilities at fair value through profit or loss are measured initially at fair value and subsequently stated at fair value, with any resultant gain or loss recognised in the income statement. The net gain or loss recognised in the income statement incorporates any interest paid on the financial liability.

Other financial liabilities: including bank, other borrowings, loan notes and debt securities

Interest-bearing bank loans, other borrowings, loan notes and debt securities are recorded at the proceeds received, net of direct issue costs. Finance charges, including premia payable on settlement or redemption and direct issue costs, are accounted for on an accruals basis in the income statement using the effective interest method and are added to the carrying amount of the instrument to the extent that they are not settled in the period in which they arise.

Notes forming part of the consolidated accounts

Effective interest method

The effective interest method is a method of calculating amortised cost of a financial asset or financial liability and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts the estimated future cash receipts over the expected life of the financial asset.

Equity

Equity instruments are also classified according to the substance of the contractual arrangements entered into. An equity instrument is any contract that evidences a residual interest in the assets of the group after deducting all of its liabilities.

Equity instruments issued by the group are recorded at the proceeds received, net of direct issue costs.

Reserves

The consolidated statement of changes in equity includes the following reserves not otherwise explained in this note:

> Other reserves, which arose on the completion of the PPP transaction in July 2001; and

> Non-controlling interest, which represents the share of equity attributable to the minority investor in NATS Services LLC.

Derivative financial instruments and hedging activities

The group's activities expose it primarily to the financial risks of changes in interest rates, inflation and foreign currency exchange rates. The group uses interest rate and index-linked swap contracts and forward foreign exchange contracts to hedge these exposures. These are disclosed in notes 19 and 20 to the accounts.

As permitted under IFRS 9, the group has elected to continue to apply the existing hedge accounting requirements of IAS 39 for its cash flow hedges until a new macro hedge accounting standard is implemented by the IASB.

Under IFRS derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently measured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

The use of financial derivatives is governed by the group's policies approved by the Board of directors, which provides written principles on the use of financial derivatives. The group documents at the inception of the transaction the relationship between hedging instruments and the hedged items, as well as its risk management objectives and strategy for undertaking various hedge transactions. The group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

Changes in the fair value of derivative financial instruments that are designated and effective as hedges of future cash flows are recognised directly in equity (in the Hedge reserve) and the ineffective portion is recognised immediately in the income statement. If a hedge of a forecast transaction subsequently results in the recognition of a financial asset or a financial liability, the associated gains or losses that were recognised directly in equity are reclassified into the income statement in the same period or periods during which the asset acquired or liability assumed affects profit or loss. For hedges that do not result in the recognition of an asset or a liability, amounts deferred in equity are recycled to the income statement in the same period in which the hedged item affects the income statement.

Changes in the fair value of derivative financial instruments that do not qualify for hedge accounting are recognised in the income statement as they arise.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, or exercised, or no longer qualifies for hedge accounting. At that time, any cumulative gain or loss on the hedging instrument recognised in equity is retained in equity until the forecast transaction occurs. If a hedging transaction is no longer expected to occur, the net cumulative gain or loss recognised in equity is transferred to net income or expense for the period.

Derivatives embedded in other financial instruments or other host contracts are treated as separate derivatives when their risks and characteristics are not closely related to those of host contracts and the host contracts are not carried at fair value with unrealised gains or losses reported in the income statement.

3. Critical judgements and key sources of estimation uncertainty

Impairment of goodwill, intangible and tangible assets

In carrying out impairment reviews of goodwill, intangible and tangible assets (including assets in the course of construction), a number of significant assumptions have to be made when preparing cash flow projections and assessing fair values less costs of disposal (see judgement relating to goodwill below). These include air traffic growth, future cash flows, the value of the regulated asset bases, market premia for regulated businesses, NERL's licence period and the outcome of the regulatory price control determinations. The market premium, which is applied to the RAB when determining the carrying value of goodwill, was assessed at the balance sheet date to be at the upper end of the range of 5-6% (2018: 5-6%). The market premium is assessed by reference to both market precedent transactions and internal quantitative models. If the actual outcome should differ or changes in expectations arise, impairment charges may be required which would materially impact operating results. A reduction in market premium of 2.9% would result in the recoverable amount being equal to the carrying amount of goodwill. See notes 13, 14 and 15.

Notes forming part of the consolidated accounts

Estimate of disposal costs made for the fair value less costs of disposal of goodwill

IAS 36 defines the costs of disposal which should be deducted from fair value, as the incremental costs directly attributable to the disposal of the CGU, excluding finance costs and income tax expense. Therefore, in order to consider the costs of disposal, the directors have to contemplate a hypothetical disposal by NERL of its licensed activities and associated disposal costs on the basis that the disposal is being undertaken by a market participant unencumbered by any form of overarching agreement between the shareholders, assuming such goodwill had been acquired in a business combination rather than in the manner in which NERL's goodwill was created.

The specific circumstances of NATS SPA, which recognise the strategic national interest of the Crown, would cause certain disposal costs to be borne directly by the company and others by shareholders. Accordingly, the SPA, between the Crown shareholder, AG (the Strategic Partner) and LHRA, therefore includes as a reserved matter for the approval of these parties, and not for the directors, any material change in the nature or scope of the business, including the transfer or discontinuation of NERL's licence activity. Moreover, a hypothetical transaction for the full or partial disposal of NERL or of its licensed activity, to realise the value of any of NERL's goodwill, would be under the close control of these parties including appointing and bearing the costs of advisors for the sale process.

The remaining, minority NATS shareholder, the employee share trust, is not a party to the SPA, and would not have any right or expectation to control the sale process. The directors have a duty to ensure that the rights and interests of the minority shareholder are not prejudiced by the specific interests of the shareholders who are the parties to the SPA.

For these reasons, in a hypothetical transaction by a market participant to dispose of NERL or its licensed activity, the directors believe that the parties to the SPA would and should directly bear the costs of the disposal with the exception of due diligence costs that the company would bear in order to enable the directors to fulfil their statutory and fiduciary duties. It is expected that the costs parties to the SPA bear would include any commission or advisor fees relating to the sale itself, as well as advisor fees relating to the impact of the sale on each of the parties to the SPA.

Accordingly, the disposal costs that the parties to the SPA would bear directly, have not been included in the disposal costs deducted from fair value because of the specific circumstances of the SPA.

The directors have estimated the disposal costs which the company would bear directly to be around £1m for legal, financial and actuarial due diligence. These are incremental costs which have been deducted from fair value in calculating fair value less costs of disposal.

Retirement benefits

The group accounts for its defined benefit pension scheme such that the net pension scheme position is reported on the balance sheet with actuarial gains and losses being recognised directly in equity through the statement of comprehensive income.

A number of key assumptions have been made in calculating the fair value of the group's defined benefit pension scheme which affect the balance sheet position and the group's reserves and income statement. Refer to note 31 of the notes to the consolidated accounts for a summary of the main assumptions and sensitivities. Actual outcomes may differ materially from the assumptions used and may result in volatility in the net pension scheme position.

Recoverability of/obligation for revenue allowances

The economic regulatory price controls for UK en route services established annual revenue allowances that are recovered through a price based on the economic regulator's forecasts of traffic volumes and inflation made at the start of the price control period. Where traffic volumes or inflation differ from the regulator's forecasts, revenue actually recovered may be higher or lower than the revenue allowance. Where this is the case, the EC Charging Regulation requires an adjustment to be made to the price two years later to reflect any over or under-recovery. At the balance sheet date there were £0.1m of net receivable allowances relating to previous regulatory reference periods (2018: £3.3m net payable allowances) and £139.4m of net payable allowances relating to the current regulatory reference period (2018: £100.4m of net payable allowances). The legal right to recover or the obligation to rebate the revenue adjustments discussed above is provided by the EC Charging Regulation and NERL's air traffic services licence.

Capital investment programme

The group is undertaking a significant capital investment programme to upgrade existing ATC infrastructure. This programme requires the group to enter into substantial contracts for the development of infrastructure assets and information systems. Whilst covered by contractual arrangements, it is in the nature of such complex projects that, from time to time, variations to the original specifications may necessitate the renegotiation of original contract scope or price and affect amounts reported in these accounts. The group also capitalises internal labour where this is directly attributable to the development of assets.

Long term contracts

The group is fulfilling a number of long term contracts, including providing support to its Aquila joint venture which is undertaking Project Marshall. In assessing the amount of revenue to be recognised in respect of these contracts, judgements are made on the extent of contract completion and the proportion that costs incurred to date bear to the estimated total costs of the contract.

Notes forming part of the consolidated accounts

4. Revenue

The group has recognised the following revenue in the income statement:

	2019 £m	2018* £m
Revenue from contracts with customers	**872.2**	909.5
Other revenue: EU funding passed to UK en route customers (see note 4a)	**9.7**	-
Revenue from other sources: rental and sub-lease income	**3.8**	3.6
Total revenue	**885.7**	913.1
Other operating income	**6.1**	5.5
Investment income (see note 8)	**4.4**	2.0
	896.2	920.6

a) Revenue disaggregated by operating segment

The group's Executive team is considered to be the chief operating decision maker as defined by IFRS 8. The segmental analysis is based on the information that the Executive team uses internally for the purposes of evaluating the performance of operating segments and determining resource allocation between segments. The business is organised into service lines, aligned with our customers: Airspace, UK Airports, Defence Services, Other UK Business and International, and the products and services provided to each.

The performance of operating segments is assessed based on service line revenue and contribution. Service line contribution represents the revenue and costs which are directly attributed to a service line. Costs which are not directly attributed to a service line include: costs managed outside of service lines, depreciation and amortisation (net of government grants), goodwill impairment, profit/(loss) on disposal of non-current assets, employee share scheme (costs)/credits, redundancy and relocation costs and R&D expenditure above the line tax credits. A reconciliation of service line contribution to operating profit is set out below.

Principal activities

The following table describes the activities of each operating segment:

Airspace	This includes all of the group's economically regulated activities and encompasses services to en route, oceanic and London Approach customers provided from our Prestwick and Swanwick centres, together with all the supporting communications, navigation and surveillance infrastructure and facilities. Airspace includes air traffic services for helicopters operating in the North Sea, approach services for London airports, infrastructure services to the Ministry of Defence (MOD) for their en route operations and European projects in conjunction with other air traffic organisations.
UK Airports	The provision of air traffic control, engineering support and airport optimisation services to UK airport customers.
Defence Services	The provision of air traffic control, engineering support and other services to the UK MOD and to our joint venture for the UK MOD's Marshall contract.
Other UK Business	Other services provided to UK customers including: consultancy, offering airspace development, capacity improvement and training; and information, providing data to enable future efficiency and flight optimisation.
International	The provision of air traffic control and related services (including consultancy, engineering, training and information services) to overseas customers.

Segment information about these activities is presented below.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

4. Revenue (continued)

	2019			2018*		
	Revenue £m	**Intra-group revenue £m**	**External revenue £m**	Revenue £m	Intra-group revenue £m	External revenue £m
Revenue from contracts with customers						
UK air traffic services:						
Services to UK en route customers	**586.3**	**-**	**586.3**	605.0	-	605.0
London Approach services	**13.2**	**-**	**13.2**	12.7	-	12.7
Infrastructure services to the MOD	**49.4**	**-**	**49.4**	47.6	-	47.6
Services for North Sea helicopters	**8.6**	**-**	**8.6**	8.7	-	8.7
Other income	**2.5**	**-**	**2.5**	6.3	-	6.3
	660.0	**-**	**660.0**	680.3	-	680.3
North Atlantic air traffic services:						
Services to oceanic en route customers	**29.2**	**-**	**29.2**	29.5	-	29.5
Intercompany revenue	**25.5**	**(25.5)**	**-**	25.3	(25.3)	-
Airspace	**714.7**	**(25.5)**	**689.2**	735.1	(25.3)	709.8
UK Airports	**147.0**	**(12.8)**	**134.2**	171.5	(12.3)	159.2
Defence Services	**27.1**	**(0.6)**	**26.5**	20.9	(0.3)	20.6
Other UK Business	**14.5**	**(5.4)**	**9.1**	15.0	(5.3)	9.7
International	**13.2**	**-**	**13.2**	10.2	-	10.2
	916.5	**(44.3)**	**872.2**	952.7	(43.2)	909.5
Other revenue: EU funding passed to UK en route customers						
Airspace	**9.7**	**-**	**9.7**	-	-	-
Revenue from other sources						
Airspace	**4.2**	**(1.1)**	**3.1**	4.2	(1.1)	3.1
UK Airports	**0.5**	**-**	**0.5**	0.3	-	0.3
Other UK Business	**0.2**	**-**	**0.2**	0.2	-	0.2
	4.9	**(1.1)**	**3.8**	4.7	(1.1)	3.6
Total revenue	**931.1**	**(45.4)**	**885.7**	957.4	(44.3)	913.1

UK air traffic services provide en route air traffic services within UK airspace, air traffic services for helicopters operating in the North Sea, approach services for London airports, services to the Ministry of Defence and miscellaneous activity connected to the en route business. North Atlantic air traffic services provide en route air traffic services over the North Atlantic, including an altitude calibration service.

EC Regulations require that European funding for SESAR deployment received by ANSPs should ultimately be passed on to airspace users through a discount in the unit rate charge for UK en route services. Previously, we recorded such funding as deferred income in the accounts. In the financial year ended 31 March 2019, £9.7m (2018: nil) of European funding was passed to airspace users. Accordingly, an equivalent amount was released from contract liabilities to offset the cost of the discount. As a result, the group's revenues from UK en route services reflect the regulatory revenue allowances for which it is entitled for the services provided in the year.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

4. Revenue (continued)

b) Revenue disaggregated based on economic regulation

	2019			2018*		
	Revenue £m	**Intra-group revenue £m**	**External revenue £m**	Revenue £m	Intra-group revenue £m	External revenue £m
Regulated income						
Services to UK en route customers	**586.3**	**-**	**586.3**	605.0	-	605.0
London Approach services	**13.2**	**-**	**13.2**	12.7	-	12.7
Services to oceanic en route customers	**29.2**	**-**	**29.2**	29.5	-	29.5
Revenue from contracts with customers	**628.7**	**-**	**628.7**	647.2	-	647.2
Other revenue: EU funding passed to UK en route customers	**9.7**	**-**	**9.7**	-	-	-
Non-regulated income						
Revenue from contracts with customers	**287.8**	**(44.3)**	**243.5**	305.5	(43.2)	262.3
Revenue from other sources	**4.9**	**(1.1)**	**3.8**	4.7	(1.1)	3.6
	292.7	**(45.4)**	**247.3**	310.2	(44.3)	265.9
	931.1	**(45.4)**	**885.7**	957.4	(44.3)	913.1

c) Revenue disaggregated by timing of recognition

	2019			2018*		
	Revenue £m	**Intra-group revenue £m**	**External revenue £m**	Revenue £m	Intra-group revenue £m	External revenue £m
Over time						
Revenue from contracts with customers	**915.2**	**(44.3)**	**870.9**	950.4	(43.2)	907.2
Other revenue: EU funding passed to UK en route customers	**9.7**	**-**	**9.7**	-	-	-
Revenue from other sources	**4.9**	**(1.1)**	**3.8**	4.7	(1.1)	3.6
	929.8	**(45.4)**	**884.4**	955.1	(44.3)	910.8
At a point in time						
Revenue from contracts with customers	**1.3**	**-**	**1.3**	2.3	-	2.3
	1.3	**-**	**1.3**	2.3	-	2.3
	931.1	**(45.4)**	**885.7**	957.4	(44.3)	913.1

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

4. Revenue (continued)

d) Revenue disaggregated by geographical area

The following table provides an analysis of the group's revenue by geographical area based on the location of its customers:

	2019			2018*		
	Revenue £m	**Intra-group revenue £m**	**External revenue £m**	Revenue £m	Intra-group revenue £m	External revenue £m
Revenue from contracts with customers, including Other revenue: EU funding passed to UK en route customers						
United Kingdom	**484.1**	**(44.3)**	**439.8**	505.7	(43.2)	462.5
Other European countries	**130.0**	**-**	**130.0**	138.1	-	138.1
Republic of Ireland	**88.3**	**-**	**88.3**	88.1	-	88.1
United States of America	**86.1**	**-**	**86.1**	85.7	-	85.7
Countries in Asia	**58.4**	**-**	**58.4**	56.9	-	56.9
Germany	**46.1**	**-**	**46.1**	48.9	-	48.9
Other North American countries	**22.3**	**-**	**22.3**	21.7	-	21.7
Countries in Africa	**9.2**	**-**	**9.2**	5.6	-	5.6
Countries in Oceania	**1.2**	**-**	**1.2**	1.3	-	1.3
Countries in South America	**0.5**	**-**	**0.5**	0.7	-	0.7
	926.2	**(44.3)**	**881.9**	952.7	(43.2)	909.5
Revenue from other sources						
United Kingdom	**4.4**	**(1.1)**	**3.3**	4.2	(1.1)	3.1
Other European countries	**0.5**	**-**	**0.5**	0.5	-	0.5
	4.9	**(1.1)**	**3.8**	4.7	(1.1)	3.6
	931.1	**(45.4)**	**885.7**	957.4	(44.3)	913.1

Revenue is attributed to countries on the basis of the customer's country of domicile. Individual countries have not been shown where revenue from these countries of domicile are less than 5% of total revenue.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

4. Revenue (continued)

e) Contract balances

Receivables, contract assets and contract liabilities from contracts with customers are disclosed in notes 17 and 21. Significant changes in the contract assets and the contract liabilities balances during the year are as follows:

	Contract assets 2019 £m	Contract liabilities 2019 £m
At 1 April	20.3	(35.9)
Opening contract assets transferred to trade and other receivables	(15.9)	-
Additional contract asset balances recognised at the balance sheet date	19.4	-
Opening contract liabilities which have now been recognised as revenue	-	11.5
Increases due to cash received, excluding amounts recognised as revenue during the year	-	(69.2)
At 31 March	**23.8**	**(93.6)**

Contract assets and contract liabilities are included within "trade and other receivables" and "trade and other payables" respectively on the face of the balance sheet. The majority of contracts in the Airspace and UK Airports service lines are service contracts that do not result in a contract asset or liability position at each reporting date. Other contracts (including consultancy, engineering, training and information services) may result in a contract asset or liability because the cumulative payments received from customers at each balance sheet date does not necessarily equal the amount of revenue recognised on these contracts.

f) Revenue recognised from performance obligations satisfied in previous periods

For the year ended 31 March 2019, no revenue was recognised for performance obligations satisfied in previous periods.

g) Remaining performance obligations

For the majority of contracts, the group has a right to consideration from the customer in an amount that corresponds directly to the value to the customer of the group's performance completed to date, or the contract has an original duration of one year or less. For such contracts, the practical expedient in paragraph 121 of IFRS 15 applies.

For the remaining contracts, the amount of revenue that will be recognised in future periods in relation to performance obligations that are partially satisfied at 31 March 2019 is approximately as follows:

	Due within one year or less £m	Between one and two years £m	Due between two and five years £m	Due in more than five years £m	Total £m
Airspace	7.6	2.5	1.0	-	11.1
UK Airports	14.8	0.9	-	-	15.7
Defence Services	0.4	-	-	-	0.4
Other UK Business	0.9	0.5	-	-	1.4
International	6.8	1.8	-	-	8.6
	30.5	**5.7**	**1.0**	**-**	**37.2**

The amounts disclosed above do not include variable consideration which is constrained, which principally relates to pension pass through. As permitted under the transitional provisions in IFRS 15, no comparative information for the year ended 31 March 2018 is disclosed.

Notes forming part of the consolidated accounts

4. Revenue (continued)

h) Cash flow hedged revenue

A portion of the group's revenue from the provision of services denominated in foreign currencies is cash flow hedged. Included in revenue is the recycling of the effective amount of foreign currency derivatives that are used to hedge foreign currency revenue. The amount included in revenue is a £1.0m gain (2018: £0.7m gain).

5. Operating segments: Operating profit

Service line contribution represents the revenue and costs which are directly attributed to a service line.

A reconciliation of service line contribution to operating profit is provided below:

	2019 £m	2018 £m
Airspace	**313.8**	345.0
UK Airports	**27.5**	28.7
Defence Services	**1.6**	(6.2)
Other UK Business	**6.8**	6.5
International	**0.8**	(1.1)
Service line contribution	**350.5**	372.9
Costs not directly attributed to service lines:		
Depreciation and amortisation (net of deferred grants released)	**(141.1)**	(137.0)
Profit on disposal of non-current assets	**2.1**	-
Employee share scheme (costs)/credits	**(2.9)**	2.8
Redundancy and relocation costs	**(1.7)**	(3.4)
Foreign exchange gain	**1.9**	-
Other costs not directly attributed to service lines	**(86.6)**	(81.0)
R&D expenditure above the line tax credits	**1.9**	1.8
Less: share of results of associate and joint ventures	**(1.6)**	0.9
Operating profit	**122.5**	157.0

The performances of Airspace and Defence Services include the group share of the results of European Satellite Services Provider SAS (ESSP SAS) and Aquila Air Traffic Management Services Limited respectively. The performance of International includes the group share of the results of FerroNATS Air Traffic Services SA and Searidge Technologies Inc (see note 33). Other costs not directly attributed to service lines include corporate costs providing central support functions.

Notes forming part of the consolidated accounts

5. Operating segments: Operating profit (continued)

Non-current assets additions

Additions to non-current assets are presented by service line below:

	2019 £m	2018 £m
Airspace	**149.9**	180.0
UK Airports	**2.0**	2.3
Defence Services	**2.5**	1.0
Other UK Business	**2.1**	2.3
	156.5	185.6

Geographical segments

The following table provides an analysis of the group's non-current assets (excluding financial assets and, for 2018, retirement benefit assets) by geographical location. An analysis of the group's revenue by geographical location is provided in note 4 d) above.

	Non-current assets	
	2019 £m	2018 £m
United Kingdom	**1,269.8**	1,252.6
United States of America	**50.9**	-
Other North American countries	**5.9**	5.7
Other European countries	**4.5**	5.0
Countries in Asia	**0.1**	-
	1,331.2	1,263.3

Notes forming part of the consolidated accounts

6. Operating profit for the year

Operating profit for the year has been arrived at after charging/(crediting):

	2019 £m	2018 £m
The CAA regulatory charges in respect of NERL's air traffic services licence	**5.3**	4.9
The CAA regulatory charges for safety regulation at airports	**0.1**	2.9
Depreciation of property, plant and equipment	**81.0**	80.3
Impairment of property, plant and equipment	**1.9**	0.9
Amortisation of intangible assets	**55.7**	51.7
Impairment of intangible assets	**3.1**	4.8
Deferred grants released	**(0.6)**	(0.7)
Redundancy costs	**1.5**	3.9
Staff relocation costs (net of credits for revisions to estimates) following site closure	**0.2**	(0.5)
Research and development costs	**8.8**	8.6
R&D expenditure above the line tax credits	**(1.9)**	(1.8)
Auditor's remuneration for audit services (see below)	**0.2**	0.2

The analysis of auditor's remuneration is as follows:

Fees payable to the company's auditor for the audit of the company's annual accounts	**0.1**	0.1
Fees payable to the company's auditor and their associates for other services to the group		
- The audit of the company's subsidiaries	**0.1**	0.1
Total audit fees	**0.2**	0.2

Total non-audit fees of £64,320 (2018: £37,769) include tax services of £nil (2018: £nil) and other services of £64,320 (2018: £37,769).

Total fees payable to the company's auditor for the audit of the subsidiary accounts was £63,724 (2018: £60,366).

A portion of the company's costs are denominated in foreign currencies and are cash flow hedged. Included in operating costs is the recycling of the effective amount of foreign currency derivatives that are used to hedge foreign currency costs. The amount included in operating cost is £0.3m gain (2018: £nil).

Government grants relating to the purchase of property, plant and equipment contributions received are treated as deferred income which is credited to the income statement by equal annual instalments over the expected useful lives of the related assets.

Research and development costs represent internal labour costs incurred in support of research and development activities.

Notes forming part of the consolidated accounts

7. Staff costs

a. Staff costs

	2019 £m	2018 £m
Salaries and staff costs, including directors' remuneration, were as follows:		
Wages and salaries	**362.1**	336.8
Social security costs	**43.5**	40.8
Pension costs (note 7b)	**83.9**	105.9
	489.5	483.5
Less: amounts capitalised	**(43.1)**	(47.1)
	446.4	436.4

Wages and salaries include redundancy costs of £1.4m (2018: £3.9m), share-based payment credits or charges, other allowances and holiday pay.

Pension costs include £0.1m (2018: £nil) for redundancy related augmentation payments which staff elected to receive in lieu of severance payments.

b. Pension costs

	2019 £m	2018 £m
Defined benefit pension scheme costs (note 31)	**66.3**	92.6
Defined contribution pension scheme costs	**17.6**	13.3
	83.9	105.9

The company operates a salary sacrifice arrangement for staff pension contributions. Wages and salaries and pension costs reflect this arrangement.

c. Staff numbers

	2019 No.	2018 No.
The monthly average number of employees (including executive directors) was:		
Air traffic controllers	**1,782**	1,722
Air traffic service assistants	**657**	652
Engineers	**892**	906
Others	**1,133**	1,030
	4,464	4,310

Notes forming part of the consolidated accounts

8. Investment income

	2019 £m	2018* £m
Interest on bank deposits	**1.9**	0.9
Other loans and receivables	**2.5**	1.1
	4.4	2.0

Interest on bank deposits has been earned on financial assets, including cash and cash equivalents and short term investments.

Other loans and receivables includes the effect of unwinding the discount on amounts receivable after more than one year and interest accrued on loans to our joint ventures, Aquila and Searidge.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

9. Fair value movement on financial instruments

	2019 £m	2018 £m
(Charge)/credit arising from change in the fair value of derivatives not qualifying for hedge accounting	**(3.0)**	1.3
Change in the fair value of equity investment in Aireon designated as fair value through profit and loss	**(1.9)**	-
	(4.9)	1.3

10. Finance costs

	2019 £m	2018 £m
Interest on bank overdrafts, loans and hedging instruments	**0.6**	0.6
Bond and related costs including financing expenses	**21.3**	23.6
Other finance costs	**3.5**	2.4
	25.4	26.6

Other finance costs includes the effect of unwinding the discount on amounts payable after more than one year.

Notes forming part of the consolidated accounts

11. Tax

	2019 £m	2018* £m
Corporation tax		
Current tax	**7.2**	9.9
Adjustments in respect of prior year	**(2.7)**	(5.3)
	4.5	4.6
Deferred tax (see note 24)		
Origination and reversal of temporary timing differences	**10.2**	12.6
Adjustments in respect of prior year	**1.2**	5.2
Effects of tax rate change on opening balance	**-**	(2.3)
	11.4	15.5
	15.9	20.1

Corporation tax is calculated at 19% (2018: 19%) of the estimated assessable profit for the year.

The charge for the year can be reconciled to the profit per the income statement as follows:

	2019 £m		2018* £m	
Profit on ordinary activities before tax	**98.2**		132.8	
Tax on profit on ordinary activities at standard rate in the UK of 19% (2018: 19%)	**18.7**	**19.0%**	25.2	19.0%
Tax effect of change in corporation tax from 19% to 17% (2018: 19% to 17%)	**(0.2)**	**(0.2%)**	(3.3)	(2.5%)
Patent box	**(1.6)**	**(1.6%)**	(1.5)	(1.2%)
Employee share scheme award of partnership and matching shares	**0.1**	**0.1%**	-	-
Tax effect of prior year adjustments: current tax	**(2.7)**	**(2.7%)**	(5.3)	(4.0%)
Tax effect of prior year adjustments: deferred tax	**1.2**	**1.2%**	5.2	3.9%
Joint ventures and associate	**(0.1)**	**(0.1%)**	-	-
Unrecognised deferred tax assets on overseas subsidiaries	**0.4**	**0.4%**	0.5	0.4%
R&D expenditure increased deductions	**(0.1)**	**(0.1%)**	0.6	0.5%
Other permanent differences	**0.2**	**0.2%**	(1.3)	(1.0%)
Tax charge for year at an effective tax rate of 16.2% (2018: 15.1%)	**15.9**	**16.2%**	20.1	15.1%
Deferred tax (credit)/charge taken directly to equity (see note 24)	**(29.1)**		80.4	

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

12. Dividends

Amounts recognised as dividends to equity shareholders in the year:

	2019 £m	2018 £m
First interim dividend of 20.62 pence per share (2018: 19.92 pence per share)	**29.5**	28.5
Second interim dividend of 20.62 pence per share (2018: 19.92 pence per share)	**29.5**	28.5
	59.0	57.0

In May 2019, the Board approved an interim dividend for the year ending 31 March 2020 of 20.97 pence per share, totalling £30.0m, which was paid in May 2019.

13. Goodwill

	£m
Cost	
At 31 March 2019 and 31 March 2018	**351.0**
Accumulated impairment losses	
At 1 April 2017	152.7
Impairment provision recognised in income statement	-
At 31 March 2018	**152.7**
Impairment provision recognised in income statement	-
At 31 March 2019	**152.7**
Carrying amount	
At 31 March 2019	**198.3**
At 31 March 2018	**198.3**
At 1 April 2017	**198.3**

The group tests goodwill annually for impairment, or more frequently if there are indications that goodwill might be impaired.

The recoverable amount of goodwill is determined by reference to the higher of its fair value less costs of disposal and value in use. Fair value less costs of disposal is determined by reference to the value of the regulatory asset bases of UK Air Traffic Services and North Atlantic Air Traffic Services, representing the relevant cash generating units, including opportunities for out-performance of regulatory settlements and market premia for economically regulated businesses (assumed at the upper end of the range of 5%-6%, 2018: 5%-6%) and estimated costs of disposal of £1.0m (see note 3: critical judgements and key sources of estimation uncertainty). The key assumptions for value in use calculations are the discount rate, future cash flows to the end of Reference Period 2 (31 December 2019) for both cash generating units as assumed in the group's business plans, and a terminal value at that date, reflecting the projected regulatory asset bases and a market premium, which is assessed annually. The group's business plans reflect the outcome of the Reference Period 2 price control review and include forecasts of traffic volumes, inflation and pension costs reflecting the current economic environment. The discount rate is a pre-tax nominal rate of 9.05% (2018: 9.05%) for cash flows arising in Reference Period 2. The value of the regulatory asset bases at the balance sheet date were £1,021.6m (2018: £1,006.4m). Goodwill is allocated to the Airspace service line. The carrying value at 31 March 2019 is supported by fair value less costs of disposal using the valuation methodology consistent with the IFRS 13 Level 3 hierarchy.

Notes forming part of the consolidated accounts

14. Other intangible assets

	Operational software £m	Non-operational software £m	Airspace and resectorisation £m	Assets in course of construction £m	Total £m
Cost					
At 1 April 2017	451.0	87.0	46.9	171.8	756.7
Additions internally generated	6.8	0.1	1.5	26.5	34.9
Additions externally acquired	8.1	5.1	-	69.4	82.6
Disposals during the year	-	(1.1)	-	-	(1.1)
Other transfers during the year	20.1	2.9	1.0	(26.2)	(2.2)
At 31 March 2018	**486.0**	**94.0**	**49.4**	**241.5**	**870.9**
Additions internally generated	3.0	1.2	1.2	24.6	30.0
Additions externally acquired	2.6	2.4	0.2	18.0	23.2
Disposals during the year	(0.5)	(2.1)	-	-	(2.6)
Other transfers during the year	6.0	10.1	1.4	(16.1)	1.4
At 31 March 2019	**497.1**	**105.6**	**52.2**	**268.0**	**922.9**
Accumulated amortisation and impairment					
At 1 April 2017	157.5	62.7	23.4	0.4	244.0
Charge for the year	38.8	8.7	4.2	-	51.7
Impairment provision recognised in income statement	-	1.1	-	3.7	4.8
Transfer of impairment provision	3.1	0.1	-	(3.2)	-
Disposals during the year	-	(1.1)	-	-	(1.1)
At 31 March 2018	**199.4**	**71.5**	**27.6**	**0.9**	**299.4**
Charge for the year	42.0	9.5	4.2	-	55.7
Impairment provision recognised in income statement	-	-	-	3.1	3.1
Transfer of impairment provision	0.5	1.2	-	(1.7)	-
Disposals during the year	(0.5)	(2.0)	-	-	(2.5)
At 31 March 2019	**241.4**	**80.2**	**31.8**	**2.3**	**355.7**
Carrying amount					
At 31 March 2019	**255.7**	**25.4**	**20.4**	**265.7**	**567.2**
At 31 March 2018	**286.6**	**22.5**	**21.8**	**240.6**	**571.5**
At 1 April 2017	**293.5**	**24.3**	**23.5**	**171.4**	**512.7**

An annual review is performed to assess the carrying value of other intangible assets, including assets in the course of construction. The accumulated amortisation of assets in the course of construction represents impairment provisions.

Notes forming part of the consolidated accounts

15. Property, plant and equipment

	Freehold land and buildings £m	Improvements to leasehold land and buildings £m	Air traffic control systems, plant and equipment £m	Vehicles, furniture and fittings £m	Assets in course of construction and installation £m	Total £m
Cost						
At 1 April 2017	245.5	46.1	1,393.2	24.7	48.3	1,757.8
Additions during the year	0.4	0.1	7.3	0.4	59.9	68.1
Disposals during the year	-	(0.2)	(1.0)	-	-	(1.2)
Other transfers during the year	0.1	-	14.5	0.4	(12.8)	2.2
At 31 March 2018	**246.0**	**46.0**	**1,414.0**	**25.5**	**95.4**	**1,826.9**
Additions during the year	0.3	0.7	10.4	0.1	91.8	103.3
Disposals during the year	-	-	(1.9)	-	-	(1.9)
Other transfers during the year	0.5	-	15.7	-	(17.6)	(1.4)
At 31 March 2019	**246.8**	**46.7**	**1,438.2**	**25.6**	**169.6**	**1,926.9**
Accumulated depreciation and impairment						
At 1 April 2017	129.4	37.3	1,083.8	17.7	0.7	1,268.9
Provided during the year	7.8	1.3	70.0	1.2	-	80.3
Impairment provision recognised in income statement	-	-	0.8	-	0.1	0.9
Transfer of impairment provision	-	-	0.2	-	(0.2)	-
Disposals during the year	-	(0.2)	(1.0)	-	-	(1.2)
At 31 March 2018	**137.2**	**38.4**	**1,153.8**	**18.9**	**0.6**	**1,348.9**
Provided during the year	7.8	1.3	70.6	1.3	-	81.0
Impairment provision recognised in income statement	-	-	0.1	-	1.8	1.9
Transfer of impairment provision	-	-	0.3	-	(0.3)	-
Disposals during the year	-	-	(1.9)	-	-	(1.9)
At 31 March 2019	**145.0**	**39.7**	**1,222.9**	**20.2**	**2.1**	**1,429.9**
Carrying amount						
At 31 March 2019	**101.8**	**7.0**	**215.3**	**5.4**	**167.5**	**497.0**
At 31 March 2018	**108.8**	**7.6**	**260.2**	**6.6**	**94.8**	**478.0**
At 1 April 2017	**116.1**	**8.8**	**309.4**	**7.0**	**47.6**	**488.9**

The group conducts annual reviews of the carrying values of its property, plant, equipment and intangible assets. During the year, impairment charges of £5.0m (2018: £5.7m) were made in respect of operational assets and assets in the course of construction reflecting a reassessment of certain projects and assets, and the likelihood of benefits being realised in full.

The group has a finance lease for certain network related assets. The fair value of the assets held under finance lease are £1.4m (2018: £1.6m) and are included within the cost for air traffic control systems, plant and equipment above.

Notes forming part of the consolidated accounts

16. Investment in Aireon LLC

In May 2018, NATS paid £51.0m (US$68.75m) to acquire a minority interest in Aireon LLC (Aireon) (subsequently Aireon Holdings LLC upon transfer of shareholding), a limited liability company incorporated in Delaware USA, which provides a space-based air traffic surveillance system for air navigation service providers (ANSPs) through Automatic Dependent Surveillance-Broadcast (ADS-B) receivers on the Iridium NEXT satellite constellation. Aireon is an unquoted company. NATS' investment was made by NATS (USA) Inc, a wholly owned subsidiary. Other investors are Iridium and four other ANSPs: NAV CANADA (Canada), ENAV (Italy), the Irish Aviation Authority (Ireland) and Naviair (Denmark).

The investment in Aireon is in convertible redeemable cumulative 5% preference interests with voting rights of 9.1%. The investment is intended to result in fully diluted common interests (equivalent to ordinary shares) with voting rights of 11.1% by 2 January 2021. NATS is entitled to appoint one of the eleven Board members.

The interests carry a right of conversion to common equity interests until 2 January 2021 or are otherwise mandatorily redeemed in three annual instalments from that date. The dividend is payable on or after 1 January 2021 and accrues from the date of issuance of preference interests until conversion or redemption.

The investment in Aireon meets the definition of a financial asset under international accounting standards. The conversion option and the mandatory redemption characteristics of the investment requires its measurement at fair value through profit or loss.

The valuation technique used to determine fair value is the income approach. The fair value of the investment reflects the present value of dividend projections based on Aireon's most recent long term operating plan (December 2018), performance since that plan and NATS' assessment of underlying plan assumptions. The discount rate assumed for this purpose is 14.3%. The fixed cost nature of Aireon's business makes its plan sensitive to the achievement of management's revenue growth assumptions, which is reflected in the discount rate assumption. A 1% increase in the discount rate would result in a c£4.3m decrease in fair value and a 1% reduction in the discount rate would result in a c£4.9m increase in fair value. A 10% increase in revenue assumed from unsigned sales contracts would result in an increase in fair value of £7.2m and a 10% reduction in revenue assumed from unsigned sales contracts would result in a decrease in fair value of £5.6m. The investment is classified within Level 3 of the fair value hierarchy.

	£m
Fair value at 1 April 2018	-
Investment in preference interests	51.0
Franchise taxes payable on acquisition	0.1
Change in fair value in the period, reported in 'Fair value movements' (see note 9)	(1.9)
Effect of foreign exchange, reported in Other comprehensive income	1.7
Fair value at 31 March 2019	**50.9**

The effect of changes in the rate of foreign exchange arises on consolidation of NATS (USA) Inc, which reports its results in US dollars.

Notes forming part of the consolidated accounts

17. Financial and other assets

The group had balances in respect of financial and other assets as follows:

Trade and other receivables

	2019 £m	2018* £m
Non-current		
Receivable from customers gross (nil provision for impairment)	**15.7**	-
Other debtors	**0.2**	0.2
Prepayments	**8.4**	6.3
Accrued income	**-**	13.7
	24.3	20.2
Current		
Receivable from customers gross	**127.0**	79.3
Less: provision for impairment	**(4.0)**	(5.0)
	123.0	74.3
Amounts recoverable under contracts	**1.6**	1.0
Contract spare parts	**0.5**	0.5
Contract assets	**23.8**	-
Other debtors	**7.0**	4.9
Prepayments	**20.3**	15.8
Accrued income	**-**	84.8
	176.2	181.3

Under IFRS 15, income not yet invoiced relating to revenue from contracts with customers is included within receivable from customers. Income not yet invoiced from other sources is included within other debtors. Under previous accounting standards, these balances were disclosed within accrued income.

The average credit period on sales of services is 30 days (2018: 30 days). Interest is charged by Eurocontrol to UK en route customers at 9.68% (2018: 9.74%) on balances outstanding after more than 30 days. All other balances are non-interest bearing.

Receivables from customers which are non-current include regulatory revenue adjustments for the previous control period, which will be recovered after 31 March 2020. Receivables from customers which are current include unbilled revenue for services provided in March 2019. Prior year accrued income (which has not been restated on adoption of IFRS 15) included unbilled revenue for services provided in March 2018 and regulatory adjustments for the previous control period which were recovered by 31 March 2019.

Contract assets, which are all current, are expected to transfer to receivables from customers by 31 March 2020.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

17. Financial and other assets (continued)

Movement in the impairment provision

	2019 £m	2018* £m
Balance at the beginning of the year (as previously stated)	**5.0**	4.4
Adjustment on initial application of IFRS 9 (see note 35)	**(0.4)**	-
Reclassification of provisions for accrued income	**0.2**	-
Balance at the beginning of the year (as restated for IFRS 9)	**4.8**	4.4
Increase in allowance recognised in the income statement	**-**	0.6
Foreign exchange movement in the year	**(0.1)**	0.1
Amounts recovered during the year	**0.2**	0.1
Amounts written off as irrecoverable	**(0.9)**	(0.2)
Balance at the end of the year	**4.0**	5.0

The group applies the IFRS 9 simplified approach to measuring expected credit losses using a lifetime expected credit loss provision for trade receivables and contract assets. In order to measure the expected credit losses, the credit risk characteristics of trade receivables and contract assets have been considered and a matrix based on the days past due used to summarise historic loss patterns. Contract assets relate to unbilled work in progress and have substantially the same credit risk characteristics as trade receivables for the same types of contracts. The group has concluded that the expected credit loss rates for trade receivables are a reasonable approximation of the expected credit loss rates for contract assets.

At 31 March 2019 the lifetime expected loss provision for trade receivables and contract assets is as follows:

	Receivables - months past due							
	Current	1 month	2-3 months	4-6 months	7-12 months	>12 months	In administration	Total £m
NERL expected credit loss rate (%)	0.2%	6.1%	20.0%	48.6%	63.1%	81.4%	100.0%	
NERL gross carrying amount (£m)	108.5	0.4	0.2	0.2	0.1	0.5	3.1	113.0
NERL lifetime expected credit loss (£m)	**0.2**	**-**	**-**	**0.1**	**0.1**	**0.4**	**3.1**	**3.9**
Other subsidiaries expected credit loss rate (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Other subsidiaries gross carrying amount (£m)	50.2	2.6	0.3	0.3	-	-	0.1	53.5
Other subsidiaries expected credit losses (£m)	**-**	**-**	**-**	**-**	**-**	**-**	**0.1**	**0.1**
Total expected credit losses (£m)	**0.2**	**-**	**-**	**0.1**	**0.1**	**0.4**	**3.2**	**4.0**

Non-current receivables consists mainly of pension pass through of £9.6m which is being recovered over a 15 year period to 31 December 2030 and amounts recoverable from the SESAR Deployment Alliance of £4.4m which are expected to be recovered by 31 December 2021. None of these receivables have been subject to a significant increase in credit risk since initial recognition and, consequently, the lifetime expected loss provision of 0.2% is applied to these balances at 31 March 2019.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

17. Financial and other assets (continued)

The group has assessed the carrying values of the loans to joint ventures at the balance sheet date and concluded that there should be no provision recorded under the expected credit loss methodology on the basis that there is no historic loss pattern or indicators of impairment.

As at 31 March 2019 trade receivables of £3.2m (2018: £3.6m) had lifetime expected credit losses of the full value of the receivables. These receivables are in administration, receivership or liquidation.

Cash and cash equivalents

Cash and cash equivalents comprise cash held by the group and short term bank deposits with an original maturity of three months or less. The directors consider that the carrying amount of these assets approximates to their fair value.

Overall, the maximum credit risk for the items discussed above and loans to joint ventures, excluding prepayments, VAT receivables and contract spare parts, would be £454.8m (2018: £503.5m).

18. Borrowings

	2019 £m	2018 £m
Secured loans at amortised cost		
£600m 5.25% Guaranteed Secured Amortising Bond due 2026	**336.2**	381.3
Unsecured loans at amortised cost		
Obligations under finance leases (see note 22)	**1.4**	1.6
Gross borrowings	**337.6**	382.9
Unamortised bond issue costs	**(1.4)**	(1.8)
Unamortised bank facility arrangement fees	**(1.3)**	(1.7)
	334.9	379.4
Amounts due for settlement within 12 months	**42.7**	44.6
Amounts due for settlement after 12 months	**292.2**	334.8

The £600m 5.25% Guaranteed Secured Amortising Bond is secured by way of a debenture by which NERL grants its lenders a first legal mortgage over certain properties in England and Wales, a first fixed charge over all other real estate, plant and equipment and a floating charge over all other assets. Any drawings made by NERL under its £400.0m committed bank facilities are similarly secured. Total assets of NERL as at 31 March 2019 were £1,551.3m (2018: £1,652.8m), including goodwill of £198.3m (2018: £198.3m). Further security provisions are also provided by NATS Holdings Limited and by NATS Limited.

Costs associated with the issue of the £600m bond are being amortised over the life of the bond. Costs incurred to refinance bank facilities are being amortised over the facility term. Costs not fully amortised at the date of subsequent refinancing are written off.

Notes forming part of the consolidated accounts

18. Borrowings (continued)

Undrawn committed facilities

	2019 £m	2018 £m
Undrawn committed facilities expire as follows:		
Expiring in more than two years	**400.0**	400.0

At 31 March 2019, NERL had no outstanding drawings against its committed bank facilities. These facilities expire in July 2022.

NATS Services has an uncommitted overdraft facility of £1.0m that was undrawn as at 31 March 2019 and 31 March 2018 and is not included in the table above.

19. Derivative financial instruments

Fair value of derivative financial instruments

	2019 £m	2018 £m
Non-current assets		
Derivative financial instruments in designated hedge accounting relationships		
Forward foreign exchange contracts (cash flow hedges)	**1.7**	1.2
Current assets		
Derivative financial instruments in designated hedge accounting relationships		
Forward foreign exchange contracts (cash flow hedges)	**2.7**	2.0
Current liabilities		
Derivative financial instruments in designated hedge accounting relationships		
Forward foreign exchange contracts (cash flow hedges)	**(1.7)**	(0.8)
Derivative financial instruments classified as held for trading		
Index-linked swap	**(12.2)**	(10.2)
	(13.9)	(11.0)
Non-current liabilities		
Derivative financial instruments in designated hedge accounting relationships		
Forward foreign exchange contracts (cash flow hedges)	**(0.4)**	(0.5)
Derivative financial instruments classified as held for trading		
Index-linked swap	**(109.9)**	(119.0)
	(110.3)	(119.5)

Notes forming part of the consolidated accounts

19. Derivative financial instruments (continued)

Further details on derivative financial instruments are provided in note 20. The index-linked swap is classified under international accounting standards as held for trading as it does not qualify for hedge accounting. The index-linked swap was taken out in August 2003 to hedge against the risk of low inflation and previously qualified as a hedge under UK generally accepted accounting principles prior to the group's adoption of international accounting standards.

Hedge effectiveness is determined at the inception of the hedge relationship and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and hedging instrument. The hedge ratio is established with reference to the cash flows associated with the hedged item and the hedging instrument. Ineffectiveness may arise if the timing of the forecast transaction changes from what was originally estimated, or if there are changes in the credit risk of the hedging instrument counterparties.

20. Financial instruments

Capital risk management

The group manages its capital to ensure that entities in the group are able to continue as going concerns, to ensure that NERL is able to meet its obligations under the air traffic services licence, for NATS Services to meet obligations to its customers, and to fund returns to shareholders.

The capital structure of the group consists of debt as disclosed in note 18, cash and cash equivalents and short term investments, as shown in this note, and equity attributable to shareholders as disclosed in the consolidated statement of changes in equity.

External capital requirements

NERL's air traffic services licence requires the company to use reasonable endeavours to maintain an investment grade issuer credit rating (BBB-/Baa3 or better). Separately, it is the objective of the group to target a credit profile for NERL that exceeds BBB-/Baa3.

As at 31 March 2019, NERL had a corporate rating of A+ from Standard & Poor's (2018: A+) and A2 from Moody's (2018: A2).

Gearing ratio

The group does not seek to maintain a target gearing level at group level but rather sets a gearing target for NERL, the economically regulated subsidiary, based on a ratio of net debt to its regulatory asset base (RAB). In addition, the CAA has set NERL a gearing target of 60% and a cap of 65% of net debt to RAB with a requirement for NERL to remedy the position if this cap is exceeded. NERL's gearing ratio at 31 March 2019 was 25.7% (2018: 27.5%).

Significant accounting policies

Details of the significant accounting policies and methods adopted, including the criteria for recognition, the basis of measurement and the basis on which income and expenses are recognised, in respect of each class of financial asset, financial liability and equity instrument are disclosed in note 2 to the financial statements.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Categories of financial instrument

The carrying values of financial instruments by category at 31 March were as follows:

	2019 £m	2018 £m
Financial assets		
Financial assets at fair value through profit or loss		
Equity investment (see note 16)	**50.9**	-
Financial assets at amortised cost		
Loans and receivables, excluding prepayments, VAT and contract spare parts	**193.8**	195.6
Cash and cash equivalents and short term investments	**261.0**	307.9
	454.8	503.5
Derivative financial instruments		
In designated hedge accounting relationships	**4.4**	3.2
	510.1	506.7
Financial liabilities		
Liabilities at amortised cost		
Trade and other payables	**(313.7)**	(257.3)
Borrowings	**(337.6)**	(382.9)
	(651.3)	(640.2)
Derivative financial instruments		
In designated hedge accounting relationships	**(2.1)**	(1.3)
Held for trading at fair value through profit or loss	**(122.1)**	(129.2)
	(124.2)	(130.5)
	(775.5)	(770.7)

Loans and receivables, excluding prepayments, includes balances relating to loans to the joint ventures of £22.5m (2018: £19.7m) and excludes VAT of £nil (2018: £3.0m).

Liabilities at amortised cost includes balances for trade and other payables (excluding contract liabilities £93.6m (2018: £nil), deferred income of £21.2m (2018: £112.5m), taxes and social security liabilities of £13.4m (2018: £13.5m) and VAT of £0.4m (2018: £nil)) and including the bond, bank borrowings (excluding unamortised bond issue costs and bank facility arrangement fees) and finance lease obligations.

The index-linked swap is categorised as held for trading. During the year, £10.1m (2018: £8.1m) was repaid as semi-annual amortisation payments. The charge arising from the change in fair value of £3.0m has been recorded in the income statement in the year (2018: £1.3m credit).

Financial risk management objectives

The group's Treasury function is mandated by the Board to manage financial risks that arise in relation to underlying business needs. The function provides services to the business, co-ordinates access to financial markets and monitors and manages financial risks relating to the operations of the group. The function has clear policies and operating parameters. The Treasury Committee provides oversight and meets at least three times a year to approve strategy and to monitor compliance with Board policy. The Treasury function does not operate as a profit centre and the undertaking of speculative transactions is not permitted. The principal financial risks arising from the group's activities include market risk (including currency risk, interest rate risk and inflation risk), credit risk and liquidity risk. The principal financial risk in these entities is credit risk. Specific policies on interest rate and liquidity risk management apply principally to NERL.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Market risk

The group's activities expose it primarily to the financial risks of changes in foreign currency exchange rates, interest rates and inflation rates. These risks are explained below. The group enters into a variety of derivative financial instruments to manage its exposure to these risks, including:

> forward foreign exchange contracts to hedge the exchange risk arising on services provided to UK en route customers that are billed in euro, and purchases from foreign suppliers settled in foreign currencies;

> interest rate swaps to mitigate the risk of rising interest rates; and

> an index-linked swap to mitigate the risk of low inflation.

Foreign currency risk management

The group's principal exposure to foreign currency transaction risk is in relation to UK en route services revenue, accounting for 67% of the group's turnover (2018: 66%). Charges for this service are set in sterling, but are billed and collected in euro by applying a conversion rate determined monthly by Eurocontrol, who administer the UK en route revenue collection. The conversion factor used is the average of the daily closing rates for the month prior to the billing period. To mitigate the risk that exchange rates move between the date of billing and the date on which the funds are remitted to NERL, forward foreign currency contracts are entered into. NERL seeks to hedge 95% of the UK en route income that is forecast to arise by entering into forward foreign exchange contracts on a monthly basis.

The group's international activities account for 1.5% of external revenue (2018: 1.1%). The group trades with and provides finance to its overseas joint ventures and subsidiaries. Where appropriate the transactions are conducted in sterling. The group benefits from natural hedges of its exposure to fluctuations on the translation of its foreign operations into sterling as a result of holding cash reserves in foreign currencies.

The group also enters into contracts for the purchase and sale of goods and services with overseas suppliers and customers who operate in foreign currencies. To mitigate currency risk the contract value is hedged when a firm commitment arises, either through the use of forward foreign currency contracts or by purchasing foreign currency at spot rates on the date the commitment arises or by setting aside already available foreign currency.

The carrying amount of the group's foreign currency denominated monetary assets and monetary liabilities at 31 March was as follows:

	Assets		Liabilities	
Currency	**2019 £m**	2018 £m	**2019 £m**	2018 £m
Euro	**99.8**	102.9	**(15.1)**	(14.2)
Singapore dollar	**4.6**	3.1	**(0.5)**	(0.2)
Hong Kong dollar	**4.2**	1.3	**-**	-
Thai baht	**4.0**	4.2	**(0.1)**	(0.1)
US dollar	**54.7**	1.5	**(1.4)**	(1.8)
Canadian dollar	**2.7**	1.4	**(2.1)**	(1.4)
UAE dirham	**1.7**	1.6	**(0.4)**	(0.2)
Qatari riyal	**1.1**	0.9	**-**	-
Philippine peso	**0.4**	0.4	**-**	-
Kuwaiti dinar	**0.4**	0.3	**-**	-
Omani rial	**0.3**	0.4	**-**	-
Swedish krona	**0.3**	-	**(0.3)**	-
Norwegian krone	**-**	0.2	**-**	-
	174.2	118.2	**(19.9)**	(17.9)

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Foreign currency sensitivity analysis

The group has assets and liabilities denominated in foreign currencies including: the equity investment in Aireon, loans to associates and joint ventures and cash balances of £12.5m at 31 March 2019 (2018: £6.7m) in euro, US dollars, Canadian dollars, Hong Kong dollars, Singapore dollars, Thai baht, UAE dirham, Qatari riyal, Kuwaiti dinar, Swedish krona and Omani rial. Furthermore, the group has entered into forward foreign currency contracts to hedge exchange risk relating to customer receipts and supplier costs which will arise in future periods.

The following table details the group's sensitivity to a 10% increase or decrease in the value of sterling against relevant foreign currencies. 10% is the sensitivity rate that represents the reasonably possible change in foreign currency exchange rates in a financial year. The sensitivity analysis includes foreign currency cash balances, trade receivables, trade payables and forward foreign exchange contracts and adjusts their translation at the period end for a 10% change in foreign currency rates.

The table below shows the effect of a 10% strengthening of sterling against the relevant currency (to the nearest £0.1m). A positive number below indicates an increase in profit and equity and a negative number a reduction in profit and equity. There would be an equal and opposite impact on profit and equity if sterling devalues by 10% against the relevant currency.

Currency	**2019 Impact £m**	2018 Impact £m
Euro	**0.7**	(0.1)
Singapore dollar	**(0.2)**	0.1
Hong Kong dollar	**(0.4)**	(0.1)
Thai baht	**(0.4)**	0.2
US dollar	**(7.2)**	(3.4)
Canadian dollar	**(0.2)**	(0.2)
UAE dirham	**(0.1)**	(0.1)
Qatari riyal	**(0.1)**	(0.1)
Philippine peso	**(0.1)**	(0.1)
Omani rial	**-**	(0.1)
Swedish krona	**-**	(0.1)
Norwegian krone	**-**	(0.1)
Danish krone	**(0.1)**	(0.1)
	(8.1)	(4.2)

The group's sensitivity to the euro increased during the year reflecting a net decrease in euro denominated monetary assets and a net increase in euro denominated forward contracts. The group's sensitivity to the US dollar has decreased during the year, reflecting a net decrease in US dollar denominated forward contracts taken out to hedge future payments, a net increase in US dollar denominated monetary assets. Exposure to other currencies has remained fairly constant. NATS believes that this sensitivity analysis accurately reflects its inherent foreign exchange risk.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Forward foreign exchange contracts

The group entered into forward foreign exchange contracts to sell euro forecast to be received from Eurocontrol in respect of UK en route revenues and to sell other currencies it will receive on its overseas contracts. In addition, the group entered into other forward foreign exchange contracts to fund purchases. The group has designated these forward contracts as cash flow hedges. The following contracts were outstanding at year end:

	2019			2018		
			Average exchange rate			Average exchange rate
Euro sold	**£m**	**€m**		£m	€m	
0-90 days	**143.5**	**164.2**	**0.8744**	149.0	168.4	0.8846
91-365 days	**5.8**	**6.6**	**0.8853**	9.0	10.0	0.9007
> 365 days	**18.0**	**19.6**	**0.9160**	24.3	26.6	0.9136
	167.3	**190.4**	**0.8791**	182.3	205.0	0.8891
Euro bought	**€m**	**£m**		€m	£m	
0-90 days	**14.9**	**13.0**	**0.8696**	22.2	19.8	0.8936
91-365 days	**37.8**	**34.1**	**0.9009**	22.2	19.4	0.8748
> 365 days	**31.8**	**28.4**	**0.8917**	61.9	55.5	0.8956
	84.5	**75.5**	**0.8919**	106.3	94.7	0.8909
US dollar bought	**US$m**	**£m**		US$m	£m	
0-90 days	**8.8**	**6.5**	**1.3461**	25.8	18.3	1.4067
91-365 days	**5.1**	**3.6**	**1.4007**	5.6	3.9	1.4254
> 365 days	**12.5**	**8.5**	**1.4735**	17.8	12.2	1.4658
	26.4	**18.6**	**1.4147**	49.2	34.4	1.4297
Canadian dollar bought	**C$m**	**£m**		C$m	£m	
0-90 days	**0.5**	**0.3**	**1.7064**	1.7	1.0	1.6866
91-365 days	**0.8**	**0.4**	**1.8539**	0.7	0.4	1.8471
> 365 days	**0.8**	**0.5**	**1.7311**	1.3	0.7	1.7921
	2.1	**1.2**	**1.7660**	3.7	2.1	1.7531
Danish krone bought	**DKKm**	**£m**		DKKm	£m	
0-90 days	**1.4**	**0.2**	**8.4320**	1.4	0.2	8.5309
> 365 days	**2.9**	**0.4**	**8.2972**	4.4	0.5	8.3410
	4.3	**0.6**	**8.3410**	5.8	0.7	8.3866
Norwegian krone sold	**£m**	**NOKm**		£m	NOKm	
0-90 days	**-**	**-**	**-**	0.2	1.6	10.4125
91-365 days	**-**	**-**	**-**	0.1	1.6	10.4251
	-	**-**	**-**	0.3	3.2	10.4188

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

	2019			2018		
			Average exchange rate			Average exchange rate
Norwegian krone bought	**NOKm**	**£m**		NOKm	£m	
0-90 days	**1.1**	**0.1**	**11.0369**	3.3	0.3	11.4569
91-365 days	**-**	**-**	**-**	5.6	0.5	11.2597
	1.1	**0.1**	**11.0369**	8.9	0.8	11.3324
Singapore dollar sold	**£m**	**SGDm**		£m	SGDm	
0-90 days	**1.2**	**2.1**	**1.7840**	1.1	2.1	1.8414
91-365 days	**1.1**	**2.1**	**1.8428**	1.5	2.8	1.8202
> 365 days	**-**	**-**	**-**	1.1	2.1	1.8428
	2.3	**4.2**	**1.8129**	3.7	7.0	1.8333
Swedish krona bought	**SEKm**	**£m**		SEKm	£m	
0-90 days	**1.3**	**0.1**	**11.1058**	2.7	0.2	11.2320
91-365 days	**3.3**	**0.3**	**11.0590**	3.3	0.3	11.1875
> 365 days	**-**	**-**	**-**	4.7	0.4	11.0723
	4.6	**0.4**	**11.0723**	10.7	0.9	11.1478
Thai baht sold	**£m**	**THBm**		£m	THBm	
0-90 days	**-**	**-**	**-**	5.8	259.2	44.4514

At 31 March 2019, the aggregate amount of the unrealised gain under forward foreign exchange contracts deferred in the hedge reserve relating to the exposure on these future transactions was £0.8m (2018: £1.7m). The majority of these contracts will mature within the next financial year at which stage the amount deferred in equity will be realised in the income statement.

In addition to the above, NERL has entered into average rate forward agreements with a fixing date after 31 March 2019 to sell euro anticipated to be received in July 2019 in respect of UK en route revenues, for this reason they are not included in the table above. The value of these cash flows is £53.0m (2018: £56.4m). These contracts are also designated as cash flow hedges.

Interest rate risk management

The group is exposed to interest rate risk to the extent that it holds borrowings at fixed, floating and index-linked interest rates. Its interest rate risk management policies, which are kept under continuous review, are specific to NERL. Except for NERL, no other entity within the NATS group had borrowings at 31 March 2019 (2018: none).

The group seeks to minimise NERL's exposure to movements in interest rates by ensuring NERL holds an appropriate balance of fixed, floating and index-linked debt as a percentage of its net debt by the use of interest rate swap contracts and index-linked swap contracts.

The group's exposure to interest rates on financial assets and financial liabilities is detailed in the liquidity risk management section of this note. The group held no interest rate swaps at 31 March 2019 (2018: none).

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Economic interest rate exposure

The group's cash and short term deposits were as follows:

	2019						
	Cash			Short term deposits			
Currency	Amount £m	Economic interest rate %	Average maturity days	Amount £m	Economic interest rate %	Average maturity days	Total £m
Sterling	202.1	0.8	16	46.4	0.9	171	248.5
Euro	3.8	-	1	-	-	-	3.8
US dollar	1.9	-	1	-	-	-	1.9
Canadian dollar	1.3	-	1	-	-	-	1.3
Hong Kong dollar	1.3	-	1	-	-	-	1.3
Singapore dollar	1.2	-	1	-	-	-	1.2
Thai baht	0.9	-	1	-	-	-	0.9
UAE dirham	0.7	-	1	-	-	-	0.7
Qatari riyal	0.5	-	1	-	-	-	0.5
Kuwaiti dinar	0.3	-	1	-	-	-	0.3
Swedish krona	0.3	-	1	-	-	-	0.3
Omani rial	0.3	-	1	-	-	-	0.3
	214.6			**46.4**			**261.0**

	2018						
	Cash			Short term deposits			
Currency	Amount £m	Economic interest rate %	Average maturity days	Amount £m	Economic interest rate %	Average maturity days	Total £m
Sterling	262.9	0.4	11	38.3	0.8	181	301.2
Euro	2.9	-	3	-	-	-	2.9
UAE dirham	0.8	-	3	-	-	-	0.8
Hong Kong dollar	0.7	-	3	-	-	-	0.7
US dollar	0.6	-	3	-	-	-	0.6
Thai baht	0.4	-	3	-	-	-	0.4
Kuwaiti dinar	0.3	-	3	-	-	-	0.3
Omani rial	0.3	-	3	-	-	-	0.3
Canadian dollar	0.2	-	3	-	-	-	0.2
Qatari riyal	0.2	-	3	-	-	-	0.2
Danish krone	0.1	-	3	-	-	-	0.1
Singapore dollar	0.1	-	3	-	-	-	0.1
Swedish krona	0.1	-	3	-	-	-	0.1
	269.6			**38.3**			**307.9**

The economic interest rate reflects the true underlying cash rate that the group was paying on its borrowings or receiving on its deposits at 31 March.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

The economic interest rate exposure of the group's loans is presented below with and without the effect of derivatives, as follows:

Excluding derivatives

	Total £m	Variable rate £m	Inflation rate £m	Fixed rate £m	Economic interest rate %	Weighted average time rate is fixed years
At 31 March 2019						
Sterling:						
5.25% guaranteed secured bonds	336.2	-	-	336.2	5.26%	4.2
Obligations under finance leases	1.4	-	-	1.4	3.10%	3.4
Total	**337.6**	**-**	**-**	**337.6**		
At 31 March 2018						
Sterling:						
5.25% guaranteed secured bonds	381.3	-	-	381.3	5.26%	4.6
Obligations under finance leases	1.6	-	-	1.6	3.10%	3.9
Total	**382.9**	**-**	**-**	**382.9**		

Including derivatives

	Total £m	Variable rate £m	Inflation rate £m	Fixed rate £m	Economic interest rate %	Weighted average time rate is fixed years
At 31 March 2019						
Sterling:						
5.25% guaranteed secured bonds	178.2	-	-	178.2	5.27%	4.2
5.25% guaranteed secured bonds	158.0	-	158.0	-	5.41%	0.5
Obligations under finance leases	1.4	-	-	1.4	3.10%	3.4
Total	**337.6**	**-**	**158.0**	**179.6**		
At 31 March 2018						
Sterling:						
5.25% guaranteed secured bonds	205.3	-	-	205.3	5.27%	4.6
5.25% guaranteed secured bonds	176.0	-	176.0	-	5.25%	0.5
Obligations under finance leases	1.6	-	-	1.6	3.10%	3.9
Total	**382.9**	**-**	**176.0**	**206.9**		

The interest rate payable under the index-linked swap is adjusted semi-annually in line with the movement in RPI.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

The following table shows the percentage of fixed, index-linked and floating rate debt as a percentage of group net debt. Net debt is defined for this purpose as borrowings net of cash and short term investments, as distinct from the definition used for financial covenants purposes.

	2019 £m	**%**	2018 £m	%
Fixed (net of bond discount and issue costs)	**178.2**	**241.1**	205.1	286.8
Index-linked	**158.0**	**213.8**	176.0	246.2
Floating (net of cash, short term investments and facility costs)	**(262.3)**	**(354.9)**	(309.6)	(433.0)
Net debt	**73.9**	**100.0**	71.5	100.0

At 31 March 2019, NERL had net debt of £168.8m (2018: net debt £207.3m including an intercompany loan of £22.5m), NATS Limited held net cash of £6.1m (2018: £5.7m), NATS Services had cash of £83.0m (2018: £104.0m), NATSNav had cash of £1.1m (2018: £0.7m), NATS (USA) Inc had cash of £0.4m (2018: £0.5m), NATS Services DMCC had cash of £0.2m (2018: £0.1m), NATS Services (Asia Pacific) had cash of £3.5m (2018: £2.0m), NATS Services (Hong Kong) had cash of £0.3m (2018: £nil) and NATS Services LLC had cash of £0.3m (2018: £0.3m).

The following table shows the percentage of fixed, index-linked and floating rate debt as a percentage of NERL net debt, reflecting the application of the interest rate risk management policies that are specific to NERL.

	2019 £m	**%**	2018 £m	%
Fixed (net of bond discount and issue costs)	**178.2**	**105.6**	205.1	98.9
Index-linked	**158.0**	**93.6**	176.0	84.9
Floating (net of cash, short term investments and facility costs)	**(167.4)**	**(99.2)**	(173.8)	(83.8)
Net debt	**168.8**	**100.0**	207.3	100.0

Interest rate sensitivity analysis

The sensitivity analysis below has been determined based on the exposure to interest rates on floating rate assets and liabilities. The analysis is prepared assuming the amount of assets or liabilities at the balance sheet date were in place for the whole year. A 1% increase or decrease is considered to represent a reasonably possible change in interest rates.

The following table shows the effect of a 1% increase in interest rates on the group's cash and floating rate bank loans on profit for the year and on equity. A positive number represents an increase in profit and equity and a negative number a decrease in profit and equity.

	2019 Impact £m	2018 Impact £m
Cash at bank and short term deposits (2019: £261.0m, 2018: £307.9m)	**2.6**	3.1

Overall the group's sensitivity to interest rates is lower than in the prior year, reflecting the net change in cash.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Inflation rate risk

The regulatory charge control conditions that apply to NERL's UK en route and North Atlantic services determines a revenue allowance for financing charges that is linked to inflation (now CPI but previously RPI). To achieve an economic hedge of part of this income, in August 2003 coincident with the issue of its £600.0m 5.25% fixed rate bond, NERL entered into an amortising index-linked swap with a notional principal of £200.0m for the period up to March 2017 reducing semi-annually thereafter and expiring in March 2026. As at 31 March 2019 the notional principal had reduced to £158.0m. Under the terms of this swap, NERL receives fixed interest at 5.25% and pays interest at a rate of 3.43% adjusted for the movement in RPI. The index-linked swap cannot be designated as a cash flow hedge under IFRS, although it provides an economic hedge of certain of NERL's inflation-linked revenues.

The value of the notional principal of the index-linked swap is also linked to movements in RPI.

Inflation rate sensitivity analysis

The sensitivity analysis below has been determined based on the exposure to inflation arising from the index-linked swap. The analysis is prepared assuming that the index-linked swap at the balance sheet date was in place for the whole year. A 1% increase or decrease in inflation is considered to represent a reasonably possible change in inflation. An increase in the rate of RPI will increase the future index-linked payments that NERL is required to make under the swap contract and so impacts its mark to market value.

The following table shows the effect of a 1% increase in inflation on the amount of interest payable in respect of this swap and the impact on its value when marked to market. A positive number indicates an increase in profit and equity and a negative number a reduction in profit and equity. There would be a fairly equal and opposite impact on profit and equity if breakeven inflation falls by 1%.

	2019 Impact £m	2018 Impact £m
Change in swap interest and mark to market value	**(9.4)**	(12.1)

The mark to market value of the index-linked swap is also sensitive to the discount rates that are used to determine the net present value of the cash flows under the swap agreement. The discount rate is determined by reference to market yields on interest rate swaps. The effect of a 1% increase in the discount rate would be to increase profit and equity by £5.1m (2018: £6.1m). There would be a fairly equal and opposite impact on profit and equity if discount rates decreased by 1%.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the group. The group's exposure to credit risk arises from the risk of default by customers on settlement of trade receivables and from the risk of a failure of a financial institution in which funds are invested for return or held for trading purposes or with whom derivative contracts are entered into. The risk of loss from default by customers and the mitigations against this risk are explained in note 17. With regard to funds or contracts held with financial institutions, the group's policy is to transact with counterparties that hold a minimum credit rating as supplied by independent rating agencies: Standard & Poor's, Moody's and Fitch Ratings.

The group's policy is to allocate limits to the value of investments, foreign exchange transactions and interest rate hedging transactions that may be entered into with a bank or financial institution and to allocate an aggregate credit risk limit. The limits are based upon the institution's credit rating with Standard & Poor's and Moody's; the Fitch rating is only used if one of these agencies does not provide a rating. Where there is a difference in the rating then the lowest rating is applied.

Currently, the group's investments take the form of bank time deposits and money market fund investments. Investments in bank time deposits with maturities up to 3 months and between 3 and 6 months are only entered into with institutions holding a long term minimum credit rating of A- and A+ respectively from Standard & Poor's or Fitch Ratings and A3 and A1 respectively from Moody's. However, dependent on market conditions, tighter restrictions on rating requirements and lower limits may be placed on the duration of deposits. Money market fund investments are restricted to AAAm rated liquidity funds.

The table below sets out the investment limits that are applied to each institution based on its credit rating:

Rating (Standard & Poor's)	**Limit per institution £m**
AAA & AAAm	70.0
AA+	56.0
AA	42.0
AA-	28.0
A+	21.0
A	14.0
A-	10.5

The following table shows the distribution of the group's deposits at 31 March by credit rating (Standard & Poor's):

	2019			2018		
Rating (Standard & Poor's)	**Number of institutions**	**£m**	**By credit rating %**	Number of institutions	£m	By credit rating %
AAAm	**7**	**159.6**	**61.1**	6	190.9	62.0
AA-	**3**	**56.8**	**21.8**	3	51.6	16.8
A	**4**	**29.7**	**11.4**	6	55.4	18.0
A-	**1**	**7.5**	**2.9**	1	7.5	2.4
BBB+	**1**	**7.4**	**2.8**	1	2.5	0.8
		261.0	**100.0**		307.9	100.0

The deposits of £7.4m (2018: £2.5m) with a BBB+ rated institution were held in various current accounts that are not subject to the above investment limits.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Liquidity risk management

The responsibility for liquidity risk management, the risk that the group will have insufficient funds to meet its obligations as they fall due, rests with the Board with oversight provided by the Treasury Committee. The group manages liquidity by maintaining adequate reserves and borrowing facilities by monitoring actual and forecast cash flows, including contributions to the defined benefit pension scheme, and ensuring funding is diversified by source and maturity and available at competitive cost.

With regard to NERL, the group's policy is to:

a. maintain free cash equal to between one and two months of UK en route services revenues (see below). Free cash is defined as cash and cash equivalents and short term investments, excluding a debt service reserve account of £36.4m used to fund interest, fees and bond amortisation payments scheduled in the next six months and a required liquidity reserve account of £21.3m held to provide liquidity in the event of certain pre-defined circumstances, particularly to ensure compliance with financial covenants;

b. ensure access to bank facilities sufficient to meet 110% of forecast requirements that are not otherwise covered by operating cash flows or other sources of finance through the period of the business plan. At 31 March 2019 NERL had access to bank facilities totalling £400m available until 31 July 2022. The facilities comprise a £350m revolving term loan facility, a £45m revolving credit facility and a £5m overdraft facility;

c. ensure access to long term funding to finance its long term assets. This is achieved in the form of the fixed rate amortising sterling bonds with a final maturity date of 2026;

d. ensure that the ratio of bank funding to total gross borrowings does not exceed 75%; and

e. maintain a portfolio of debt diversified by source and maturity. This is achieved through the issuance of the fixed rate amortising bonds and by having available shorter dated committed bank facilities.

The following table shows the ratio of free cash in NERL to average monthly UK en route services income during the year:

	2019 £m	2018 £m
Average monthly UK en route services income	**48.9**	50.5
Free cash at 31 March	**108.4**	135.0
Ratio of free cash to UK en route services income	**2.2**	2.7

The following table shows the ratio of the group's bank borrowings to its gross borrowings at 31 March:

	2019 £m	2018 £m
Bank borrowings	**-**	-
Gross borrowings	**337.6**	382.9
Bank borrowings as a percentage of gross borrowings	**0%**	0%

It is company policy not to issue new guarantees in respect of the borrowings of subsidiaries or to allow the creation of any new mortgages or other charges over group assets.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Maturity of borrowings

The following table sets out the remaining contractual maturity of the group's non-derivative financial liabilities. The tables have been drawn up based on the undiscounted cash flows of financial liabilities based on the earliest date on which the group can be required to repay. The table includes both interest and principal cash flows.

	2019				2018			
	Unsecured loans £m	**Secured loans £m**	**Other liabilities £m**	**Total £m**	Unsecured loans £m	Secured loans £m	Other liabilities £m	Total £m
Due within one year or less	**0.2**	**60.8**	**198.3**	**259.3**	0.2	65.3	168.9	234.4
Between one and two years	**0.2**	**56.8**	**67.9**	**124.9**	0.2	60.8	56.6	117.6
Due between two and five years	**0.7**	**156.1**	**42.6**	**199.4**	0.7	164.8	26.3	191.8
Due in more than five years	**0.5**	**138.0**	**4.9**	**143.4**	0.7	187.0	5.5	193.2
	1.6	**411.7**	**313.7**	**727.0**	1.8	477.9	257.3	737.0
Effect of interest, discount and unamortised bond issue and bank facility arrangement fees	**(0.2)**	**(78.2)**	**-**	**(78.4)**	(0.2)	(100.1)	-	(100.3)
	1.4	**333.5**	**313.7**	**648.6**	1.6	377.8	257.3	636.7

Other liabilities above include trade and other payables excluding deferred income of £21.2m (2018: £112.5m), contract liabilities of £93.6m (2018: £nil), taxes and social security liabilities of £13.4m (2018: £13.5m) and VAT of £0.4m (2018: £nil).

In order to manage the liquidity risk arising on the contractual maturity of its borrowings, it is the group's intent to replace bank facilities and bonds with facilities of a similar nature at least 12 months in advance of contractual maturity.

The following table sets out the maturity profile of the group's derivative financial liabilities. Cash flows under the index-linked swap are not fixed and are subject to movements in inflation. Accordingly, the cash flows associated with the index-linked swap have been derived from the group's long term forecasts of inflation as used for business planning purposes. The table shows undiscounted net cash inflows/(outflows) on these derivatives.

	Due within one year or less £m	**Due between one and two years £m**	**Due between two and five years £m**	**Due in more than five years £m**	**Total £m**
2019					
Net settled:					
Index-linked swap payable	(12.2)	(14.9)	(54.0)	(45.3)	(126.4)
Gross settled:					
Foreign exchange forward contract receivables	262.1	48.7	7.0	-	317.8
Foreign exchange forward contract payables	(260.9)	(47.0)	(7.5)	-	(315.4)
	(11.0)	**(13.2)**	**(54.5)**	**(45.3)**	**(124.0)**
2018					
Net settled:					
Index-linked swap payable	(10.2)	(12.6)	(49.7)	(67.5)	(140.0)
Gross settled:					
Foreign exchange forward contract receivables	287.3	42.7	51.4	-	381.4
Foreign exchange forward contract payables	(286.1)	(43.1)	(50.7)	-	(379.9)
	(9.0)	**(13.0)**	**(49.0)**	**(67.5)**	**(138.5)**

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Foreign exchange forward contract payables due within one year or less include estimates of the payables associated with average rate forward agreements that have fixing rates after 31 March 2019. At 31 March 2019, NERL had entered into such agreements to sell euro in July 2019 in exchange for £53.0m (2018: £56.4m).

Fair value measurements

Set out below is information about how the group determines fair values of various financial assets and financial liabilities.

The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, grouped into Levels 1 to 3 based on the degree to which the fair value is observable.

> Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities.

> Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).

> Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Fair value measurements recognised on the balance sheet

	2019				2018			
	Level 1 £m	**Level 2 £m**	**Level 3 £m**	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Financial assets								
Equity investment	**-**	**-**	**50.9**	**50.9**	-	-	-	-
Derivative financial instruments in designated hedge accounting relationships	**-**	**4.4**	**-**	**4.4**	-	3.2	-	3.2
	-	**4.4**	**50.9**	**55.3**	-	3.2	-	3.2
Financial liabilities								
Derivative financial instruments in designated hedge accounting relationships	**-**	**(2.1)**	**-**	**(2.1)**	-	(1.3)	-	(1.3)
Derivative financial instruments classified as held for trading	**-**	**(122.1)**	**-**	**(122.1)**	-	(129.2)	-	(129.2)
	-	**(124.2)**	**-**	**(124.2)**	-	(130.5)	-	(130.5)

There were no transfers between individual levels in the year.

Notes forming part of the consolidated accounts

20. Financial instruments (continued)

Valuation techniques and key inputs

The fair value of the financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the balance sheet date.

The fair values of the financial instruments held at fair value have been determined based on available market information at the balance sheet date and the valuation methodologies listed below:

- the fair values of forward foreign exchange contracts are calculated with reference to well recognised proprietary financial models used by bank counterparties, and verified using discounted cash flow modelling;
- the fair value of the index-linked swap is provided by bank counterparties using proprietary financial models. This is validated using discounted cash flow modelling based on the latest published inflation index, observable forecasts of inflation and discount rates taken from the observable interest rate swap curve at the reporting date;
- the valuation technique used to determine the fair value of the equity investment in Level 3 of the hierarchy is explained in note 16; and
- the fair value of the fixed rate bond has been derived from its externally quoted price.

Except as detailed in the following table, the directors consider that the carrying amounts of financial assets and financial liabilities recorded at amortised cost in the financial statements approximate their fair values:

	Carrying amount		Fair value	
	2019 £m	2018 £m	**2019 £m**	2018 £m
Financial liabilities				
£600m 5.25% Guaranteed Secured Amortising Bond	**(336.2)**	(381.3)	**(388.9)**	(440.6)

Notes forming part of the consolidated accounts

21. Financial and other liabilities

Trade and other payables

The group had balances in respect of other non-interest bearing financial and other liabilities as follows:

	2019 £m	2018* £m
Current		
Trade payables	**85.3**	18.4
Other payables	**1.8**	44.4
Tax and social security	**13.4**	13.5
Contract liabilities	**45.4**	-
Accruals and deferred income		
deferred grants	**0.5**	0.6
other	**114.1**	136.2
	260.5	213.1
Non-current		
Trade payables	**102.9**	-
Other payables	**0.1**	60.7
Contract liabilities	**48.2**	-
Accruals and deferred income		
deferred grants	**2.6**	3.2
other	**28.0**	106.3
	181.8	170.2
	442.3	383.3

Under IFRS 15, payables relating to contracts with customers are included within trade payables. Under previous accounting standards, these balances were disclosed within other payables.

Trade payables and accruals principally comprise amounts outstanding for trade purchases and ongoing costs. The average credit period taken for trade purchases is 31 days (2018: 34 days). The directors consider that the carrying amount of the trade payables approximates to their fair value.

Trade payables that are non-current also include regulatory adjustments for calendar year 2018, the period January to March 2019 and previous regulatory control periods, which will be repaid after 31 March 2020 through 2020 and 2021 charges. Trade payables that are current include regulatory adjustments for calendar years 2017 and 2018 and previous regulatory control periods, which will be recovered by 31 March 2020 through 2019 and 2020 charges.

* The group has chosen not to restate comparatives on adoption of IFRS 15. See note 35.

Notes forming part of the consolidated accounts

22. Obligations under finance leases

	Minimum lease payments		Present value of minimum lease payments	
	2019 £m	2018 £m	**2019 £m**	2018 £m
Within one year	**0.2**	0.2	**0.2**	0.2
In the second to fifth years inclusive	**0.9**	0.9	**0.8**	0.8
After five years	**0.5**	0.7	**0.4**	0.6
	1.6	1.8	**1.4**	1.6
Less: future finance charges	**(0.2)**	(0.2)	**-**	-
	1.4	1.6	**1.4**	1.6

Analysed as:

	2019 £m	2018 £m
Current	**0.2**	0.2
Non-current	**1.2**	1.4
	1.4	1.6

The group has a finance lease arrangement for certain network equipment. The term of this lease is 10 years, with 6.75 years remaining. For the year ended 31 March 2019, the effective borrowing rate was 3.1%. All leases are on a fixed repayment basis.

The fair value of the group's lease obligations is approximately equal to its carrying amount.

Notes forming part of the consolidated accounts

23. Provisions

	Redundancy £m	Relocation £m	Other £m	Total £m
At 1 April 2018	3.6	0.8	7.4	11.8
Additional provision in the year	1.8	0.6	1.6	4.0
Release of provision in the year	(0.3)	(0.4)	(0.1)	(0.8)
Utilisation of provision	(3.3)	(0.2)	(0.3)	(3.8)
At 31 March 2019	**1.8**	**0.8**	**8.6**	**11.2**

	2019 £m	2018 £m
Amounts due for settlement within 12 months	**3.8**	5.0
Amounts due for settlement after 12 months	**7.4**	6.8
	11.2	11.8

The redundancy provision represents the best estimate of the future cost of redundancy payments to employees that have committed to the redundancy terms at 31 March 2019. The ageing of the provision reflects the expected timing of employees leaving the group.

The relocation provision represents the best estimate of the future cost of relocating staff when the site they work at closes and they are relocated to another site. The ageing of the provision reflects the expected timing of the settlement of relocation costs.

The other provisions represent the best estimate of other liabilities, including property-related costs. The ageing of the provision reflects the best estimate of when these potential liabilities will fall due.

Notes forming part of the consolidated accounts

24. Deferred tax

The following are the major deferred tax assets and liabilities recognised by the group and movements thereon during the current and prior reporting period.

	Accelerated tax depreciation £m	Retirement benefits £m	Financial instruments £m	Other £m	Total £m
At 1 April 2017	95.1	(64.1)	(7.9)	(3.5)	19.6
Charge to income	11.0	2.3	1.8	0.4	15.5
Charge/(credit) to equity	-	80.6	(0.2)	-	80.4
At 31 March 2018	**106.1**	**18.8**	**(6.3)**	**(3.1)**	**115.5**
At 1 April 2018	106.1	18.8	(6.3)	(3.1)	115.5
Charge/(credit) to income	5.8	6.3	0.6	(1.3)	11.4
Credit to equity	-	(28.9)	(0.2)	-	(29.1)
At 31 March 2019	**111.9**	**(3.8)**	**(5.9)**	**(4.4)**	**97.8**

Certain deferred tax assets and liabilities have been offset. The following is the analysis of the deferred tax balances (after offset) for financial reporting purposes.

	2019 £m	2018 £m
Deferred tax liabilities	**(111.9)**	(124.9)
Deferred tax assets	**14.1**	9.4
	(97.8)	(115.5)

Notes forming part of the consolidated accounts

25. Share capital

	Authorised		Called up, allotted and fully paid	
	Number of shares	£m	Number of shares	£m
Ordinary shares of £1 each				
At 31 March 2019 and 31 March 2018	144,100,007	144.1	131,000,007	131.0
Ordinary A shares of 80 pence each				
At 31 March 2019 and 31 March 2018	54,272,594	43.4	12,048,193	9.6
		187.5		**140.6**

Each class of ordinary shares has the same voting rights and rights to dividends.

Special share

The authorised and issued share capital of NATS Holdings Limited includes one special rights redeemable preference share with a nominal value of £1. The share is redeemable at any time after the shareholding of the Crown falls below 25%. This share can only be held by a Minister of the Crown, the Treasury Solicitor or any other person acting on behalf of the Crown. The special shareholder is entitled to attend and speak at meetings. The special share does not carry any rights to vote at general meetings except in the following circumstances:

- alterations to the company's share capital;
- alterations to voting rights of any of the company's shares; and
- the removal of any director appointed by a Crown representative.

If an attempt is made to approve any of these events or to pass a resolution to wind up the company at a general meeting, on an ordinary resolution, the special shareholder will have no less than one vote more than the total number of all other votes cast, and on a special resolution, he shall have no less than one vote more than 25% of the total votes cast.

26. Share premium account

	£m
Balance as at 31 March 2019 and 31 March 2018	**0.4**

27. Non-controlling interest

The non-controlling interest (a 30% ownership interest in NATS Services LLC) recognised at the acquisition date was measured by reference to the fair value of the non-controlling interest and amounted to £0.1m (Omani rial 0.1m).

As at 31 March 2019, a loan to the non-controlling interest amounted to £0.1m (Omani rial 0.1m) and is included in other debtors (see note 17).

Notes forming part of the consolidated accounts

28. Notes to the cash flow statement

	2019 £m	2018 £m
Operating profit from continuing operations	**122.5**	157.0
Adjustments for:		
Depreciation of property, plant and equipment	**81.0**	80.3
Amortisation of intangible assets	**55.7**	51.7
Impairment losses	**5.0**	5.7
Deferred grants released	**(0.6)**	(0.7)
Profit on disposal of property, plant and equipment	**(2.1)**	-
R&D expenditure above the line tax credits	**(1.9)**	(1.8)
Adjustment for pension funding	**(33.7)**	(11.5)
Operating cash flows before movements in working capital	**225.9**	280.7
Decrease/(increase) in trade and other receivables	**5.5**	(14.6)
Increase in trade, other payables and provisions	**62.3**	78.7
Cash generated from operations	**293.7**	344.8
Tax received/(paid)	**0.8**	(6.8)
Net cash from operating activities	**294.5**	338.0

Cash and cash equivalents, which are presented as a single class of asset on the face of the balance sheet, comprise cash at bank and short term highly liquid investments with a maturity of three months or less.

Reconciliation of net financial liabilities

The table below analyses those net financial liabilities for which cash flows arise from financing activities in each of the periods presented.

	2019 £m	2018 £m
Cash and cash equivalents	**214.6**	269.6
Short term investments	**46.4**	38.3
Cash and liquid investments	**261.0**	307.9
Gross debt - fixed interest rates	**(336.2)**	(381.1)
Gross debt - variable interest rates	**1.3**	1.7
Net debt	**(73.9)**	(71.5)
Index-linked swap	**(122.1)**	(129.2)
Net financial liabilities	**(196.0)**	(200.7)

Notes forming part of the consolidated accounts

28. Notes to the cash flow statement (continued)

The table below reconciles the movements in financial assets and financial liabilities arising from financing activities in the period.

	Assets		Liabilities from financing activities (excluding derivatives)				Net debt	Derivatives	Net financial liabilities
	Cash and cash equivalents £m	Short term investments £m	Finance leases £m	£600m 5.25% Guaranteed Secured Amortising Bonds £m	Bank loans (i) £m	Bank overdrafts £m	Sub-total £m	Index-linked swap £m	Total net financial liabilities £m
Net financial liabilities as at 1 April 2017	254.2	39.4	(1.8)	(426.2)	1.7	-	(132.7)	(138.6)	(271.3)
Cash flows	15.6	(1.1)	0.3	47.2	-	-	62.0	8.1	70.1
Bank facility arrangement fees	-	-	-	-	0.4	-	0.4	-	0.4
Foreign exchange adjustments	(0.2)	-	-	-	-	-	(0.2)	-	(0.2)
Fair value movements	-	-	-	-	-	-	-	1.3	1.3
Other non-cash movements (ii)	-	-	(0.1)	(0.5)	(0.4)	-	(1.0)	-	(1.0)
Net financial liabilities as at 31 March 2018	**269.6**	**38.3**	**(1.6)**	**(379.5)**	**1.7**	**-**	**(71.5)**	**(129.2)**	**(200.7)**
Cash flows	(55.2)	8.1	0.2	45.2	-	-	(1.7)	10.1	8.4
Foreign exchange adjustments	0.2	-	-	-	-	-	0.2	-	0.2
Fair value movements	-	-	-	-	-	-	-	(3.0)	(3.0)
Other non-cash movements (ii)	-	-	-	(0.5)	(0.4)	-	(0.9)	-	(0.9)
Net financial liabilities as at 31 March 2019	**214.6**	**46.4**	**(1.4)**	**(334.8)**	**1.3**	**-**	**(73.9)**	**(122.1)**	**(196.0)**

(i) The group has no outstanding drawings on its bank facilities. The amount reported under bank loans represents unamortised bank facility arrangement fees.
(ii) Other non-cash flow movements include finance lease interest charges, amortisation of bond issue costs and bank facility arrangement fees.

Notes forming part of the consolidated accounts

29. Financial commitments

	2019 £m	2018 £m
Amounts contracted but not provided for in the accounts	**67.9**	106.3
Minimum lease payments under operating leases recognised in the income statement	**8.7**	20.1

At the balance sheet date the group had outstanding commitments for future minimum lease payments under non-cancellable operating leases, which fall due as follows:

	2019 £m	2018 £m
Within one year	**9.9**	15.3
In the second to fifth years inclusive	**38.5**	56.3
After five years	**35.6**	60.4
	84.0	132.0

Operating lease payments represent rentals payable by the group for certain properties, equipment used for air navigation and vehicles. Leases are negotiated on varying terms depending on the type of asset leased.

Guarantees

NATS Holdings Limited has given guarantees to the Ministry of Defence in relation to NERL's performance under its Future Military Area Radar Services contract with the MOD.

NATS Services has provided a parent company guarantee to the MOD to secure the performance by Aquila of its obligations under the Project Marshall contract.

NATS Services has provided a parent company guarantee to the sellers of shares in Searidge Technologies Inc, to secure the performance by NATS (Services) Canada Inc under the Share Purchase Agreement for any contingent consideration relating to those shares.

NATS Services has guaranteed all of the obligations of NATS (USA) Inc to Aireon LLC in relation to its status as a member of Aireon LLC.

As part of the tendering process for new contracts, the NATS group may be required to put in place a tender or bid guarantee which expires once the contract is awarded. Where tenders are successful, contractual terms may also require performance or advance payment guarantees. These guarantees vary in length depending on the life of the contract and may run until the expiry of the contract. The total guarantees provided in these respects at 31 March 2019 was £8.4m (2018: £7.8m).

Notes forming part of the consolidated accounts

30. Share based payments

The company operates an All-Employee Share Ownership Plan for the benefit of employees to hold 5% of the share capital of the company. The plan is administered by NATS Employee Sharetrust Limited. The scheme allows for free shares, dividend shares, partnership shares and matching shares to be awarded to employees. The free shares and matching shares have a vesting period of three years from date of award and may be cash-settled from this date. The shares may be forfeited if the employee leaves within three years of the date of the award, depending on conditions of departure.

A liability is recognised for the current fair value of shares in issue at each balance sheet date. Changes in fair value of the liability are charged or credited to the income statement. The number of shares outstanding at the balance sheet date was:

Date of share awards	No. shares awarded to employees	No. employee shares outstanding at 31 March 2019	No. employee shares outstanding at 31 March 2018
Free share awards			
21 September 2001	3,353,742	**256,923**	284,317
20 October 2003	2,459,000	**241,384**	265,886
10 September 2004	1,966,000	**360,957**	396,957
11 January 2008	1,071,840	**285,717**	314,859
18 September 2009	963,200	**314,557**	351,657
Partnership shares			
1 March 2011	694,783	**288,096**	325,365
26 September 2012	714,959	**367,007**	422,365
30 May 2014	496,738	**386,500**	406,176
31 October 2016	530,303	**471,506**	495,273
31 October 2018	635,048	**622,117**	-
Matching shares			
1 March 2011	694,783	**287,127**	325,624
26 September 2012	714,959	**364,656**	421,028
30 May 2014	496,738	**386,575**	406,176
31 October 2016	530,303	**471,506**	495,273
31 October 2018	635,048	**622,117**	-
		5,726,745	4,910,956
Dividend shares issued on 28 June 2005	247,017	**30,625**	33,701
Total employee shares in issue at 31 March		**5,757,370**	4,944,657

Notes forming part of the consolidated accounts

30. Share based payments (continued)

The movement in the number of employee shares outstanding is as follows:

	Movement in the no. of shares during the year ended 31 March 2019	Movement in the no. of shares during the year ended 31 March 2018
Balance at 1 April	**4,944,657**	5,655,376
Granted during the year	**1,270,096**	-
Forfeited during the year	**(15,206)**	(7,350)
Exercised during the year	**(442,177)**	(703,369)
Balance at 31 March	**5,757,370**	4,944,657

These shares are valued every six months by independent valuers using discounted cash flow and income multiple methods of valuation. As at 31 March 2019 the price of an employee share was valued at £3.90 (2018: £3.40). A valuation at 30 June 2018 valued the shares at £3.75. The liability for the employee shares at 31 March 2019 was £19.1m (2018: £16.1m) included in other accruals and deferred income. The income statement includes a charge of £2.9m (2018: £2.8m credit). The payments made to employees for the shares they exercised during the year was £1.6m (2018: £2.4m).

31. Retirement benefit schemes

Defined contribution scheme

The group provides a defined contribution scheme to all qualifying employees who are not members of the defined benefit scheme. The assets of the scheme are held separately from those of the group in funds under the control of a board of Trustees.

The group operates a salary sacrifice arrangement whereby employees sacrifice an element of their salary in favour of contributions to the scheme in a ratio of 2:1, up to a maximum employer contribution of 18%. For the year ended 31 March 2019 employer contributions of £11.4m (2018: £8.7m), excluding employee salary sacrifice contributions of £6.2m (2018: £4.6m), represented 15.0% of pensionable pay (2018: 14.7%).

The defined contribution scheme had 1,680 members at 31 March 2019 (2018: 1,343).

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

Defined benefit scheme

NATS Limited (formerly National Air Traffic Services Limited), the company's wholly-owned subsidiary, entered into a deed of adherence with the CAA and the Trustees of the Civil Aviation Authority Pension Scheme (CAAPS) whereby the company was admitted to participate in CAAPS from 1 April 1996. CAAPS is a fully funded defined benefit scheme providing benefits based on final pensionable salaries. At 31 March 2001, the business of NATS was separated from the CAA. As a consequence, NATS became a 'non associated employer' which requires the assets relating to the liabilities of NATS active employees at 31 March 2001 to be separately identified within the CAAPS. CAAPS was divided into two sections to accommodate this, namely the CAA section and the NATS section, and a series of common investment funds was established in which both sections participate for investment purposes. The assets and membership of the scheme prior to transfer were allocated between these sections in accordance with Statutory Instrument 2001 Number 853, Transport Act 2000 (Civil Aviation Authority Pension Scheme) Order 2001. The assets of the scheme are held in a separate trustee administered fund. CAAPS is governed by a board of Trustees which is responsible for implementing the funding and investment strategy. The board comprises six employer (NATS and the CAA) and six member-nominated trustees, as well as an independent chair.

During 2009 the group introduced a number of reforms to manage the cost and risk of pensions. The defined benefit pension scheme was closed to new joiners with effect from 31 March 2009. In addition, from 1 January 2009, annual increases in pensionable salaries were limited to a maximum increase in the retail prices index (RPI) plus 0.5%. A defined contribution scheme was also introduced for new joiners (see above). Finally, pension salary sacrifice arrangements were introduced with effect from 1 April 2009.

During 2013 the group consulted on further pension reforms to mitigate rising pension costs. These included a change to the limit on increases in pensionable salaries to a maximum of the consumer prices index (CPI) plus 0.25%. In addition, the Trustees consulted members of the scheme on a change to the indexation of future service at CPI, rather than RPI. These reforms were agreed by staff.

The defined benefit scheme had the following membership at 31 March:

	2019 No.	2018 No.
Active members	**1,990**	2,089
Deferred members	**1,064**	1,072
Pensioners	**2,728**	2,669
	5,782	5,830

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

Trustees' funding assessment

A Trustees' funding assessment of the NATS' section is prepared at least every three years by the pension scheme actuary at the request of the Trustees in order to establish the financial position of the NATS' section and to determine the level of contributions to be paid by NATS in the future.

The last Trustees' funding assessment of the NATS' section was carried out at 31 December 2017 and used the projected unit credit method. The assumptions which have the most significant effect on the liabilities assessed at the valuation and hence the contribution requirement are those relating to the rate of return on investments, the rate of increase in salaries, the rate of increase in pensions and life expectancy.

The market value of the NATS' section's assets as at 31 December 2017 was £4,540.4m. For the purpose of the Trustees' funding assessment assets were taken at market value. The shortfall of assets relative to the value of benefits that had accrued to existing members was £270.4m, corresponding to a funding ratio of 94.4%.

The 2017 valuation showed that, based on long term financial assumptions, the contribution rate required to meet future benefit accrual and expenses was 47.6% of pensionable pay (41.8% employers and 5.8% employees). The employer contribution includes an allowance to cover administration costs, including the Pension Protection Fund (PPF) levy.

Contributions to the pension scheme

Following the 2017 valuation, NATS and the Trustees agreed a recovery plan which would see the funding deficit repaid by 2026. Under the schedule of contributions, normal contributions will continue to be paid at 31.8% of pensionable pay until 31 December 2019, increasing to 41.7% payable from 1 January 2020 onwards. The NATS group paid deficit recovery contributions of £40.8m in the 2018 calendar year and will pay £41.8m in 2019. From 1 January 2020 to 31 December 2023, deficit recovery contributions will be paid at £25.4m in 2020 and increase annually by 2.37% for 2021 to 2023. No contributions will be paid in 2024. Further deficit recovery contributions will be paid in 2025 and 2026 of £2.3m per year.

During the year the group paid cash contributions to the scheme of £100.0m (2018: £104.1m). This amount included £8.9m (2018: £9.7m) of wages and salaries sacrificed by employees in return for pension contributions. Excluding the effect of salary sacrifice and past service costs, employer cash contributions were paid at a rate of 58.0% (2018: 55.3%) of pensionable pay.

The estimated contributions expected to be paid to the scheme during the financial year ending 31 March 2020 is £98.8m, including salary sacrifice contributions estimated at £8.7m.

Contributions to the scheme are ultimately funded by NATS' two principal operating subsidiaries: NERL and NATS Services, in proportion to their pensionable payrolls.

Company's accounting valuation under international accounting standards

For the purpose of accounting for the scheme in these financial statements, the company obtains an updated valuation from a qualified independent actuary that is prepared in accordance with IAS 19: *Employee Benefits*.

This valuation differs from the Trustees' funding assessment explained above in a number of critical respects, including for example, differences in timing and frequency as well as in valuation assumptions. The Trustees' last funding assessment was prepared as at 31 December 2017, whereas the company's accounting valuation is prepared annually at 31 March. As a result, at each valuation date, the market conditions on which the assumptions are based will be different. Also, the assumptions adopted for the Trustees' funding assessment are set by the Trustees and include appropriate margins for prudence, whereas those adopted for the company's accounting valuation are prescribed by international accounting standards and reflect best estimates.

If an accounting valuation reveals a surplus at the balance sheet date, this is recognised in full to the extent that it can be realised in full by the company.

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

An actuarial valuation for IAS 19 purposes was carried out at 31 March 2019 (based on 31 December 2018 membership data). The major assumptions used by the actuary for the purposes of the IAS 19 figures at the relevant year ends are set out in the table and narrative below:

	2019	2018	2017
RPI inflation	**3.10%**	3.00%	3.10%
CPI inflation	**2.00%**	1.90%	2.00%
Increase in:			
- salaries	**2.00%**	1.90%	2.00%
- deferred pensions	**3.10%**	3.00%	3.10%
- pensions in payment	**3.10%**	3.00%	3.10%
Discount rate for net interest expense	**2.45%**	2.65%	2.55%

The mortality assumptions have been drawn from actuarial tables 97% S2PMA light and 102% S2PFA light (2018: 97% S2PMA light and 102% S2PFA light) with future improvements in line with CMI 2016 (2018: CMI 2016) projections for male/female members, subject to a long term improvement of 1.5% p.a. (2018: 1.5% p.a.). These tables assume that the life expectancy, from age 60, for a male pensioner is 29.0 years and a female pensioner is 29.6 years. Allowance is made for future improvements in longevity, such that based on the average age of the current membership (46), when these members reach retirement, life expectancy from age 60 will have increased for males to 30.2 years and for females to 30.9 years.

The principal risks to the financial performance of the group arising from the scheme are in respect of:

a. asset volatility: for accounting purposes, scheme liabilities are determined using a discount rate set by reference to high quality corporate bond yields. If scheme assets under-perform relative to this yield, this will create a deficit. As explained below, NATS and Trustees are reviewing measures to de-risk the scheme by investing more in assets which better match the liabilities.

b. changes in bond yields: a decrease in the yield on high quality corporate bonds will increase scheme obligations, although this is partly mitigated by an increase in the value of the scheme's holdings of bonds.

c. inflation risk: the scheme's benefit obligations are linked to inflation, and higher inflation will lead to higher liabilities. As discussed further below, the scheme has implemented a liability driven investment programme to partially protect the funding position from changes in inflation. Furthermore, some of the scheme's assets (such as equities) are real in nature and so provide some additional inflation protection, but overall, an increase in inflation will adversely impact on the funding position.

d. life expectancy (mortality): the majority of the scheme's obligations are to provide benefits for the life of a member, so an increase in life expectancy will result in an increase in the scheme's obligations.

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

Sensitivities regarding the principal assumptions used to measure the scheme liabilities are set out below:

Assumption	Change in assumption	Impact on scheme liabilities
Discount rate (bond yields)	Increase/decrease by 0.5%	Decrease by 10.3%/increase by 12.0%
Rate of inflation	Increase/decrease by 0.5%	Increase by 11.6%/decrease by 10.1%
Rate of pensionable salary growth	Increase/decrease by 0.5%	Increase by 2.6%/decrease by 2.5%
Rate of mortality	1 year increase in life expectancy	Increase by 3.3%

Each sensitivity above is based on changing one assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to variations in significant actuarial assumptions, the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as for calculating the liability recognised on the balance sheet.

The directors consider that the criteria for recognition of a pension surplus under IFRIC 14 are met.

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

Amounts recognised in income, in the staff costs line item, in respect of the defined benefit scheme are as follows:

	2019 £m	2018 £m
Current service cost	(67.6)	(81.9)
Past service cost	(1.0)	-
Net interest expense	4.2	(7.6)
Administrative expenses	(1.9)	(3.1)
Components of defined benefit costs recognised within operating profit	(66.3)	(92.6)

Remeasurements recorded in the statement of comprehensive income are as follows:

	2019 £m	2018 £m
Return on plan assets (excluding amounts included in net interest expense)	180.5	36.5
Actuarial gains and losses arising from changes in financial assumptions	(311.3)	214.2
Actuarial gains and losses arising from changes in demographic assumptions	-	162.4
Actuarial gains and losses arising from experience adjustments	(35.6)	36.8
	(166.4)	449.9

The amount included in the consolidated balance sheet arising from the group's obligations in respect of its defined benefit scheme is as follows:

	2019 £m	2018 £m
Present value of defined benefit obligations	(4,789.8)	(4,375.0)
Fair value of scheme assets	4,767.7	4,485.6
(Deficit)/surplus in scheme	(22.1)	110.6

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

Movements in the present value of the defined benefit obligations were as follows:

	2019 £m	2018 £m
At 1 April	**(4,375.0)**	(5,786.3)
Current service cost	**(67.6)**	(81.9)
Past service cost	**(1.0)**	-
Interest expense on defined benefit scheme obligations	**(114.4)**	(132.1)
Actuarial gains and losses arising from changes in financial assumptions	**(311.3)**	214.2
Actuarial gains and losses arising from changes in demographic assumptions	**-**	162.4
Actuarial gains and losses arising from experience adjustments	**(35.6)**	36.8
Benefits paid	**115.1**	1,211.9
At 31 March	**(4,789.8)**	(4,375.0)

The average duration of the scheme's liabilities at the end of the year is 21.6 years (2018: 22.1 years). The present value of the defined benefit obligation can be analysed by member group as follows:

	2019 £m	2018 £m
Active members	**(1,945.0)**	(1,749.5)
Deferred members	**(516.9)**	(457.0)
Pensioners	**(2,327.9)**	(2,168.5)
	(4,789.8)	(4,375.0)

Movements in the fair value of scheme assets during the year were as follows:

	2019 £m	2018 £m
At 1 April	**4,485.6**	5,435.5
Interest income on scheme assets	**118.6**	124.5
Return on plan assets (excluding amounts included in net interest expense)	**180.5**	36.5
Contributions from sponsoring company	**100.0**	104.1
Benefits paid	**(115.1)**	(1,211.9)
Administrative expenses	**(1.9)**	(3.1)
At 31 March	**4,767.7**	4,485.6

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

The major categories of scheme assets were as follows:

	2019 £m	2018 £m
Cash and cash equivalents	**31.5**	154.4
Equity instruments		
- UK	**-**	132.1
- Europe	**-**	36.0
- North America	**-**	106.1
- Japan	**-**	14.8
- Pacific (excluding Japan)	**-**	40.9
- Emerging markets	**145.4**	130.7
- Global	**813.6**	889.6
	959.0	1,350.2
Bonds		
- Fixed income	**1,633.0**	1,092.6
- Index-linked gilts over 5 years	**1,550.4**	1,394.7
	3,183.4	2,487.3
Other investments		
- Property	**247.0**	245.5
- Hedge funds	**225.4**	223.5
- Private equity funds	**125.8**	125.6
	598.2	594.6
Derivatives		
- Futures contracts	**(4.4)**	(100.9)
	4,767.7	4,485.6

The scheme assets do not include any investments in the equity or debt instruments of group companies or any property or other assets used by the group.

Virtually all equity and debt instruments have quoted prices in active markets. Investments are well diversified, such that the failure of any single investment would not have a material impact on the overall level of assets. A large portion of the assets consist of equities and bonds, although the scheme also invests in property, cash and investment (private equity and hedge) funds.

Notes forming part of the consolidated accounts

31. Retirement benefit schemes (continued)

NATS and Trustees implemented a liability driven investment (LDI) programme in 2012 in order to hedge the impact of changes in inflation and interest rates on the value of the scheme's obligations, which are sensitive to inflation and movements in yields in the gilt market. The strategy includes establishing trigger levels which define the rates of interest and inflation rates at which hedging transactions will be executed. In addition, and as an acceleration of the existing strategy, NATS and Trustees agreed during 2014 to increase the level of hedging of interest rates and inflation to 50%, as measured on the Trustee funding basis. During 2018 it was agreed to further increase the level of hedging of interest rates and inflation to 65%, as measured on the Trustee funding basis. Swap transactions are executed with carefully scrutinised banks and collateral is provided in the form of index-linked gilts to protect against the unlikely event of default by a counterparty bank.

During 2018, NATS and the Trustees also agreed changes to the asset allocation to make the portfolio more efficient by reducing the overall level of risk whilst continuing to support the valuation assumptions agreed for the 2017 funding valuation and therefore having no impact on the level of contributions payable. This included a reduction in the allocation to equities in favour of a more diversified portfolio with a higher allocation to liquid debts.

Derivative instruments are used by investment managers to reduce risk or gain exposure to investment classes without the requirement to hold the underlying investment. Trustees monitor derivative positions to ensure that, when combined with the underlying physical position, the aggregate falls within specified investment guidelines.

The actual return on scheme assets for the year ended 31 March 2019 was £299.1m (2018: £161.0m).

32. Related party transactions

The NATS group has four shareholders - the Crown, The Airline Group Limited (AG), LHR Airports Limited and the NATS Employee Sharetrust Limited. During the year transactions with the Crown have taken place with the Meteorological Office, the Department for Transport (DfT) and the Ministry of Defence (MOD). In addition there have been transactions with LHR Airports Limited and AG.

AG is a consortium of British Airways plc, Deutsche Lufthansa AG, easyJet Airline Company Limited, the Pension Protection Fund, Thomas Cook Airlines Limited, TUI Airways Limited, Virgin Atlantic Airways Limited and USS Sherwood Limited. AG has a 42% stake in NATS Holdings Limited. The directors of NATS Holdings Limited are satisfied that the eight members of AG have not exercised undue influence on the group either acting individually or in concert and therefore the individual transactions with each member of AG have not been disclosed in this set of accounts.

Contractual arrangements existed during the year between LHR Airports Limited and NATS Services in relation to air navigation services provided at Heathrow Airport.

Transactions between the company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note. Transactions between the company and its subsidiaries are disclosed in the subsidiary companies' financial statements.

Transactions between the company and its joint ventures and associate, which are related parties, are disclosed below.

Notes forming part of the consolidated accounts

32. Related party transactions (continued)

Trading transactions

During the year, group companies entered into the following transactions with related parties.

	Sales		Purchases		Amounts owed by related parties		Amounts owed to related parties	
	Year ended 31 March 2019 £m	Year ended 31 March 2018 £m	**Year ended 31 March 2019 £m**	Year ended 31 March 2018 £m	**Year ended 31 March 2019 £m**	Year ended 31 March 2018 £m	**Year ended 31 March 2019 £m**	Year ended 31 March 2018 £m
LHR Airports Limited	**55.5**	59.2	**0.4**	8.3	**10.3**	6.0	**-**	-
Ministry of Defence (MOD)	**47.7**	47.0	**4.0**	4.7	**5.7**	5.5	**28.4**	19.5
The Airline Group Limited (AG)	**-**	-	**0.2**	0.2	**-**	-	**-**	-
Department for Transport (DfT)	**0.9**	0.9	**-**	-	**0.1**	-	**-**	-
Meteorological Office	**0.3**	-	**1.0**	1.1	**-**	-	**0.2**	0.1
European Satellite Services Provider SAS	**0.1**	0.1	**-**	-	**-**	-	**-**	-
FerroNATS Air Traffic Services SA	**0.4**	0.4	**-**	-	**-**	-	**-**	-
Aquila Air Traffic Management Services Limited	**26.3**	17.2	**0.1**	0.2	**2.5**	0.8	**-**	0.2
Searidge Technologies Inc	**0.1**	-	**0.9**	0.9	**-**	-	**-**	-

Sales are made to related parties at the group's usual rates and purchases at market prices. The amounts outstanding are unsecured and will be settled in cash. No guarantees have been received. No provisions (2018: £nil) have been made for doubtful debts in respect of amounts owed by related parties.

Remuneration of key management personnel

The remuneration of key management personnel of the group, is set out below in aggregate for each of the categories specified in IAS 24: *Related Party Disclosures*. Key management includes the Board of directors of the company and the group's principal subsidiaries. Further information about the remuneration of individual directors is provided in the audited part of the Remuneration Committee report.

	2019 £m	2018 £m
Short term employee benefits	**6.7**	7.4
Post-employment benefits	**0.2**	-
Other long term benefits	**2.8**	0.6
	9.7	8.0

Notes forming part of the consolidated accounts

33. Subsidiaries, joint ventures and associates

The group's principal subsidiaries at 31 March 2019, all of which have been consolidated in these accounts were:

Name of company	Principal activity	Proportion of ordinary shares and voting rights held	Country of registration	Country of operation
Direct holding:				
NATS Limited*	Corporate services	100%	England and Wales	United Kingdom
Indirect holding:				
NATS (En Route) plc*	En route air traffic services	100%	England and Wales	United Kingdom
NATS (Services) Limited*	Airport air traffic services	100%	England and Wales	United Kingdom
NATS Solutions Limited*	Airport and airfield air traffic services	100%	England and Wales	United Kingdom
NATSNav Limited*	Satellite-based navigation	100%	England and Wales	United Kingdom
NATS Employee Sharetrust Limited*	Corporate trustee of employee share plan	100%	England and Wales	United Kingdom
NATS Services DMCC, *Suite 1201, Platinum Tower, Plot No. PH1-I2, Jumeirah Lake Towers, PO Box 392497, Dubai, United Arab Emirates*	ATM consultancy	100%	UAE	UAE
NATS Services LLC, *PO Box 533, Ruwi, PC 112, Muscat, Sultanate of Oman*	ATM consultancy	70%	Oman	Oman
NATS Services (Asia Pacific) Pte. Limited, *3 Raffles Place, #06-01 Bharat Building, Singapore 048617*	Airport and ATM consultancy	100%	Singapore	Singapore
NATS Services (Hong Kong) Limited, *31F Tower Two, Times Square, 1 Matheson Street, Causeway Bay, Hong Kong*	Airport and ATM consultancy	100%	Hong Kong	Hong Kong
NATS (USA) Inc, *The Corporation Trust Company, 1209 Orange Street, Wilmington, New Castle County, Delaware, United States*	Engineering and ATM consultancy	100%	USA	USA
NATS (Services) Canada Inc, *100 King Street West, Suite 6200, 1 First Canadian Place, Toronto, Ontario, M5X 1B8, Canada*	Digital airport air traffic services	100%	Canada	Canada

* The registered office address of the entities registered in England and Wales is: 4000 Parkway, Whiteley, Fareham, Hampshire, PO15 7FL, United Kingdom.

Notes forming part of the consolidated accounts

33. Subsidiaries, joint ventures and associates (continued)

The group had one associate and three joint ventures as at 31 March 2019, details are as follows:

Name of company	Principal activity	Date of acquisition	Proportion of ordinary shares held	Country of incorporation
European Satellite Services Provider SAS, *18, Avenue Edouard Belin - BPI 602, 31 401 Toulouse Cedex 9, France*	Satellite-based navigation	1 September 2008	16.67%	France
FerroNATS Air Traffic Services SA, *Calle Principe de Vergara, 135, 28002, Madrid, Spain*	Airport air traffic services	28 January 2011	50.00%	Spain
Aquila Air Traffic Management Services Limited, *2 Dashwood Lang Road, The Bourne Business Park, Addlestone, Surrey, KT15 2NX, United Kingdom*	Asset provision and ATM services to UK MOD	9 October 2014	50.00%	United Kingdom
Searidge Technologies Inc, *19 Camelot Drive, Nepean, Ontario, K2G 5W6, Canada*	Digital airport air traffic services	28 April 2017	50.00%	Canada

The associate and joint ventures are indirectly held by NATS Holdings Limited. The investment in ESSP is held by NATSNav Limited, investments in FerroNATS and Aquila are held by NATS (Services) Limited and the investment in Searidge Technologies is held by NATS (Services) Canada Inc.

Summarised financial information relating to the associate and joint ventures

European Satellite Services Provider SAS (ESSP)

In September 2008, the group acquired 16.67% of the issued share capital of ESSP for cash consideration of €0.2m (£0.1m).

The associate is accounted for using the equity method. Pursuant to the shareholder agreement, the group has the right to cast 16.67% of the votes at shareholder meetings. The financial year end is 31 December 2018. For the purposes of applying the equity method of accounting, the financial statements of ESSP for the year ended 31 December 2018 have been used. These financial statements have been adjusted for a final dividend of €0.4m (£0.3m) declared by ESSP at its AGM on 20 March 2019. No other adjustments are required to be made for the effects of significant transactions between the 31 December 2018 and 31 March 2019.

Although the group holds less than 20% of the equity shares of ESSP, the group exercises significant influence by virtue of representation on the Board of directors, participation in policy making decisions of ESSP and the provision of essential technical information to ESSP.

Summarised financial information in respect of ESSP is set out below. These amounts have been prepared in accordance with French GAAP and converted from the euro, ESSP's functional currency.

FerroNATS Air Traffic Services SA

In January 2011, the group acquired 50% of the issued share capital of FerroNATS Air Traffic Services SA (FerroNATS) for a cash consideration of €0.1m (£0.1m). In June 2011, the group purchased an additional €0.4m (£0.3m) of share capital, maintaining a 50% holding of the issued share capital. FerroNATS is a joint venture with Ferrovial Servicios SA.

FerroNATS draws up its accounts to 31 December. For the purpose of these financial statements management accounts have been used to derive its performance as at 31 March 2019.

FerroNATS prepares its accounts in accordance with Spanish GAAP and its functional currency is the euro.

Notes forming part of the consolidated accounts

33. Subsidiaries, joint ventures and associates (continued)

Aquila Air Traffic Management Services Limited

In October 2014, the group acquired 50% of the issued share capital of Aquila Air Traffic Management Services Limited (Aquila) for a cash consideration of £0.1m. Aquila provides air traffic management services at military airfields in the delivery of Project Marshall for the Ministry of Defence. Aquila draws up its accounts to 31 March and therefore these accounts have been used to determine its performance for the financial year. It prepares its accounts under IFRS and its functional currency is pounds sterling.

The group has recognised £0.5m as the carrying value of its investment in Aquila. This is less than a 50% share of Aquila's net assets of £5.1m at 31 March 2019. The difference is a result of impairment charges recognised due to differences in accounting policies and the uncertainty surrounding future profit forecasts.

During the year, Aquila drew down loan finance of £1.4m (net) (2018: £2.8m) from the group. At 31 March 2019, the loan (including interest) outstanding was £21.1m (2018: £18.6m).

Searidge Technologies Inc

On 26 April 2017, NATS (Services) Limited incorporated a 100% subsidiary entity, NATS (Services) Canada Inc. On 28 April 2017, NATS (Services) Canada Inc. acquired 50% of the voting equity interest of Searidge Technologies Inc. (Searidge). Searidge works with airports around the world, providing technology that helps reduce delays, increase efficiency, and overall safety. This includes the delivery of digital tower solutions, which see air traffic controllers managing aircraft from remote facilities instead of in traditional airport towers.

Details of the purchase consideration, the net assets acquired and goodwill are as follows:

	C$m	£m
Purchase consideration:		
Cash paid	7.9	4.7
Acquisition-related costs	0.3	0.2
Contingent consideration	1.5	0.9
Total purchase consideration	**9.7**	**5.8**

Additional consideration is payable if the joint venture meets a cumulative EBITDA threshold of C$4.17m for the period 1 September 2017 to 31 August 2020, up to a maximum of C$1.5m at cumulative EBITDA of C$4.92m. The potential undiscounted amount payable under the agreement is C$nil for EBITDA below C$4.17m and C$1.5m for EBITDA above C$4.92m over that period. Every C$1 of EBITDA above C$4.17m earns C$2 of contingent consideration, up to the cap of C$1.5m.

The fair value of the contingent consideration is estimated to be the maximum amount payable of C$1.5m.

The carrying value of goodwill recorded at cost less any provisions for impairment is as follows:

	C$m	£m
Goodwill recognised on acquisition	9.2	5.5
Exchange differences	-	(0.4)
At 31 March 2018	9.2	5.1
Exchange differences	-	0.2
At 31 March 2019	**9.2**	**5.3**

Notes forming part of the consolidated accounts

33. Subsidiaries, joint ventures and associates (continued)

Searidge prepares its accounts in accordance with Canadian GAAP and its functional currency is the canadian dollar.

Searidge draws up its accounts to 31 August. For the purpose of these financial statements management accounts to 28 February 2019 have been used. No adjustments are required to be made for the effects of significant transactions between 1 March 2019 and 31 March 2019. The Searidge management accounts include unrealised tax losses of C$3.4m (£1.9m) that cannot be recognised in accordance with Canadian GAAP. The group has recognised a deferred tax asset of C$0.5m (£0.3m) on consolidation as the group considers that these losses will be set off against future taxable profits.

An impairment review of the goodwill recognised on consolidation has been performed based on the latest business plan. No impairment provision is considered necessary at 31 March 2019.

During the year, Searidge drew down loan finance of C$0.4m (£0.2m) from the group (2018: C$2.0m, £1.1m). At 31 March 2019, the loan (including interest) outstanding was C$2.5m (£1.4m) (2018: C$2.0m, £1.1m).

Notes forming part of the consolidated accounts

33. Subsidiaries, joint ventures and associates (continued)

The summarised financial information above is reconciled to the carrying amount recognised in the consolidated financial statements as follows:

	2019				2018			
	Associate ESSP £m	**Joint venture FerroNATS £m**	**Joint venture Aquila £m**	**Joint venture Searidge £m**	Associate ESSP £m	Joint venture FerroNATS £m	Joint venture Aquila £m	Joint venture Searidge £m
Non-current assets	**2.2**	**0.2**	**1.9**	**1.0**	0.9	0.1	1.7	0.5
Current assets	**29.2**	**7.5**	**71.8**	**3.5**	29.1	7.0	52.9	3.7
Current liabilities	**(21.0)**	**(3.3)**	**(52.7)**	**(1.9)**	(18.1)	(2.3)	(38.0)	(1.7)
Non-current liabilities	**(1.6)**	**-**	**(15.9)**	**(3.1)**	(1.4)	-	(12.6)	(2.5)
Net assets of associate/joint ventures	**8.8**	**4.4**	**5.1**	**(0.5)**	10.5	4.8	4.0	-
Group share	**1.4**	**2.2**	**2.5**	**(0.3)**	1.7	2.4	2.0	-
Goodwill on acquisition of joint venture	**-**	**-**	**-**	**5.5**	-	-	-	5.5
Exchange difference on goodwill since acquisition	**-**	**-**	**-**	**(0.2)**	-	-	-	(0.4)
Other adjustments	**-**	**-**	**-**	**0.3**	-	-	-	(0.1)
Impairment provision brought forward	**-**	**-**	**(2.0)**	**-**	-	-	-	-
Impairment provision recognised in income statement	**-**	**-**	**-**	**-**	-	-	(1.9)	-
Carrying amount of the group's interest in associate/joint ventures	**1.4**	**2.2**	**0.5**	**5.3**	1.7	2.4	0.1	5.0
Revenue	**54.3**	**13.7**	**101.4**	**7.2**	51.2	11.9	71.7	2.9
Profit/(loss) after tax for the year	**3.2**	**1.1**	**1.0**	**0.1**	2.9	1.2	0.9	(0.8)
Group share	**0.5**	**0.6**	**0.5**	**0.1**	0.4	0.6	0.4	(0.4)
Impairment provision recognised in income statement	**-**	**-**	**(0.1)**	**-**	-	-	(1.9)	-
Group share of profit/(loss) after tax and impairment	**0.5**	**0.6**	**0.4**	**0.1**	0.4	0.6	(1.5)	(0.4)
Dividends received	**(0.8)**	**(0.7)**	**-**	**-**	-	(0.8)	-	-
Other comprehensive (loss)/ income	**-**	**(0.1)**	**-**	**-**	-	0.1	-	-

Notes forming part of the consolidated accounts

34. Ultimate controlling party

There is no ultimate controlling party of NATS Holdings Limited. Under the shareholders' agreement, The Airline Group Limited and the Crown have similar reserve rights in respect of material decisions affecting the company.

35. Changes in accounting policies

As indicated in note 2 above, the group has adopted IFRS 9: *Financial Instruments* and IFRS 15: *Revenue from Contracts with Customers,* which have resulted in changes in accounting policies and to the amounts recognised in the financial statements. The group has chosen not to restate the comparative year.

a) IFRS 9: *Financial Instruments*

IFRS 9 has replaced IAS 39: *Financial Instruments: Recognition and Measurement.* IFRS 9 introduces new requirements for (i) the classification and measurement of financial assets and liabilities, (ii) impairment for financial assets and (iii) general hedge accounting. The adoption of IFRS 9 has not had an impact on the group's approach to hedge accounting. The impact on the group is in relation to the impairment of trade receivables and contract assets as detailed below.

In relation to the impairment of financial assets measured at amortised cost (such as trade and other receivables), IFRS 9 requires an expected credit loss model as opposed to an incurred credit loss model under IAS 39. The expected credit loss model requires the group to account for expected losses and changes in those expected losses at each reporting date to reflect changes in credit risk since initial recognition of the financial assets. In other words, it is no longer necessary for a credit event to have occurred before credit losses are recognised.

The group has trade receivables and contract assets that are subject to IFRS 9's new expected credit loss model across all of its service lines. The group has revised its impairment methodology under IFRS 9. The impact of the change in impairment methodology on the group's retained earnings and equity is disclosed below.

As at 1 April 2018, the directors of the group reviewed and assessed the group's existing trade receivables for impairment using reasonable and supportable information that is available without undue cost or effort in accordance with the requirements of IFRS 9 to determine the credit risk of these at the date they were initially recognised. This has resulted in a reduction in the credit loss allowance from that previously reported of £0.4m (£0.3m net of tax) as at 1 April 2018, due to a change in the measurement of the loss allowance relating to each financial asset.

The group applied the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets.

In order to measure the expected credit losses, the risk characteristics of the trade receivables and contract assets have been considered and a matrix based on the days past due used to summarise the historic loss patterns. The contract assets relate to unbilled work in progress and have substantially the same credit risk characteristics as the trade receivables for the same types of contracts. The group has concluded that the expected credit loss rates for trade receivables are a reasonable approximation of the expected credit loss rates for the contract assets. For contract assets, the assessment of expected credit loss rates is made separate from, and following, the assessment of risks of contract performance.

Notes forming part of the consolidated accounts

35. Changes in accounting policies (continued)

The reduction in the impairment is primarily a result of the risk profile of the UK en route receivables within NERL, partially offset by an increase in impairment losses for other subsidiaries within the group due to the risk profile of International receivables. The loss allowance as at 1 April 2018 was determined as follows for both trade receivables and contract assets:

As at 1 April 2018:	Receivables - months past due							
	Current	1 month	2-3 months	4-6 months	7-12 months	>12 months	In administration	Total £m
NERL expected credit loss rate (%)	0.2%	7.6%	23.9%	48.7%	68.0%	80.8%	100.0%	
NERL gross carrying amount (£m)	119.7	0.4	0.2	0.2	0.1	0.6	3.7	124.9
NERL lifetime expected credit loss (£m)	**0.2**	**-**	**0.1**	**0.1**	**0.1**	**0.5**	**3.7**	**4.7**
Other subsidiaries expected credit loss rate (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Other subsidiaries gross carrying amount (£m)	43.6	4.7	2.7	0.5	0.2	0.2	0.1	52.0
Other subsidiaries expected credit losses (£m)	**-**	**-**	**-**	**-**	**-**	**-**	**0.1**	**0.1**
Total expected credit losses (£m)	**0.2**	**-**	**0.1**	**0.1**	**0.1**	**0.5**	**3.8**	**4.8**

A reconciliation of the loss allowance as at 31 March 2018 to the opening loss allowance as at 1 April 2018 is provided in note 17.

The group has chosen not to restate comparatives on adoption of IFRS 9 and therefore this reduction (net of tax) has been recognised against retained earnings and presented in the statement of changes in equity for the year ended 31 March 2019.

Impact of application of IFRS 9 for the year ended 31 March 2019

The loss allowances decreased by a further £0.8m during the year ended 31 March 2019. The decrease under the IAS 39 incurred loss model would have been £1.0m.

b) IFRS 15: *Revenue from Contracts with Customers*

IFRS 15 has replaced IAS 18: *Revenue* and IAS 11: *Construction Contracts* as well as various Interpretations previously issued by the IFRS Interpretations Committee. The two main impacts of IFRS 15 are the timing of recognition of revenue relating to the recovery (or rebate) of the difference in pension contributions paid and those assumed by the economic regulator ('pension pass through') in the national performance plan for the reference period, where the difference arises from unforseen changes in financial market conditions; and recharges to airport customers of property related costs and safety regulation charges.

The major part of the group's revenue is derived from service contracts which include performance obligations which are satisfied over time, as customers simultaneously receive and consume the benefits provided by the group's performance as the group performs, or which include enforceable rights to payment for performance completed to date. These revenues mainly relate to NERL's economically regulated Airspace services, provided to the licence customer base, and to UK Airport ATC contracts.

Notes forming part of the consolidated accounts

35. Changes in accounting policies (continued)

Airspace services include variable consideration for traffic volume risk sharing, inflation adjustments, service performance incentives, financing components and pension pass through. UK Airport services include variable consideration for traffic volume risk sharing and service performance incentives. Under IAS 18, the recovery of pension pass through incurred in regulatory Reference Period 1 (RP1, calendar years 2011-2014), was recognised in the period that it was being recovered from airline customers which is the 15 year period starting from January 2016.

Airspace: defined benefit pension scheme pension contributions not subject to risk sharing with customers ('pension pass through')

For the reasons explained above, pension pass through gives rise to variable consideration. It is subject to regulatory scrutiny and approved by the CAA and the EC after the end of a regulatory reference period. Amounts are then recovered in subsequent reference periods as an adjustment to the unit charge.

IFRS 15 requires variable consideration for a performance obligation which has been fulfilled to be recognised to the extent that it is not subject to a significant risk of reversal. The directors consider that there is a significant risk pension pass through may be restricted by either the CAA or the EC. For this reason, the group expects to recognise pension pass through in the financial year in which it is approved, rather than in the year the difference arises. As at 1 April 2018, a residual balance of pension pass through of £11.7m (£9.5m net of tax) relating to RP1, which had been approved but had not been recovered through the unit charge, was recognised in retained earnings. Any pension pass through relating to Reference Period 2 (RP2, calendar years 2015-2019) will be recognised, after approval, in the early part of Reference Period 3 (RP3, calendar years 2020-2024). Overall, the impact of IFRS 15 is the earlier recognition of variable consideration relating to pension pass through.

UK Airports: property related costs and safety regulation charges

A number of UK Airport ATC contracts require the group to rent the airport control tower building from the airport operator and to recover this and other property costs through the fee charged to the airport operator for ATC services.

The fees for recovering property costs amounted to £17.0m for the year ended 31 March 2018 and £7.4m for the year ended 31 March 2019. For reporting under IAS 18, the recovery of these costs was recognised as revenue. Under IFRS 15 the provision of the air traffic control tower is not considered to be distinct from the provision of ATC services. For the year ended 31 March 2019 these fees have been reported as an offset against rental charges in operating costs. This change has no impact on the group's result or its retained earnings on the initial application of IFRS 15.

The group also recharges to airport customers the cost of the CAA's safety regulation charges for those airports. Fees for recovering these costs amounted to £2.8m for the year ended 31 March 2018 and £3.0m for 31 March 2019. For reporting under IAS 18 for the year ended 31 March 2018, the recovery of these costs was recognised as revenue. Under IFRS 15, the group is not satisfying a performance obligation in the provision of this service and, for the year ended 31 March 2019, the fees will be offset against the CAA's safety regulation charges in operating costs. This change has no impact on the group's result or its retained earnings on the initial application of IFRS 15.

Other impacts

Other impacts arising from the adoption of IFRS 15 were to: a) accelerate the recognition of revenue relating to a UK Airport ATC contract, resulting in the recognition of £0.9m (net of tax) in retained earnings and an increase in revenue for the year ended 31 March 2019 of £0.3m; and b) the allocation of the transaction price of the Project Marshall asset provision contract to the performance obligations in the contract, which resulted in a reduction in retained earnings of £0.4m (net of tax) and a decrease in revenue for the year ended 31 March 2019 of £0.1m.

Transition

The group has taken advantage of the following transitional exemption: when identifying satisfied and unsatisfied performance obligations, determining the transaction price and allocating the transaction price to performance obligations, the company has considered the aggregate effect of all contract modifications made before 1 April 2018.

The group has chosen not to restate comparatives on adoption of IFRS 15 and, therefore, these changes have been reflected at the date of initial application, and presented in the statement of changes in equity for the year ended 31 March 2019.

Notes forming part of the consolidated accounts

35. Changes in accounting policies (continued)

c) Adjustments to retained earnings on initial application at 1 April 2018

The following table shows the adjustments to retained earnings and to financial statement line items made on initial application of IFRS 9 and IFRS 15:

	Explanatory notes	Carrying amount at 31 March 2018 as previously reported under IAS 18 and IAS 39 £m	Reclassification £m	Remeasurements £m	Carrying amount at 1 April 2018 under IFRS 9 and IFRS 15 £m	Retained earnings effect at 1 April 2018 £m
Trade and other receivables						
Non-current						
Receivable from customers (gross)	(i) (iii) (vi)	-	12.8	1.2	14.0	1.2
Accrued income	(vi)	13.7	(13.7)	-	-	-
Other debtors	(vi)	0.2	0.9	-	1.1	-
Current						
Receivable from customers (gross)	(vi)	79.3	63.3	-	142.6	-
Provision for impairment of trade receivables	(v)	(5.0)	(0.2)	0.4	(4.8)	0.4
Contract assets	(iv) (vi)	-	20.8	(0.5)	20.3	(0.5)
Accrued income	(vi)	84.8	(84.8)	-	-	-
Other debtors	(vi)	4.9	0.5	-	5.4	-
Current tax assets	(vii)	1.5	(1.5)	-	-	-
Trade and other payables						
Non-current						
Contract liabilities	(vi)	-	(21.9)	-	(21.9)	-
Other payables	(vi)	(60.7)	(5.4)	-	(66.1)	-
Accruals and deferred income - other	(i) (vi)	(106.3)	24.5	10.4	(71.4)	10.4
Current						
Contract liabilities	(vi)	-	(14.0)	-	(14.0)	-
Other payables	(vi)	(44.4)	(0.3)	-	(44.7)	-
Accruals and deferred income - other	(i) (vi)	(136.2)	17.5	1.2	(117.5)	1.2
Current tax liabilities	(vii)	-	1.5	(2.4)	(0.9)	(2.4)
						10.3

Explanatory notes:

(i) the change in timing of recognition of Airspace revenue relating to pension pass through, as explained under b) above.
(ii) the change in recognition of UK Airports revenue relating to property costs and safety regulation charges, as explained under b) above.
(iii) the change in timing of recognition of revenue on UK Airport contracts, as explained under b) above.
(iv) the change in timing of recognition of Defence Services revenue relating to the asset provision part of the Project Marshall contract. Under IFRS 15, the company recognises revenue based on two distinct performance obligations, as explained under b) above.
(v) the effects of the adoption of IFRS 9, as explained under a) above.
(vi) the reclassification of balances previously reported from accrued income to trade receivables, contract assets and other receivables; and from deferred income to other payables or contract liabilities.
(vii) the tax impact of the adjustments in (i) - (vi).

Notes forming part of the consolidated accounts

35. Changes in accounting policies (continued)

d) Impact of application of IFRS 9 and IFRS 15 for the year ended 31 March 2019

The following table shows the financial statement line items as they would have been shown under previous accounting standards and the effect of adjustments necessary to give the balances under IFRS 9 and IFRS 15. Financial statement lines items not shown below have not been impacted by the adoption of IFRS 9 and IFRS 15.

Consolidated income statement

	Explanatory notes	Under previous accounting standards £m	Effect of reporting under IFRS 9 and IFRS 15 £m	As reported under IFRS 9 and IFRS 15 £m
Revenue	(i) (ii) (iii) (iv)	898.1	(12.4)	885.7
Operating costs	(ii) (v)	(773.4)	10.2	(763.2)
Operating profit		124.7	(2.2)	122.5
Investment revenue	(i)	3.3	1.1	4.4
Share of results of associate and joint ventures		1.6	-	1.6
Other finance costs		(30.3)	-	(30.3)
Profit before tax		99.3	(1.1)	98.2
Tax	(vii)	(16.1)	0.2	(15.9)
Profit for the year attributable to equity shareholders		**83.2**	**(0.9)**	**82.3**

Explanatory notes:

(i) the change in timing of recognition of Airspace revenue relating to pension pass through, as explained under b) above.
(ii) the change in recognition of UK Airports revenue relating to property costs and safety regulation charges, as explained under b) above.
(iii) the change in timing of recognition of revenue on UK Airport contracts, as explained under b) above.
(iv) the change in timing of recognition of Defence Services revenue relating to the asset provision part of the Project Marshall contract. Under IFRS 15, the company recognises revenue based on two distinct performance obligations, as explained under b) above.
(v) the effect of the adoption of IFRS 9, as explained under a) above.
(vi) the reclassification of balances previously reported from accrued income to trade receivables, contract assets and other receivables; and from deferred income to other payables or contract liabilities.
(vii) the tax impact of the adjustments in (i) - (vi).

Notes forming part of the consolidated accounts

35. Changes in accounting policies (continued)

Consolidated balance sheet

	Explanatory notes	Under previous accounting standards £m	Effect of reporting under IFRS 9 and IFRS 15 £m	As reported under IFRS 9 and IFRS 15 £m
Non-current assets				
Trade and other receivables				
- Receivable from customers (gross)	(vi)	-	15.7	15.7
- Accrued income	(vi)	15.7	(15.7)	-
- Other trade and other receivables		8.6	-	8.6
Trade and other receivables		24.3	-	24.3
Other non-current assets		1,345.6	-	1,345.6
		1,369.9	-	1,369.9
Current assets				
Trade and other receivables				
- Receivable from customers (gross)	(vi)	73.0	54.0	127.0
- Provision for impairment of trade receivables	(v)	(4.1)	0.1	(4.0)
- Contract assets	(vi)	-	23.8	23.8
- Accrued income	(iii) (iv) (vi)	76.9	(76.9)	-
- Other trade and other receivables		29.4	-	29.4
Trade and other receivables		175.2	1.0	176.2
Current tax assets	(vii)	1.5	(1.5)	-
Other current assets		265.1	-	265.1
Total assets		1,811.7	(0.5)	1,811.2
Current liabilities				
Trade and other payables				
- Contract liabilities	(vi)	-	(45.4)	(45.4)
- Accruals and deferred income - other	(i) (vi)	(170.1)	56.0	(114.1)
- Other trade and other payables		(101.0)	-	(101.0)
Trade and other payables		(271.1)	10.6	(260.5)
Current tax liabilities	(vii)	-	(0.7)	(0.7)
Other current liabilities		(60.4)	-	(60.4)
		(331.5)	9.9	(321.6)
Net current assets		110.3	9.4	119.7
Non-current liabilities				
Trade and other payables				
- Contract liabilities	(vi)	-	(48.2)	(48.2)
- Accruals and deferred income - other	(vi)	(76.2)	48.2	(28.0)
- Other trade and other payables		(105.6)	-	(105.6)
Trade and other payables		(181.8)	-	(181.8)
Other non-current liabilities		(529.8)	-	(529.8)
Total liabilities		(1,043.1)	9.9	(1,033.2)
Net assets		768.6	9.4	778.0
Equity				
Called up share capital		140.6	-	140.6
Share premium account		0.4	-	0.4
AESOP reserve		(0.3)	-	(0.3)
Hedge reserve		0.6	-	0.6
Translation reserve		1.1	-	1.1
Other reserves		(34.7)	-	(34.7)
Retained earnings	(i) (iii) (iv) (v) (vii)	660.8	9.4	670.2
Equity attributable to the shareholders		768.5	9.4	777.9
Non-controlling interest		0.1	-	0.1
Total equity		768.6	9.4	778.0

Notes forming part of the consolidated accounts

36. Events after the reporting period

In May 2019, the Board approved an interim dividend for the year ending 31 March 2020 of 20.97 pence per share, totalling £30.0m, which was paid in May 2019.

Company balance sheet

at 31 March

	Notes	2019 £m	2018 £m
Assets			
Non-current assets			
Investments	4	**141.0**	141.0
Net assets		**141.0**	141.0
Equity			
Share capital	5	**140.6**	140.6
Share premium account	5	**0.4**	0.4
Retained earnings		**-**	-
Total equity		**141.0**	141.0

As permitted by section 408 of the Companies Act 2006 the company has elected not to present its own income statement for the year. For the year ended 31 March 2019 the company recognised a profit of £59.0m (2018: £57.0m).

The financial statements (Company No. 04138218) were approved by the Board of directors and authorised for issue on 27 June 2019 and signed on its behalf by:

Paul Golby
Chairman

Nigel Fotherby
Finance Director

Company statement of changes in equity

for the year ended 31 March

	Share capital £m	Share premium £m	Retained earnings £m	Total £m
At 1 April 2017	140.6	0.4	-	141.0
Profit for the year	-	-	57.0	57.0
Other comprehensive income for the year	-	-	-	-
Total comprehensive income for the year	**-**	**-**	**57.0**	**57.0**
Dividends paid	-	-	(57.0)	(57.0)
At 31 March 2018	**140.6**	**0.4**	**-**	**141.0**
At 1 April 2018	140.6	0.4	-	141.0
Profit for the year	-	-	59.0	59.0
Other comprehensive income for the year	-	-	-	-
Total comprehensive income for the year	**-**	**-**	**59.0**	**59.0**
Dividends paid	-	-	(59.0)	(59.0)
At 31 March 2019	**140.6**	**0.4**	**-**	**141.0**

Notes forming part of the company accounts

1. Cash flow statement

No cash flow statement has been provided because the company does not maintain a bank account or have any cash transactions. Dividends were transacted by the company's subsidiary NATS Limited.

2. Significant accounting policies

The separate financial statements of the company are presented as required by the Companies Act 2006. As permitted by that Act, the separate financial statements have been prepared in accordance with International Financial Reporting Standards as adopted by the EU.

The financial statements have been prepared on the historical cost and fair value basis. The principal accounting policies are the same as those set out in note 2 to the consolidated financial statements.

Investments in subsidiaries are designated as held to maturity and stated at cost less, where appropriate, provisions for impairment. Income from subsidiaries is recognised when received.

3. Profit for the year and dividends

Profit for the year has been arrived at after charging:

	2019 £m	2018 £m
Staff costs	**-**	-
Auditor's remuneration	**-**	-

	2019 No.	2018 No.
Executive directors	**2**	2
Non-executive directors	**10**	9
	12	11

The company incurred no charge to current or deferred taxes in the year (2018: £nil).

Dividends

Amounts recognised as distributions to equity holders in the period:

	2019 £m	2018 £m
First interim dividend of 20.62 pence per share (2018: 19.92 pence per share)	**29.5**	28.5
Second interim dividend of 20.62 pence per share (2018: 19.92 pence per share)	**29.5**	28.5
	59.0	57.0

Notes forming part of the company accounts

4. Investments

	Investments in subsidiary undertakings £m
Investments at 31 March 2019 and 31 March 2018	141.0

The company's investments in subsidiary undertakings are as set out in note 33 to the consolidated financial statements.

Pursuant to a loan agreement entered into by NERL, the company has granted a legal mortgage and fixed charge over its shares in NATS Limited, NERL's parent company, and a floating charge over all other assets.

5. Share capital and share premium accounts

These items are disclosed in the consolidated statement of changes in equity and notes 25 and 26 of the consolidated financial statements.

6. Financial instruments

The company held no financial instruments at 31 March 2019 (2018: none).

7. Ultimate controlling party

There is no ultimate controlling party of NATS Holdings Limited. Under the shareholders' agreement, The Airline Group Limited and the Crown have similar reserve rights in respect of material decisions affecting the company.

8. Events after the reporting period

In May 2019, the Board approved an interim dividend for the year ending 31 March 2020 of 20.97 pence per share, totalling £30.0m, which was paid in May 2019. The company recognised a dividend in May 2019 of £30.0m from its subsidiary, NATS Limited.

Abbreviations and definitions

2018	Financial year ended 31 March 2018
2019	Financial year ended 31 March 2019
2020	Financial year ending 31 March 2020
3Di	3 Dimensional Flight Inefficiency Metric
ACOG	Airspace Change Organising Group
ADS-B	Automatic Dependent Surveillance-Broadcast
AESOP	All-Employee Share Ownership Plan
AG	The Airline Group Limited
AIM	Aeronautical Information Management
AIREON	Aireon LLC, subsequently Aireon Holdings LLC
AMPRPS	Annual Management Performance Related Pay Scheme
ANSP	Air Navigation Service Provider
AQUILA	Aquila Air Traffic Management Services Limited
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
CAA	Civil Aviation Authority
CAAPS	Civil Aviation Authority Pension Scheme
CANSO	Civil Air Navigation Services Organization
CDSB	Climate Disclosure Standards Board
CEO	Chief Executive Officer
CP3	Control Period 3 (2011-2014)
CPI	Consumer Prices Index
CPNI	Centre for the Protection of National Infrastructure
DB	Defined Benefit Pension Scheme
DC	Defined Contribution Pension Scheme
DfT	Department for Transport
DNV GL	DNV GL is a quality assurance and risk management company
DSESAR	Deploying Single European Sky ATM Research
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation
EC	European Commission
ESSP	European Satellite Services Provider SAS
EU	European Union
ExCDS	Extended Computer Display System
FerroNATS	FerroNATS Air Traffic Services SA
FRC	Financial Reporting Council
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GHG	Green house gas
HMG	Her Majesty's Government
HMRC	Her Majesty's Revenue & Customs
IAS	International Accounting Standard
IASB	International Accounting Standards Board
ICAO	International Civil Aviation Organization
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
INEA	Innovation and Networks Executive Agency
ISO	International Organisation for Standardisation
iTEC	Interoperability Through European Collaboration
KPI	Key Performance Indicator
LAMP	London Airspace Modernisation Project
LHRA	LHR Airports Limited
LIBOR	London Interbank Offered Rate
LTIP	Long Term Incentive Plan
MOD	Ministry of Defence
NATS	NATS Holdings Limited and its subsidiaries, together the NATS group
NATS Services	NATS (Services) Limited
NERL	NATS (En Route) plc
NESL	NATS Employee Sharetrust Limited
NHL	NATS Holdings Limited
NPP	National Performance Plan
PLAS	Prestwick Lower Airspace Systemisation
PPP	Public Private Partnership
R&D	Research and Development
RAB	Regulatory Asset Base
RAT	Risk Analysis Tool
RP1	Reference Period 1 (2012-2014)
RP2	Reference Period 2 (2015-2019)
RP3	Reference Period 3 (2020-2024)
RP4	Reference Period 4 (2025-2029)
RPAS	Remotely Piloted Aircraft Systems
RPI	Retail Prices Index
SEARIDGE	Searidge Technologies Inc
SES	Single European Sky
SESAR	SES ATM Research
SMS	Safety Management System
SPA	Strategic Partnership Agreement
STEM	Science, technology, engineering and mathematics
TANS	Terminal Air Navigation Services
TBS	Time Based Separation
TC	Terminal Control
USS	USS Sherwood Limited
UTM	Unmanned Traffic Management

Explanatory notes

1 Single European Sky ATM Research: a programme to modernise Europe's airspace structure and air traffic management technologies.

References in this document to Deploying SESAR relate to NERL's investment programme which implements a number of SESAR compliant technologies and methodologies, rather than the European Sky ATM Research programmes that are defining and driving the deployment of technologies and methodologies at the European-wide level.

2 An Airprox is a situation in which, in the opinion of a pilot or controller, the distance between aircraft as well as their relative positions and speeds have been such that the safety of the aircraft involved was or may have been compromised. The severity of these incidents is assessed periodically by the UK Airprox Board, an independent body, in the interests of enhancing flight safety.

3 Electronic flight strips replace the paper strips for recording aircraft movements previously used in Terminal Control. This represents a stepping stone towards the use of controller electronic tool interfaces as part of the Deploying SESAR programme.

4 Aireon LLC provides a space-based air traffic surveillance system with global coverage capable of tracking and monitoring aircraft in real-time. This improves ATC and surveillance over regions with limited or no radar coverage and backup surveillance for regions with full radar coverage. Aireon is a private company whose investors are Iridium Communications, NAV CANADA, ENAV, IAA, Naviair and NATS.

5 Project Marshall is a 22 year contract awarded to the Aquila joint venture to transform the military's terminal Air Traffic Control technical services. It was initiated by the MOD to modernise ATM for over 100 MOD locations, of which over 60 are airfields or ranges, including overseas. It provides the foundation to deliver efficient and cost effective terminal ATM services and ensures that this capability keeps pace with modern regulatory demands and Single European Sky standards. NATS provides services to Aquila to enable it to deliver Project Marshall.

6 The severity of ground and airborne incidents is scored against six criteria: minimum separation achieved; rate of closure; detection of potential conflict; plan to achieve required separation; execution of the plan; and recovery when separation is lost.

7 Impact score is a measure of delay placing greater weight on long delays and departures in the morning and the evening peaks.

8 Variability score is a daily excess delay score based on weighted delays exceeding pre-determined thresholds on a daily basis.

9 3Di score measures airspace efficiency with reference to the deviation from the preferred profile to the actual radar track of each flight in UK airspace.

10 Link to Customer Report: https://www.nats.aero/news/customer-report/

11 Link to Gender Pay Report: https://www.nats.aero/wp-content/uploads/2019/03/NATS-Gender-Pay-Report-2018.pdf

12 Link to NATS Slavery and Human Trafficking statement 2019: https://www.nats.aero/wp-content/uploads/2019/01/Modern_Slavery_Act-Statement_Jan_2019.pdf

13 Link to NATS CDP Report: https://www.cdp.net/en/responses?utf8=%E2%9C%93&queries%5Bname%5D=nats CDP, formerly the Carbon Disclosure Project, runs a global disclosure system on behalf of investors that enables companies and cities to measure and manage their environmental impacts.

14 Swanwick Combined Operations will establish the common operational environment which will ensure that NATS can provide one ATC operation across two Centres.

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If you would like to find out more about any of the information in this report, please talk to us:

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Customer website

Our dedicated customers website www.customer.nats.co.uk provides the latest news, operational information, meeting details, contacts and links to other resources.

Customer Forums

We have a number of forums for engaging with customers including our Operational, Safety and Flight Efficiency Partnerships, Lead Operator for Airspace Design, Business Jet Forum and Service & Investment Plan Consultation. For more information see www.nats.aero/news/customer-report