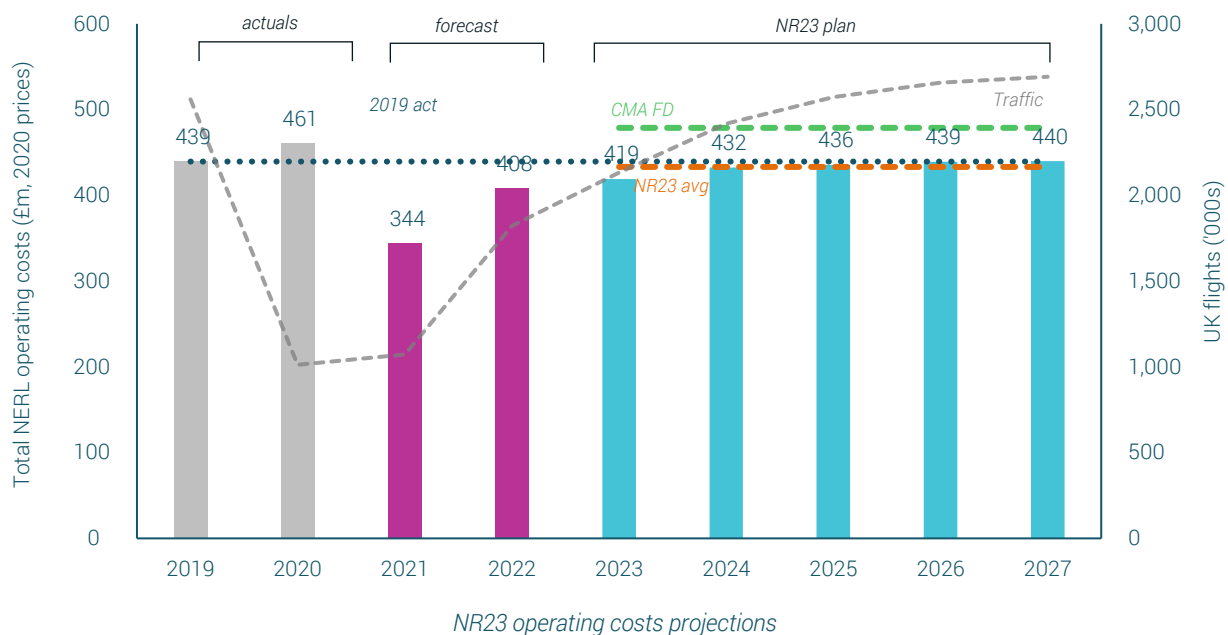


## Appendix J: Operating costs

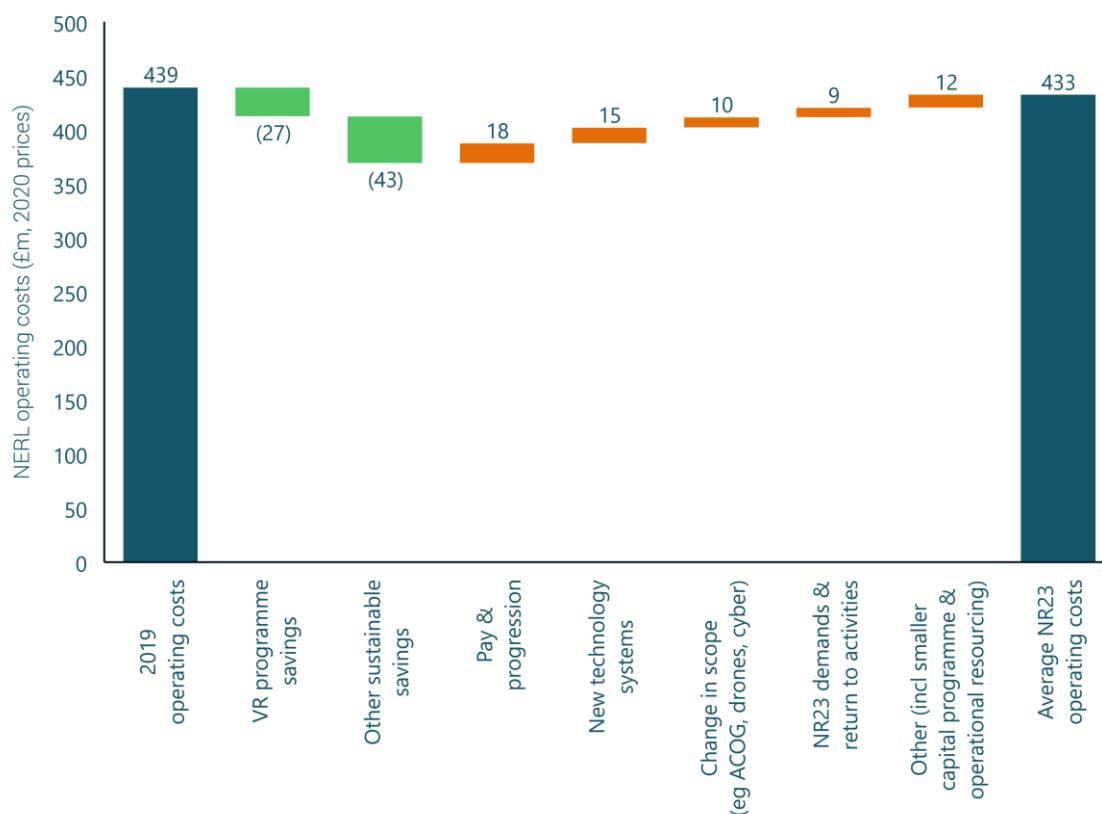
NERL's operating costs are on average £433m per annum in NR23, comprising of £275m staff costs (net of capitalised labour) and £158m non-staff costs (including exceptionals and one offs). The evolution of our operating costs over the duration of NR23 is shown in the chart and table below.



CY, 2020 prices, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027
	<i>Actual</i>	<i>Actual</i>	<i>Forecast</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>
Staff costs	349	312	287	301	310	316	318	322	326
Capitalised labour	(64)	(35)	(45)	(45)	(46)	(44)	(43)	(43)	(42)
Non-staff costs	151	127	121	150	153	157	157	157	153
Exceptionals & one offs	4	56	(20)	2	3	3	3	3	3
<b>Total operating costs</b>	<b>439</b>	<b>461</b>	<b>344</b>	<b>408</b>	<b>419</b>	<b>432</b>	<b>436</b>	<b>439</b>	<b>440</b>

NR23 operating cost projections

Our operating costs are around £6m pa (1%) lower than 2019 despite unchanged service quality and transformation requirements and other cost pressures, as shown in the chart below. This is delivered through the incorporation of approximately £70m pa sustainable savings in each year of NR23, relative to 2019, through our response to Covid-19, including the voluntary redundancy programme, and ongoing cost containment measures. As a result, and also due to lower traffic levels, our operating costs are more materially around £46m pa (10%) lower than the Competition and Markets Authority (CMA) determination.



Average NR23 operating costs vs 2019 actuals

A summary of each the cost movements is as follows:

- › **VR programme savings:** Our action to reduce non-operational headcount by 346 heads reduces our operating costs by around £27m pa excluding cash pensions. In total, including pensions, the cash saving is around £34m pa
- › **Other sustainable savings:** Reflects ongoing actions to contain costs, including a significant reduction in the level of contractors used across the business (£14m pa on average), and lower levels non-staff spend on items such as R&D, facilities management and general expenses (£15m pa on average), as well as lower level corporate overheads and other savings (£14m pa on average)
- › **Pay & progression:** Includes an increase to employer's national insurance contributions in line with UK government policy, together with incremental pay increases linked to performance and experience, particularly as our trainees progress to becoming experienced controllers
- › **New technology systems:** This is the maintenance and running costs of new operational systems which will be implemented as part of our technology transformation programme. This will run alongside our existing ageing systems for a period of 'dual running' until these systems can be decommissioned, currently anticipated in NR28 (see [Appendix H](#))
- › **Change in scope:** These are new cost pressures which were not present in 2019, including items such as the Airspace Change Organising Group (ACOG), additional costs to ensure the continued safety of our operation against uncrewed aircraft systems and evolving spend to respond to ever-increasing and changing cyber-security threats

- Managing NR23 demands and return to activities:** while average headcount across NR23 is around 10% below 2019 levels, this represents limited growth in essential headcount relative to the historic low levels in 2021 following the VR programme, and is required to support the implementation of our technology and airspace programmes, dual running as new systems are deployed and to respond to emerging pressures such as cyber-security, dual regulation following the UK's departure from the European Union, as well as trainee air traffic controller recruitment. This category also includes the restart of our early careers programme, which was suspended following Covid-19
- Other:** Includes a reduction in capitalised labour (offset to some extent by lower contractor costs and the VR programme savings) together with other cost pressures such as increasing utilities costs which add around £1m pa

Further detail on the evolution of our staff and non-staff operating costs is provided below.

## Staff costs

### Headcount

NERL's average headcount in NR23 is 3,344 FTEs pa on average. This is around 11% lower than in 2019 as part of our Covid-19 response. This included in 2020, the VR programme which removed 346 heads and the reduction of around 200 contractors. We project very limited increases to headcount across NR23 from the low starting point in 2021, to meet demands as traffic recovers and to respond to new scope. Overall, we still project 378 fewer FTEs by 2027 compared to 2019, even though traffic will be 2% higher.

Avg CY headcount (FTEs)	2019	2020	2021	2022	2023	2024	2025	2026	2027
	<i>Actual</i>	<i>Actual</i>	<i>Forecast</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>
Air traffic controllers (ATCOs)	1,031	1,023	991	1,000	989	998	1,034	1,068	1,094
<i>Operational</i>	<i>860</i>	<i>852</i>	<i>845</i>	<i>851</i>	<i>841</i>	<i>850</i>	<i>885</i>	<i>919</i>	<i>945</i>
<i>Non-operational</i>	<i>171</i>	<i>171</i>	<i>147</i>	<i>149</i>	<i>149</i>	<i>149</i>	<i>149</i>	<i>149</i>	<i>149</i>
Trainees	276	289	200	184	259	291	290	289	279
Air traffic assistants (ATSAs)	528	517	450	458	468	471	460	456	456
Engineers (ATCEs)	747	749	620	649	649	659	670	671	671
Analytical support (STARs)	118	112	103	100	99	99	99	99	99
Graduates	56	49	19	28	74	93	93	93	93
Other support	722	749	642	667	675	676	678	679	680
Sub total	3,477	3,488	3,026	3,085	3,214	3,288	3,323	3,356	3,372
Contractors	293	107	82	62	41	50	31	23	20
<b>NERL total</b>	<b>3,770</b>	<b>3,595</b>	<b>3,108</b>	<b>3,148</b>	<b>3,255</b>	<b>3,338</b>	<b>3,355</b>	<b>3,378</b>	<b>3,392</b>

*Headcount projections*

Commentary on projections relative to 2019 is provided below:

- Air traffic controllers (ATCOs):** This group comprises of operational staff, responsible for controlling traffic and non-operational staff who perform a variety of vital functions including safety management, supporting airspace and systems development, providing training and operational management. On average in NR23, we will require 1,037 air traffic controllers, compared to 1,031 in 2019. This figure is driven by operational demand and supply assumptions; significantly, we anticipate around 25%-35% of our current controllers to retire before 2027.

Recruitment and training are required to replace them. Further detail on our operational resourcing plans are provided in [Appendix G](#)

- **Trainee air traffic controllers (TATCs):** TATCs typically require two to three years before they qualify as operational. The numbers include trainees at both our initial training facility and at the operational centres undertaking unit-based training. The numbers dropped in 2020 and 2021 as a result of the temporary closure of the training college, but are due to increase when training recommences and it reopens in 2022. As described in [Appendix G](#), we intend to train at maximum capacity in NR23
- **Air traffic assistants (ATSAs):** ATSAs perform wide range of operational and non-operational roles; staff perform supporting roles in the operation (often undertaking pseudo ATCO tasks), as well as supporting controller training and simulation, and the implementation of the airspace and technology programmes described in [Appendix H](#). On average, we expect to need 462 FTEs in NR23, vs 528 FTEs in 2019, representing a significant reduction following the VR programme, the use of more automation in our simulation facility, and adopting more flexible employment options to better reflect the nature of the work. There is a small increase in ATSAs in the early part of NR23 from the historic low in 2021 due to requirements to support DP En Route implementation
- **Engineers (ATCEs):** Engineering staff are responsible for running and maintaining our operational systems, as well as developing and implementing of new systems and procedures. On average engineering headcount in NR23 is 82 FTEs (11%) lower than 2019 following the VR programme. This includes a 44 FTE increase from the lowest level in 2021 as a result of the need to continue to maintain operational systems, deliver DP En-Route (DPER) and increase cyber capability
- **Analytical support (STARs):** Our STAR staff perform specialist technical roles across a number of areas, including safety and human factors, service performance, and software engineering. Proposed headcount is flat across NR23 at 99 FTEs, a 16% reduction on 2019 levels
- **Other support:** This includes corporate support staff which are common to any business, such as finance, human resources and legal, as well as managerial and support staff for the operation and technical services, including safety and training. Average headcount is around 45 FTEs lower in NR23 than in 2019. There is limited growth across NR23 from the 2021 level due to requirements to support trainee recruitment in HR and to respond to new emerging pressures such as cyber-security and Brexit assurance in safety
- **Graduates:** We will restart our graduate and early careers programme in 2022. Our plan is to set up a two year programme, with an intake of around 47 FTEs each year – around 1-2% of our total annual headcount – in schemes across the business, including cyber-security, finance, human resources and safety. We assume that on completion of the programme, the graduate will move to a substantive post that has become available within the business through attrition and retirements
- **Contractors:** We expect to have low numbers of contractors in NR23, following the Covid-19 response in which the vast majority of our contractors were released. Almost all those retained provide critical and specialist support the capital programme, however we project significantly fewer contractors than in 2019 due to the smaller levels of capital investment as described in [Appendix H](#)

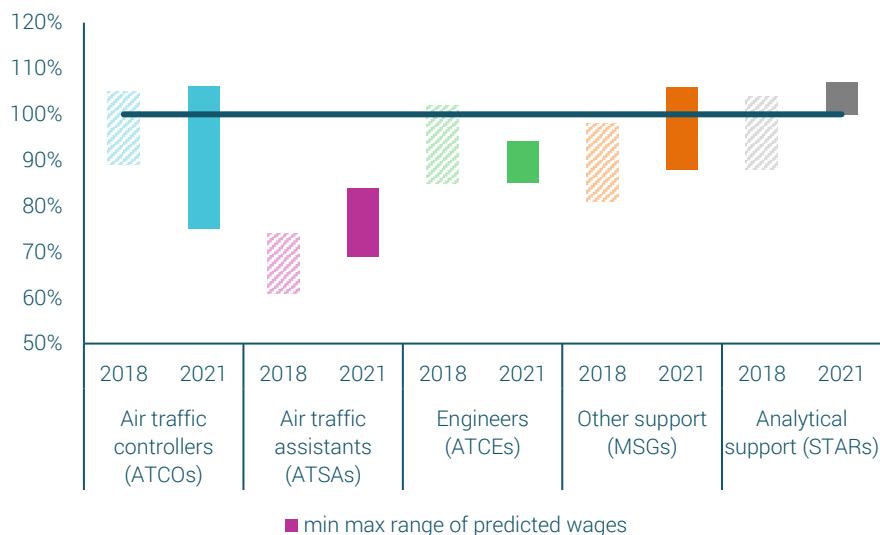
### Wage levels

Our forward looking pay levels reflect a level of progression for staff in negotiated grades roles who are not at the top of their pay scale. This covers the vast majority of our workforce, especially

following the VR programme as many leavers were at the top of their respective scales. It also reflects the high numbers of TATCs in our NR23 plan. This is based on incremental ‘spine point’ structure for operational roles (ATCOs, TATCs and ATSAs); these staff start on low salaries but increase as the employees gain experience and capability. It also reflects performance related pay reviews for engineers, analytical support and much of the other support staff grades. Our NR23 staff costs also include the 1.25% increase to ERNIC announced by the UK government in October 2021, which adds around £4m pa.

We have engaged economic consultants NERA to benchmark our staff costs using a wage equation approach. The findings are described in the [wage benchmarking study](#). This uses publicly available data (from the *Labour Force Survey*, published by the Office for National Statistics) to estimate the market compensation level for staff grades which are subject to collective bargaining. This approach allows for variables such as location, experience and education to be taken into account, and controls for workers in the general economy in comparable roles.

NERA’s analysis found that, similar to the results of the previous benchmarking exercise undertaken in 2018 for RP3, NERL’s wages are broadly in line with market benchmarks. A comparison of the results for the 2018 study and the 2021 study are shown in the chart below for each staff category (NERL’s actual wage level is marked at 100%).



Overview of wage benchmarking outcomes

Actual wage levels for ATSAs and ATCEs continues to be higher than the range of benchmarks. NERA’s explanation for this is:

- For ATSAs, the gap may reflect the difficulty of finding appropriate close comparators, particularly since they perform a wide range of tasks with safety responsibilities which are not well reflected in available comparators
- For ATCEs, the gap appears to be due to the construction of a variable within the wage equation, which does not include non-basic payments such as shift premia and is therefore not a like for like comparison to NERL’s wage levels. When NERA repeated the analysis with a smaller subset of comparators on a like for like basis, NERL’s wage levels for engineers was within the range of benchmarks

## Other staff costs

During Covid-19, the level of overtime has reduced significantly to very low levels – either because the traffic demand did not require it, or because social distancing and travel restrictions limited levels of activity which would normally use overtime (for example, remote site maintenance).

As traffic recovers, and normal activities return, our plan contains a level of overtime which is broadly consistent with 2019 levels, with some additional allowance to support DPER implementation in 2023 and 2024. As described in [Appendix G](#), we intend to use overtime as an efficient means of supporting the capital programme, training new controllers and for use to tactically mitigate temporary shortfalls such as short notice sickness. We have not assumed overtime within our long term planning to deliver the operational resourcing.

## Capitalised labour

This reflects our projected levels of activity on the capital programme in NR23. Further information is available in [Appendix H](#).

## Non-staff costs

There are five main categories of non-staff cost:

- › **Facilities management:** This accounts for around 22% of our non-staff costs in NR23. It relates to the costs of the NATS estate, and includes rents and rates, utilities costs, catering costs and maintenance and servicing costs
- › **Non-operational IT:** This relates to business IT costs, including support contracts (such as helpdesk facilities), hardware and cyber-security. It accounts for around 10% of the total non-staff costs in NR23
- › **Asset management costs:** This accounts for around 22% of non-staff costs in NR23, and relates mainly to the ongoing maintenance support for our operational systems
- › **Business support:** This relates to the costs incurred in running the business and providing the operational service, including travel costs, third party support, training college running costs, R&D spend, and safety costs. It accounts for around 19% of the total non-staff costs
- › **Other:** This includes costs to support our capital investment, insurance costs, costs of derogated services and CAA charges. It accounts for around 27% of the total non-staff costs

Our non-staff cost projections are shown in the table below.

CY, 2020 prices, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027
	<i>Actual</i>	<i>Actual</i>	<i>Forecast</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>
Facilities management	35	33	33	38	36	35	35	35	34
Non-operational IT	16	13	12	14	14	15	15	15	15
Asset management	23	23	24	33	34	35	35	35	35
Business support	31	16	13	24	25	31	31	33	30
Other	46	42	39	41	43	42	42	40	39
<b>Total non-staff costs</b>	<b>151</b>	<b>127</b>	<b>121</b>	<b>150</b>	<b>153</b>	<b>157</b>	<b>157</b>	<b>157</b>	<b>153</b>

*Non-staff cost projections*

Each category of non-staff costs is described more fully below.

### Facilities management

Facilities management costs are projected to be around £35m pa in NR23, broadly in line with 2019 actuals despite cost pressures in rent as external data centres and critical facilities transfer from the capital programme into operational service, and also in utilities as a result of increasing electricity and gas prices and living wages increases. These cost pressures have been offset by around £2m of efficiencies (10%). These include no longer renting additional space in Whiteley (Whiteley 3k), maintenance, mothballing parts of the office, and other efficiencies including solar panels along with catering reductions following our response to Covid-19.

The main drivers of facilities management costs are as follows:

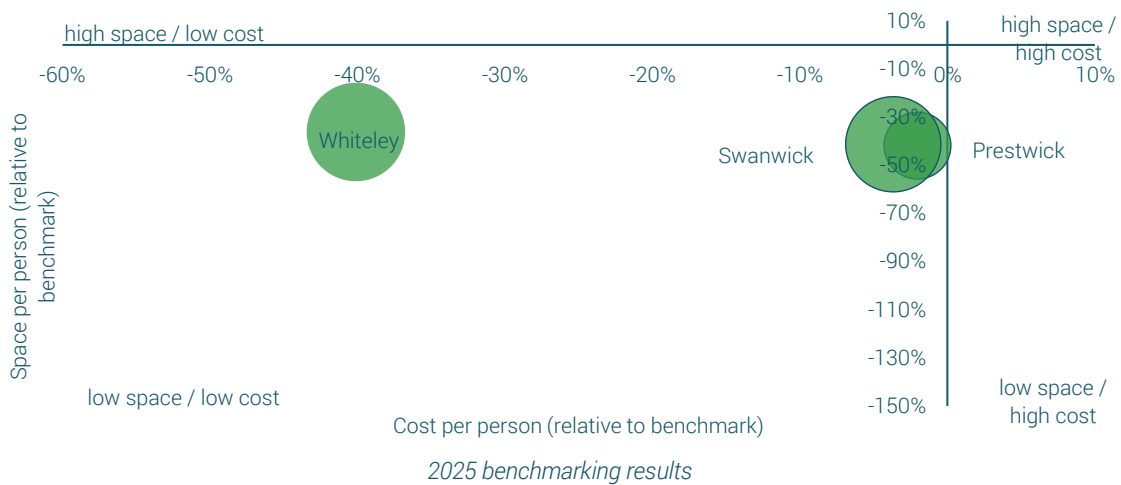
- > Rent costs: Square metres and rental market
- > Rates: Square metres, location, and business rates
- > Utilities: Forecast consumption (energy usage), hedged market wholesale pricing and tax
- > Maintenance & security: Safety case standards, headcount levels and assets
- > Catering & cleaning: Headcount and living wage obligations

To ensure our projections are efficient, we have independently benchmarked our 2020 actual costs and 2025 planned costs (as a representative year in NR23) using the chartered surveyors, JLL, which provides a global real estate benchmarking service. JLL's work compares our operational centres against Trading Offices as an appropriate comparator to reflect the specialist nature of our sites, while our corporate sites are benchmarked against local rents.

The charts below illustrate position of our three biggest sites in comparison to benchmark for 2020 actuals and 2025. The vertical axis shows space per person, and the horizontal axis shows total cost per m<sup>2</sup>. The size of the bubbles reflect the buildings' usable area, with colour coding to represent the overall difference relative to the benchmark for total cost per person.

In 2020, the costs and usage of our Swanwick operational centre and Whiteley corporate centre were in line with, or better than, industry benchmarks. The costs for our Prestwick centre were better than the cost benchmark, but was not as efficient on a per FTE measure.

Following our response to Covid-19, we have implemented plans to adopt a flexible working arrangement for non-operational staff. This will enable us to reduce our estates footprint. We also plan to reduce the size of our non-operational estate at Prestwick centre, and sub-let additional space to the Ministry of Defence at our Swanwick centre. As a result, our 2025 projections benchmark favourably in both cost and usage terms across our three main sites.



### Non-operational IT

On average, non-operational IT costs are around £15m pa, which is around £1m lower each year in NR23 compared to 2019. This has been achieved by securing around £2m pa efficiencies (15%) by renegotiating support contracts to consolidate to a more cost-effective and simplified supplier base in NR23; for example we have renegotiated a number of managed service contracts to secure a £1m pa saving which has been built into our forward looking cost base. We have also reduced spend on hardware, in line with lower staff numbers. These saving has been partially offset by increasing requirements to manage cyber-security.

The main drivers of non-operational IT costs are the external support costs for managing, supporting and licensing IT services, and staffing levels across the business.

We have carried out benchmarking analysis on our total IT costs (ie including staff costs, non-staff costs and investment) to ensure they are efficient; our total IT spend per FTE is typically around £6k (around 3% of revenue for NATS Group), compared to around £10k per employee (3%-4%) for available benchmarks. Further detail is provided in the table below.

Benchmark	Total IT spend per employee	Total IT spend as % of revenue
NATS (Group)	Around £6k	Around 3%
Gartner (2019) EMEA	£10.4k	3.70%

Total IT costs benchmarking



## Asset management

Asset management costs are around £35m pa in NR23. This is approximately £11m pa higher than in 2019. In our RP3 business plan, we described how these costs would increase as we implemented modern systems as part of our capital investment programme for a number of reasons which remain relevant for the NR23 business plan:

- › **Dual running:** we will need to ensure the continued running of ageing systems throughout NR23 while we deploy new systems. There will be a period when both the new systems and ageing systems are operating in parallel in NR23, before the ageing systems are decommissioned. This is necessary to ensure the continued provision of a safe service, while new systems are embedded in a safety critical operation. We expect ageing systems to be decommissioned in NR28, and further detail is provided in [Appendix H](#)
- › **Cost of running new systems:** The costs of running new systems are higher than for our ageing systems largely because due of the licence and subscription costs associated with the new capability and software, which were not a feature of our bespoke ageing systems. However, while the operating costs are higher, the modern architecture when fully deployed will mean ongoing capital investment build costs will be lower, the new infrastructure will have increased resilience (including cyber) and will enable the delivery of enhanced capability in future including moving to the common operational platform
- › **Increasing costs of legacy support:** Support costs for existing systems are increasing due to the skills premium associated with maintaining ageing software and challenges to source spare parts. This is a temporary cost that we will incur only until our ageing systems are decommissioned in NR23

As a result of these factors, our asset management costs are planned to increase in NR23 by the £11m mentioned above relative to 2019. This is primarily driven by the deployment of the core infrastructure programme in 2021, and is more fully described in [Appendix H](#).

## Business support

Business support costs are around £30m pa on average in NR23. This is around £1m lower pa than in 2019 and has been achieved through continued use of cost containment measures which have been carried through from the pandemic as we adapt to new ways of working. For example, projected spend on travel costs has reduced by nearly 50% compared to pre-pandemic levels.

These costs start low, but increase across NR23 as traffic returns and the level of activity across the business increases. However, the costs at 2027 are still projected to be lower than in 2019, reflecting the sustainable savings built into our plan following Covid-19.

## Other

Other costs are around £41m on average in NR23. This is around £5m lower pa than in 2019; as with business support costs, this reflects efficiencies that have been made, together with our assumption that the Opex Flexibility Fund (OFF) will not continue in NR23. There are a number of cost pressures, including on Uncrewed Aircraft Systems (previously anticipated in the RP3 plan) and in the operating costs required to implement the capital development programme.

## Exceptionals and one-offs

This includes the costs of the voluntary redundancy programme (£61m in total), income from the government furlough scheme (£34m income in total) and bad debt costs (£9m in total), where there have been significant costs/revenues in 2020-22 as a result of Covid-19 and our response actions.

The £20m credit in 2021 is driven by furlough income (£9m) and an accounting adjustment to bad debt provisions made at the start of the pandemic (£16m), offset by other exceptional costs.

Exceptional items in NR23 are assumed to return to more normalised, pre-pandemic levels across NR23.

## Airspace Change Organising Group

ACOG was established in 2019 as an independent organisation within NERL to define and manage key elements of the airspace modernisation strategy for the UK. This will be achieved by means of an interactive airspace master plan that will be submitted to the Department for Transport and CAA as co-sponsors of the Airspace Modernisation Strategy. ACOG provides programme management support to ensure that all participating airports are aligned to the master plan. It also comprises a technical support team to manage the operational interface between overlapping airspace designs, and a communications team provide the link between public and industry engagement.

ACOG's operating costs shown below include around £3m pa (£2m staff costs, £1m non-staff costs, within 'business support') to fund ACOG across NR23. This is in line with the allowance in the RP3 determination.

CY, 2020 prices, £m	2019	2020	2021	2022	2023	2024	2025	2026	2027
	<i>Actual</i>	<i>Actual</i>	<i>Forecast</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>	<i>Plan</i>
Staff costs	-	1	1	2	2	2	2	2	2
Non-staff costs	-	1	1	1	1	1	1	1	1
<b>Total ACOG costs</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>

*ACOG cost projections*