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THE IMPACT OF BAE SYSTEMS' AIR SECTOR BUSINESS ON THE UK ECONOMY

AN INDEPENDENT REPORT
BY OXFORD ECONOMICS

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BAE SYSTEMS



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FOREWORD

We take our responsibility to support the UK and its allies seriously, with one of our main priorities being to help provide military capabilities to safeguard peace and deter aggression on the global stage. However, beyond military capabilities, we make a significant contribution to the prosperity of the UK and play an active role in the communities in which we operate.

Our people are at the heart of our UK business - engineers, technicians and specialists across the nation who deliver every day for our global customers. It is their dedication and expertise that enables us to support the Royal Air Force's ability to respond at a moment's notice and help our global customers by protecting their borders.

As this report illustrates, BAE Systems' Air Sector is bolstering national security whilst fuelling the UK's economic growth.

In 2023, our contribution to UK GDP reached £5 billion, along with £2.6 billion in export revenue. Through this contribution, we deliver a range of strategic benefits to the UK, from nurturing high skilled jobs and fostering industry innovation, to stimulating economic growth and strengthening diplomatic partnerships between the UK and its allies.

Our work supports more than 70,000 jobs in the UK in roles such as combat air design, engineering, support and training, with many more roles supported across the wider economy - including almost 21,000 in the North West alone.

The complex nature of combat air systems represent some of the highest levels of technological advancements, driving innovation in precision engineering, robotics, advanced materials and AI-driven diagnostics. All of which strengthen the UK's industrial base and further secures our military resilience while contributing to national prosperity.

Our contribution relies not only on our workforce but also on a robust network of more than 1,400 suppliers including over 700 small and medium-sized enterprises (SMEs) across the UK whose innovation, resilience, and specialist capabilities are essential in ensuring the UK's defence industry remains agile and globally competitive.

As this report makes clear, it is the combination of these tangible benefits in terms of high-value jobs, technology development, UK-owned intellectual property and military capability that see BAE Systems' Air Sector and its wider ecosystem make a substantial contribution to the UK's economy.

As the UK's sovereign combat air provider, we do not underestimate the important role we play in sustaining military capability and supporting the Armed Forces in protecting the freedoms that we often take for granted while at the same time contributing to a more prosperous UK for everyone.

Simon Barnes
Group Managing Director,
BAE Systems Air



EXECUTIVE SUMMARY

BAE Systems' Air Sector business is a significant contributor to both the UK economy and to the nation's combat air programmes, designing, building and maintaining the current and next-generation aircraft and air combat systems for the Royal Air Force and customers all around the world. The business operates across 21 sites in the UK, with large facilities at Warton and Samlesbury in Lancashire and at Brough in East Yorkshire. The Air Sector business is an integral part of BAE Systems in the UK, which is itself the largest supplier to the Ministry of Defence.¹ This report focuses on the contribution that the Air Sector business made to the UK economy in 2023.

In 2023, we estimate that the Air Sector business sustained almost 70,700 jobs in the UK—equivalent to one in every 520 jobs in the country. This contribution is the sum of three impact channels. Firstly, the business directly employed 12,400 people in 2023. Secondly, 35,000 workers were supported in the company's supply chains, and lastly, 23,200 jobs were supported by workers at the business and in its supply chain spending their wages. This means that for every worker employed at the Air Sector business itself, its expenditure on inputs and wages supported approximately a further five jobs across the UK economy.

We also estimate that the business' operations supported a £5 billion contribution to UK GDP in 2023. This is equivalent to 0.2% of the country's entire economic output. Of this, BAE Systems' Air Sector business directly contributed just over £1 billion, while supply chain and worker spending multiplier effects supported a further £4 billion. In other words, for every £1 in GDP created directly by the Air Sector business, a further £3.90 was sustained in other parts of the UK economy. The Air Sector business also directly contributed £220 million to UK government tax revenues in 2023 through its own operations, which is roughly equivalent to the annual salaries of 6,500 public sector workers.

BAE Systems' Air Sector business workers are concentrated in highly skilled roles. Some 69% of Air Sector staff are employed in engineering or engineering-related operations roles. These workers had an average productivity of £81,000 in 2023 as measured by GDP contribution per worker, which is approximately 15% above the UK average. BAE Systems has training programmes in place to maintain a supply of the necessary skills, with more than 900 apprentices and 320 graduates in training in its Air Sector in 2023.

The Air Sector business also made wider contributions to the UK economy through exports, selling £2.6 billion of goods and services to overseas customers in 2023. This was up from £2.3 billion in 2018 (in constant 2023 prices) and the business has exported £16.7 billion in nominal terms in the six years since then.

70,700

Total jobs supported by BAE Systems' Air Sector business in the UK in 2023.

For every worker employed at BAE Systems' Air Sector business, a further five jobs are supported across the economy.

£5 bn

Total contribution to GDP in 2023 by BAE Systems' Air Sector business in the UK.

Of this figure, £1 billion is directly contributed by the activities of the Air Sector business.

¹ MOD trade, industry and contracts: 2023



1. INTRODUCTION

BAE Systems is one of the largest aerospace and defence companies in the world and is consistently the most significant supplier to the UK's Ministry of Defence.² A major part of the BAE Systems' UK operations is its Air Sector business, which plays a leading role in the country's combat air programmes. This includes designing, developing, building and maintaining some of the Royal Air Force fleet, including the Typhoon and F-35 fighter jets, the Hawk trainer jet and delivering pilot training and through-life combat air capability to air forces around the world.

It also includes working on the combat air needs of the future, taking a leading role on the UK's Future Combat Air Systems (FCAS) programme, as well as the UK industrial lead in the Global Combat Air Programme (GCAP), which sees BAE Systems designing, developing and delivering the next generation of combat aircraft for the UK alongside Japan and Italy. The company is already working on a UK programme to design and deliver a crewed flying demonstrator to prove skills and technology. In addition, the Air Sector business established FalconWorks® in 2023 as a response to increasing demands for agile, early lifecycle and sustainable defence capability, bringing in further UK partners and small- and medium-sized enterprises (SMEs).

With roots tracing back over a century, the economic footprint of the Air Sector business reaches all regions of the UK, operating across 21 locations and led by its major sites in the North of England. The largest facility is in Warton, Lancashire, where operations focus on advanced engineering, flight testing and research and development work on the Typhoon aircraft. The site also hosts the "Factory of the Future", where new manufacturing technologies are demonstrated and trialled.

In nearby Samlesbury, the Air Sector team designs and builds major components for the Typhoon and the global F-35 programme. The Samlesbury facility is also home to the Academy of Skills & Knowledge which, following a £20 million investment by BAE Systems, provides a learning hub for Air Sector apprentice and graduate schemes since its doors opened in 2016. The company also has significant operations in Brough, East Yorkshire, where it has a centre for digital engineering to support the delivery of programmes such as Tempest, as well as the UK Dreadnought submarine fleet.

This report assesses the economic impact of the activities carried out by BAE Systems' Air Sector business in the UK - excluding the contributions from its business in the Kingdom of

Saudi Arabia and its interests in European joint ventures: Eurofighter and MBDA. In this assessment the report begins with quantifying the direct impact of the business on the UK in Chapter 2, followed by the wider supply chain and worker spending impacts, including a regional breakdown, in Chapter 3. The remainder of this chapter provides an overview of the techniques used to assess these economic impacts, with further details supplied in the appendix.

² MOD trade, industry and contracts: 2023

INTRODUCING ECONOMIC IMPACT ANALYSIS

The economic impact of a company or industry is measured using a standard means of analysis called an economic impact assessment. This involves the quantification of the three core channels of impact that comprise the organisation's economic impact, consisting of:

- **Direct impact**—which relates to the economic benefit of BAE Systems' Air Sector business' operations and activities in the UK;
- **Indirect impact**—which encapsulates the economic benefit and employment supported in the business' supply chain as a result of its procurement of goods and services; and
- **Induced impact**—comprising the wider economic benefit that arises when employees within the Air Sector business and its supply chain spend their earnings, for example, in local retail and leisure establishments.

Using these pathways, a picture of BAE Systems' Air Sector business' economic footprint is presented, using two metrics:

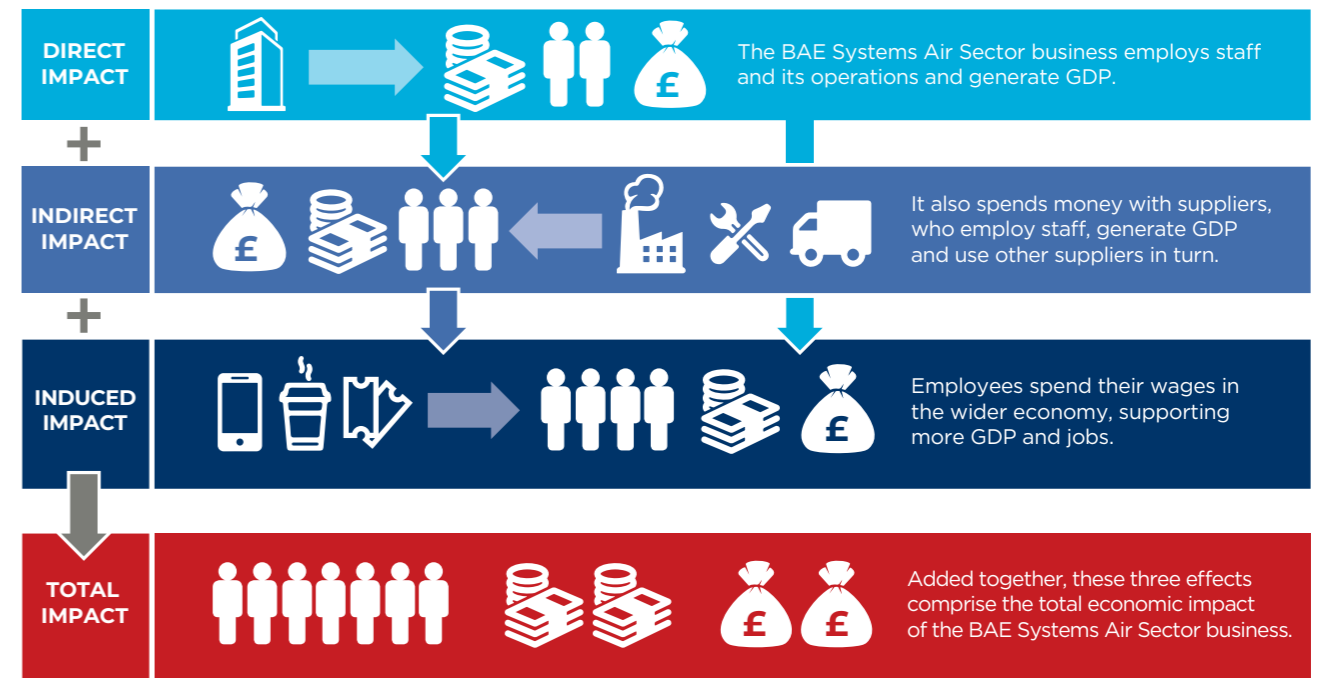
- **GDP**, or more specifically, the business' gross value added (GVA) contribution to gross domestic product (GDP);
- **Employment**, as the number of people employed, measured on a headcount basis; and,

The modelling on which this report is based computes the economic footprint of BAE Systems' Air Sector business in the UK in 2023.

Economic contributions are shown for the whole UK economy and a breakdown by nation and region.

Further detail about the economic impact methodology is included in the technical appendix found at the end of this report.

Fig. 1: Illustration of channels of economic impact



Source: Oxford Economics

The background of the entire page is a high-angle, aerial photograph of two futuristic fighter jets flying over a rugged coastline. The jets are sleek, dark grey, and feature canards on their wings. They are flying in a staggered formation over a body of water, with a green, hilly coastline visible in the foreground. The sky is a clear, pale blue.

BUILDING THE UK'S NEXT GENERATION FIGHTER JET

The Future Combat Air System (FCAS) is the UK's requirement and programme of record to deliver a next generation combat air capability. This will be through a core, crewed aircraft known as Tempest, as well as uncrewed platforms, next generation weapons, networks and data sharing, and support and training.

In late 2022, the governments of the UK, Italy, and Japan jointly announced a partnership to develop and produce a next-generation combat aircraft – a partnership known as the Global Combat Air Programme (GCAP). The UK Team Tempest partners (BAE Systems, Leonardo, MBDA, Rolls Royce and Ministry of Defence (MoD)) have been working collaboratively since 2018 to develop skills and technology that will enable the delivery of future programmes.

There are approximately 3,500 people working directly on the FCAS programme in the UK, with the vast majority supporting GCAP, to develop Tempest.³ This figure includes

more than 1,000 apprentices and graduates who have started their careers working across the programme's UK partners. Many more are engaged across the national supply chain of around 600 companies, which includes small- and medium-sized enterprises and academic institutions.

This activity has a significant impact on the UK economy. A separate study on the impact of the FCAS programme estimated that the programme is expected to support an average of 16,000 jobs per year, over the next 10 years,⁴ many of which will be high productivity roles in fields such as advanced design, production, and maintenance. The study estimated that the FCAS programme could contribute £37 billion to UK GDP by 2070,⁵ and the potential for export orders from other countries could add to this impact.

In 2022, the UK government announced that a piloted, flying technology demonstrator – the first crewed combat aircraft

produced by the UK for a generation – will be designed and built. Progress to date means that the build of more than half of the aircraft is now currently underway, including the fuselage and wings. Test pilots have flown more than 200 hours in a simulator of the aircraft, whilst Rolls Royce is set to deliver two engines to BAE Systems in 2025.

Beyond its significant economic contribution over the coming decades, Tempest is crucial for developing and retaining strategically important skills for the UK's aerospace and defence industries. Running large-scale programmes such as this will lead to more innovations and a greater ability to produce the critical sovereign defence capabilities in the UK. This would have a long-term positive impact both on the economy and on the UK's ability to maintain its technological edge over potential adversaries, independently of other nations.

³ Impact of the Tempest Programme, BAE Systems

⁴ Assessment of the expected economic impact of the Future Combat Air System Programme (2025 – 2070), PwC.

⁵ In net present value terms with a 3.5% discount rate, and in constant prices.



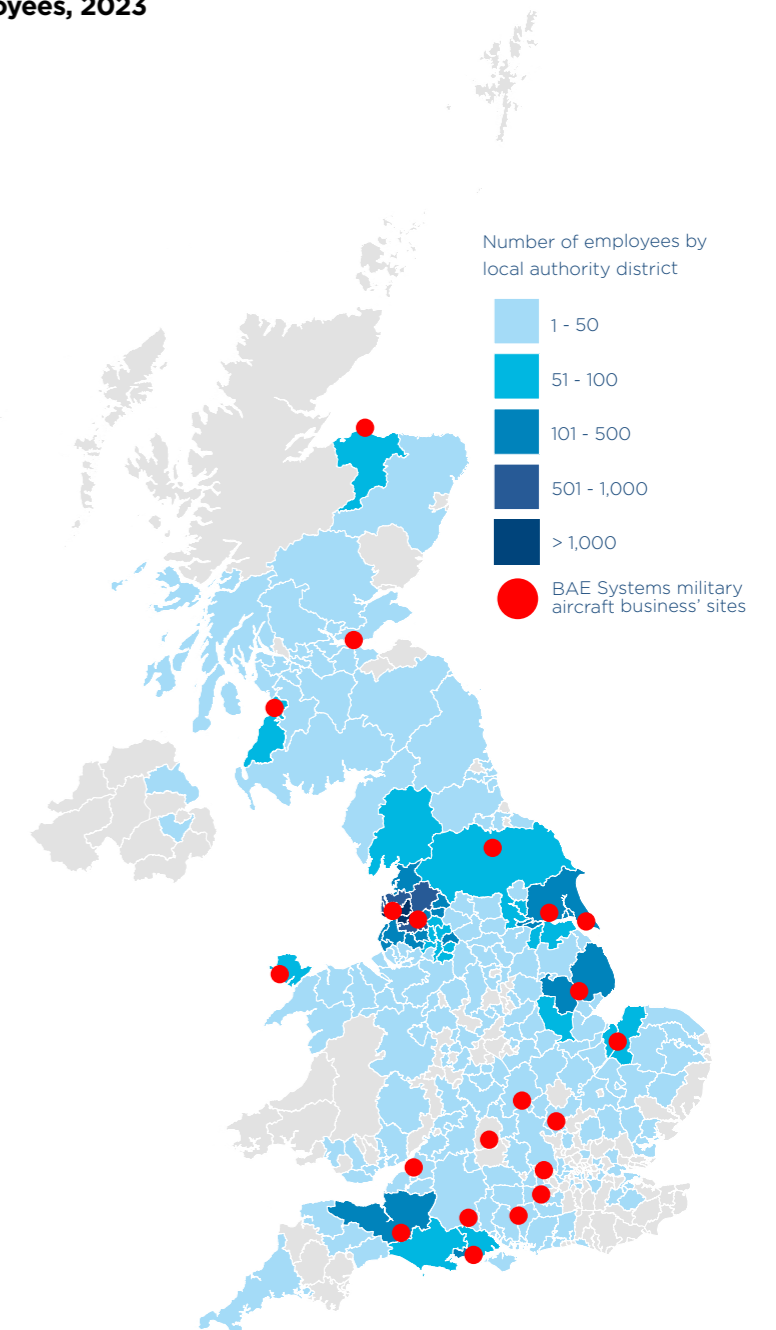
2. THE DIRECT CONTRIBUTION OF THE AIR SECTOR BUSINESS TO THE UK

This chapter sets out the impact of BAE Systems' Air Sector business on the UK economy in 2023 resulting from its own direct operations in terms of GDP, employment, exports, and tax revenues.^{6,7}

Fig. 2: Home location of BAE Systems' Air Sector business' employees, 2023

2.1 DIRECT EMPLOYMENT CONTRIBUTION

BAE Systems' Air Sector business is a major UK employer, with around 12,400 people working across its UK sites in 2023 as illustrated in Fig. 2. The majority of these workers were based at the Air Sector's sites in Samlesbury and Warton, which together accounted for 10,400 of the total. Other major locations include the Aircraft Maintenance Academy at Humberside and the digital engineering facility at Brough, plus Royal Air Force stations where Air Sector employees provided support to Typhoon, F-35 and Hawk aircraft.



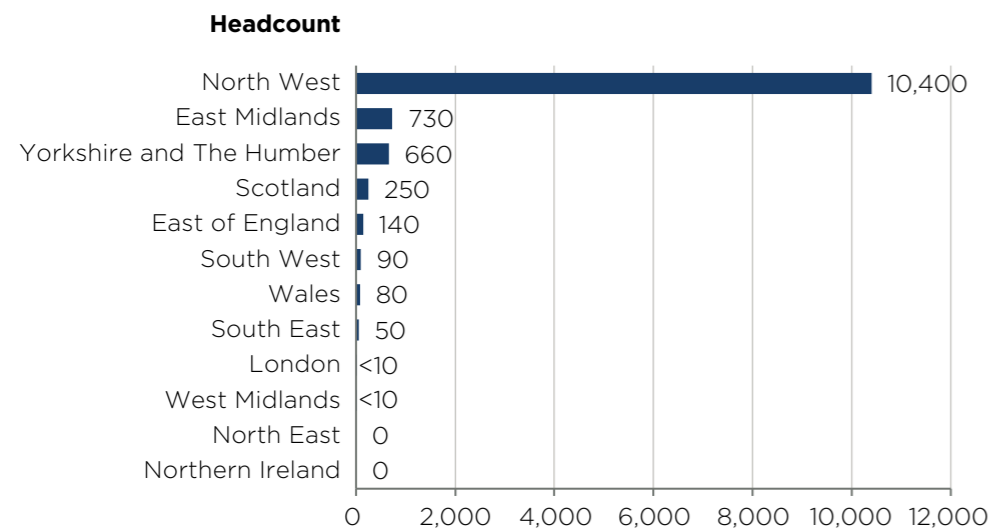
Source: Oxford Economics

⁶ Employment figures presented in this chapter are in headcount terms and rounded to the nearest 100, with the exception of regional results, which are rounded to the nearest 10 where appropriate.

⁷ All monetary figures presented reflect prices during the 2023 period.

At the regional level, the Air Sector business' two main sites are located in Warton and Samlesbury, near Preston, meaning that the business has the largest impact in the North West. The business also has a notable impact of 730 workers in the East Midlands and 660 in Yorkshire and the Humber, and a combined total of more than 610 across the rest of the UK.

Fig. 3: Direct employment of BAE Systems' Air Sector business by region and nation, 2023



Source: BAE Systems

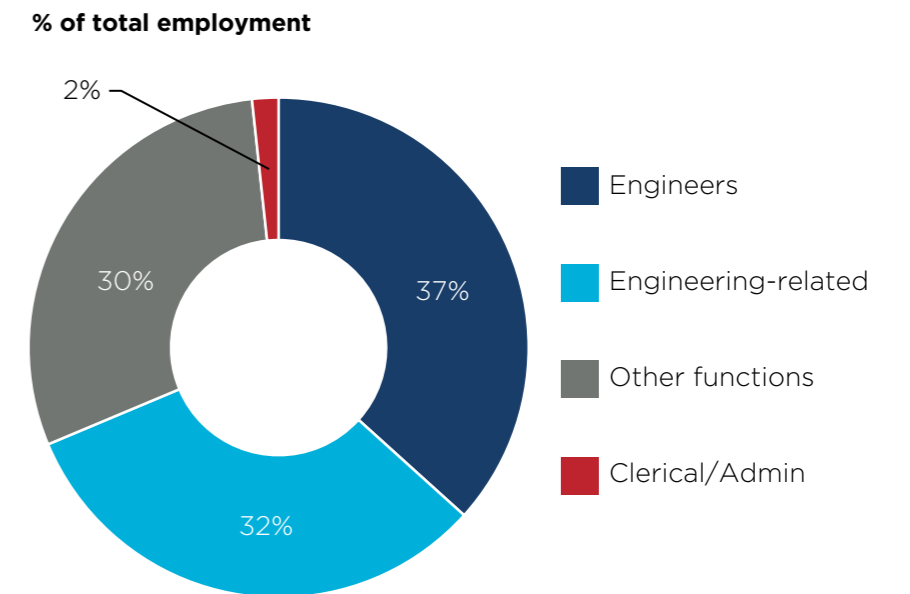
2.1.1 Skills base

Employment within the Air Sector business covers a range of highly skilled job roles, with more than two-thirds of the workforce in engineering and engineering-related roles. The remainder are in departments such as project management, finance and procurement.

Attracting and maintaining this well-trained workforce is crucial to the specialised technical operations that the Air Sector business undertakes in areas such as manufacturing, and research and development (R&D). This is done through substantial investment in training, including the graduate and apprenticeship programmes. At any point in time, the Air Sector has over 1,400 apprentices and graduates across its business. The Air Sector also invested £500,000 into the government's North West Youth Zones scheme in the 12 months to March 2024, which funds facilities that support young people to develop digital design, creative and STEM skills using industry technology such as 3D printers and laser cutters.

This investment in upskilling not only benefits the Air Sector itself, but also helps to strengthen the knowledge base of the UK aerospace sector more generally, helping support a more productive economy.

Fig. 4: Share of employment in each job function at the Air Sector business in the UK, 2023



Source: BAE Systems
Note: Does not sum to 100% due to rounding



ENSURING THE SUPPLY OF VITAL SKILLS

The UK is estimated to be facing a shortage of tens of thousands of workers with science, technology, engineering and maths (STEM)-related skills,⁸ which key decision-makers in the aerospace and defence industry believe may lead to an overall deterioration in UK defence capabilities.⁹ With the UK's Combat Air Strategy¹⁰ requiring a highly technical workforce now and in the decades ahead, it is important to ensure a steady stream of skilled young workers entering the industry.

As the UK's largest sovereign defence company, BAE Systems has sizeable apprenticeship and graduate training programmes to shape these workers for the future. The company announced openings for 2,700 incoming apprentices and graduates in 2024¹¹ while the Air Sector alone recruited 630 graduates and apprentices in the same year, encouraging more female STEM participation.¹²

BAE Systems has set a goal of a 30% female workforce by 2030, to redress the balance in what has previously been seen as a male-dominated industry, and to continue to build a strong, diverse workforce for the future, underpinned by greater female participation in STEM careers. In 2023, in the UK, 31% of apprentices, 21% of graduates and 25% of experienced professionals recruited by BAE Systems were

women.¹³ The company was ranked second in the top employers of choice for female engineering professions in a 2024 survey of the UK's Most Attractive Employers.¹⁴

Laying the foundation for strong STEM skills begins early and to help support efforts in this area, the Air Sector contributed over £500,000 in 2023 and 2024 to the charity Inspire Youth Zone, based in the North West.¹⁵ These Youth Zones are facilities designed to give children a chance to explore extracurricular activities, develop new skills and support future careers, all in a safe space.

In Chorley, Lancashire, the Air Sector is contributing to the charity's first "Maker Zone", which will be equipped with industrial technologies, including 3D printers, vacuum formers and laser cutters, to provide young people the chance to gain experience in manufacturing and engineering. BAE Systems also supports Youth Zones in Blackburn, where its support helped to establish an "Eco-Lab", which educates children on climate change and how they can contribute to addressing it; and Preston, where one of the region's latest Youth Zones is set to open in 2025.

BAE Systems also ensures its current workforce can develop skills and learn new ways of working in areas from advanced manufacturing and engineering techniques to leadership coaching. Each employee has a unique development plan and has the opportunity to learn beyond their roles through a formal programme or via an online training platform, which offers over 500 courses that are aligned to specific skills and functions.

⁸ Estimated as a shortage of 174,000 workers in 2018 by not-for-profit organisation STEM Learning: STEM Skills Indicator

⁹ Delivering the Defence Workforce of the Future, Defence Online, 2023

¹⁰ Combat Air Strategy: An ambitious vision for the future, Ministry of Defence

¹¹ Thousands of New Apprenticeships and Graduate Jobs Announced at UK's Biggest Defence Company, BAE Systems, 5 Dec 2023

¹² Impact of Tempest Programme, BAE Systems

¹³ BAE Systems. Our approach to gender balance

¹⁴ Universum Talent Survey 2024

¹⁵ Third North West Youth Zone supported by BAE Systems with £125,000 investment, BAE System, 14 Mar 2024

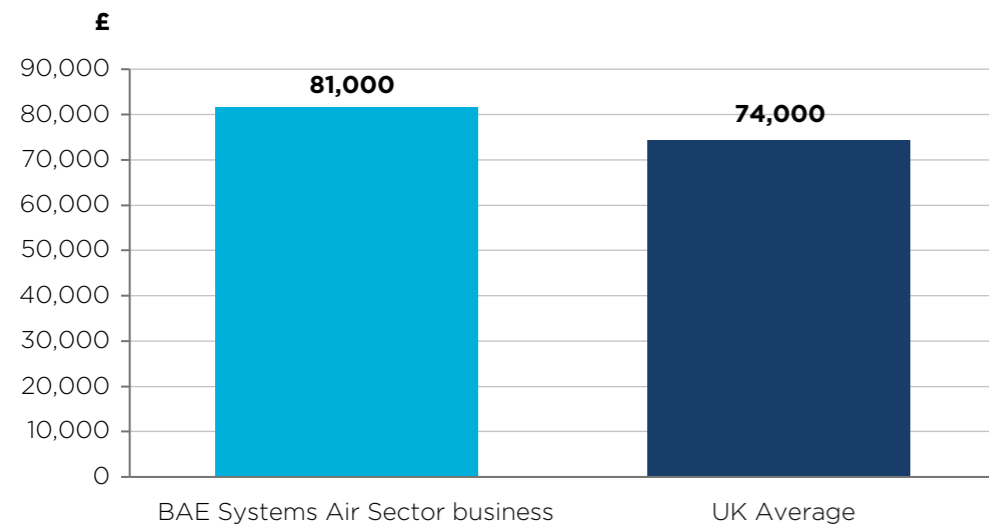
2.2 DIRECT GDP CONTRIBUTION

2.2.1 National impact and productivity

In 2023, the Air Sector business generated £3.9 billion in revenue in the UK, which it used to purchase almost £2.5 billion on goods and services from UK suppliers and a further £360 million from overseas suppliers. Based on this information, we estimate that the business made just over a £1 billion direct contribution to UK GDP.¹⁶

Combining this figure with direct employment of the business means that the labour productivity per worker of BAE Systems' Air Sector business workforce was £81,000 in 2023, as measured by the GDP contribution per employee. This was approximately 15% higher than the UK average of £71,000, reflecting the highly skilled nature of the work done at the business.

Fig. 5: GDP contribution per worker, 2023



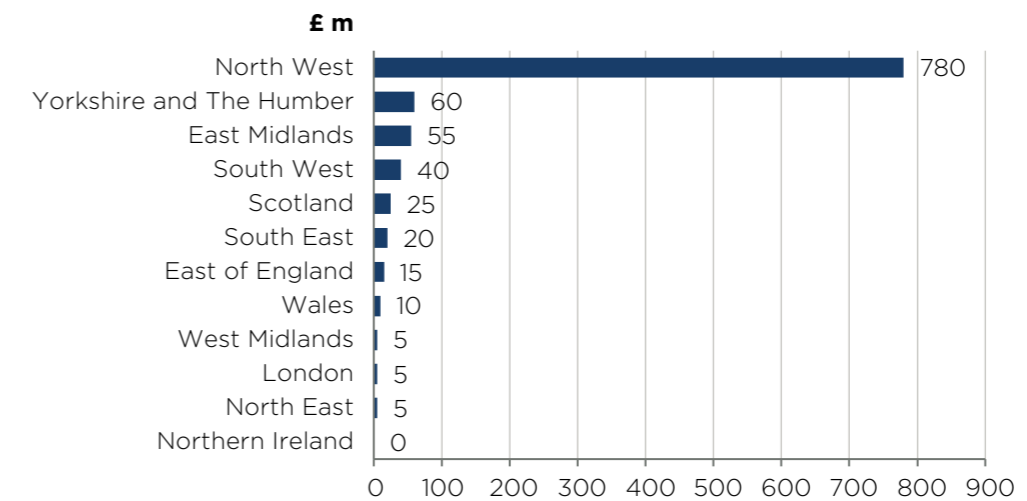
Source: Oxford Economics, ONS

18 ¹⁶ The Air Sector business' GDP contribution to the UK was measured using the "production approach", which is the difference between revenues and the costs of inputs from domestic and foreign suppliers.

2.2.2 Direct impact around the UK

The regional split of the direct GDP contribution of the Air Sector business largely reflects the distribution of the employment impact. The largest contribution by far is in the North West, where the majority of staff are located, with smaller contributions in Yorkshire and the Humber, the East Midlands, and elsewhere.

Fig. 6: GDP contribution by nation and region, 2023



Source: BAE Systems

Note: Regional GDP contribution figures have been rounded to the nearest £5 million and figures in excess of £100 million have been rounded to the nearest £10 million.

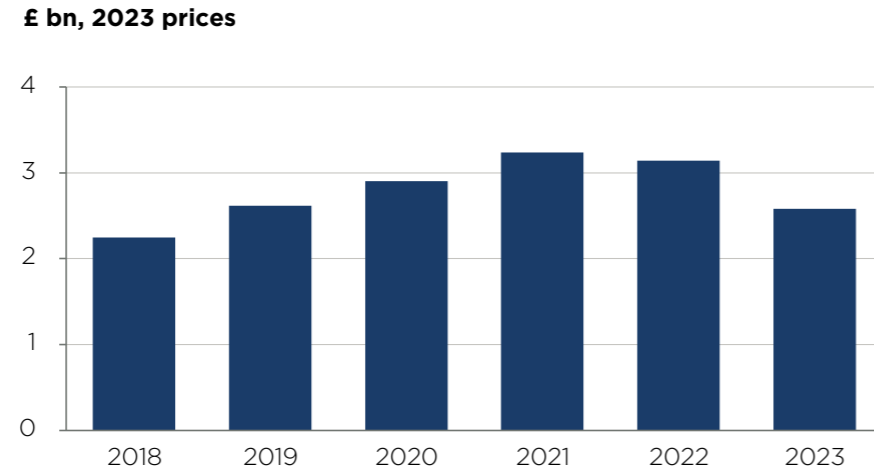
2.2.3 Exports

The Air Sector contributes to the UK's longer-term economic prosperity through exports that deliver significant long term value to the UK by fostering innovation, enhancing supply chains and accelerating investment. In addition, beyond the immediate contract value, combat air exports serve to develop and strengthen strategic partnerships between nations.

In 2023, the Air Sector business earned £2.6 billion from customers overseas, or around two-thirds of total revenues. Exports by the business have been steadily rising in recent years from £2.3 billion in 2018 and totalled £16.7 billion since 2018 (all in 2023 prices).

A significant element of the Air Sector business' exports went to customers in the Middle East, Europe and the Americas. This includes the delivery of Typhoon jets to the State of Qatar as well as components for the F-35 programme to the US.

Fig. 7: Air Sector business exports by year

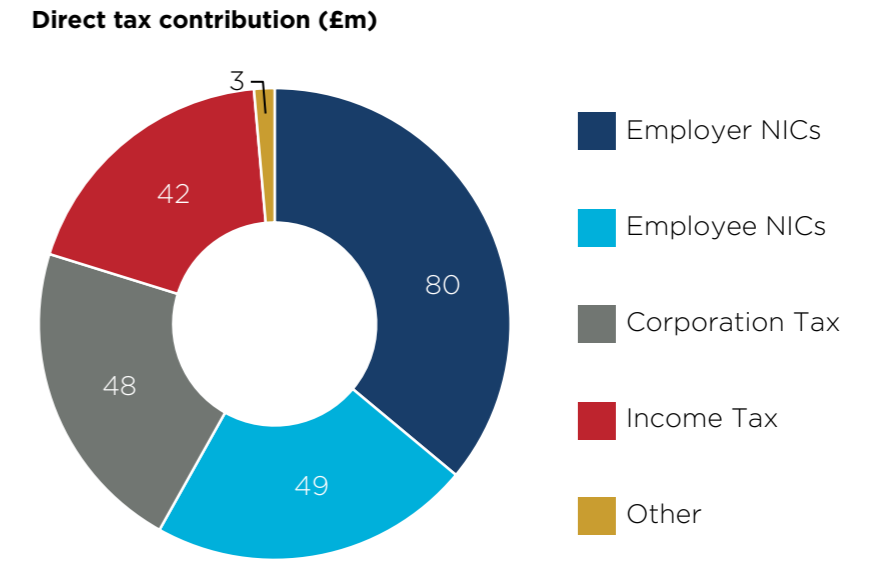


Source: BAE Systems, Oxford Economics

2.2.4 Tax contribution

The revenues generated by the Air Sector business directly contribute to government tax revenues in the UK. The business itself contributed £48 million in corporation tax and £80 million in employer national insurance contributions (NICs) in 2023. It also collected £42 million of income tax and £49 million of employee NICs on behalf of its workers. Altogether, this amounts to a total of £220 million in taxes in 2023. To put this in perspective, this amount would cover the wages of approximately 6,500 public sector workers.

Fig. 8: The business' direct tax contribution by type, 2023



Source: BAE Systems

DEVELOPING CUTTING-EDGE AEROSPACE TECHNOLOGIES

BAE Systems launched FalconWorks® in 2023, a new centre for Air Sector rapid research and technology aimed at fostering collaboration between industry, academics and research organisations. The FalconWorks business has over 1,500 employees based at sites across the UK, bringing together new and existing partnerships and ventures with academia, research organisations and SMEs. These workers help develop a wide range of development concepts, products and services, focusing on areas such as materials science, artificial intelligence and advanced robotics.

New product lines emerging from FalconWorks include uncrewed systems, such as the T-Series of quadcopters made by BAE Systems subsidiary,

Malloy Aeronautics. The T-650 concept will be designed to carry payloads of up to 300kg over 30 kilometres,¹⁷ and these compact vehicles can be used for commercial and military tasks such as logistics or medical evacuation.¹⁸ Another example is the PHASA-35, made by BAE Systems subsidiary, Prismatic. PHASA-35 is a solar-powered uncrewed aircraft known as a HAPS (High Altitude Pseudo-Satellite) that is designed to operate at high altitude for several months. The vehicle completed its first stratospheric flight trial up to 66,000 feet in 2023, which is up to twice the height of commercial air travel. PHASA-35 can be used in communications and surveillance roles traditionally filled by satellites, but for a lower cost and less environmental impact.¹⁹

FalconWorks also has a focus on developing sustainable products and processes, with the aim of helping BAE Systems reach its goal of net zero greenhouse gas emissions across its direct operations by 2030, and working towards a net zero value chain by 2050. This includes developments in industrial-scale 3D printing, also known as additive manufacturing. These techniques are more sustainable than traditional manufacturing process such as milling, with less waste and fewer emissions, and they also have the ability to make parts that are quickly produced, lighter and cheaper than comparable conventionally produced parts.

¹⁷ BAE Systems and Malloy Aeronautics unveil T-650 all-electric UAS, Janes, September 2021

¹⁸ T-650 heavy lift electric UAS concept vehicle, BAE Systems

¹⁹ The PHASA-35, BAE Systems





3. THE TOTAL CONTRIBUTION OF THE AIR SECTOR BUSINESS TO THE UK

The impact of BAE Systems' Air Sector business goes far beyond its own direct operations. This chapter sets out the footprint of the business through its supply chain purchases and through the spending of its staff.

the UK across a wide range of industries. This included £1.1 billion on engineering and technical services with UK suppliers and over £550 million on electronic products.

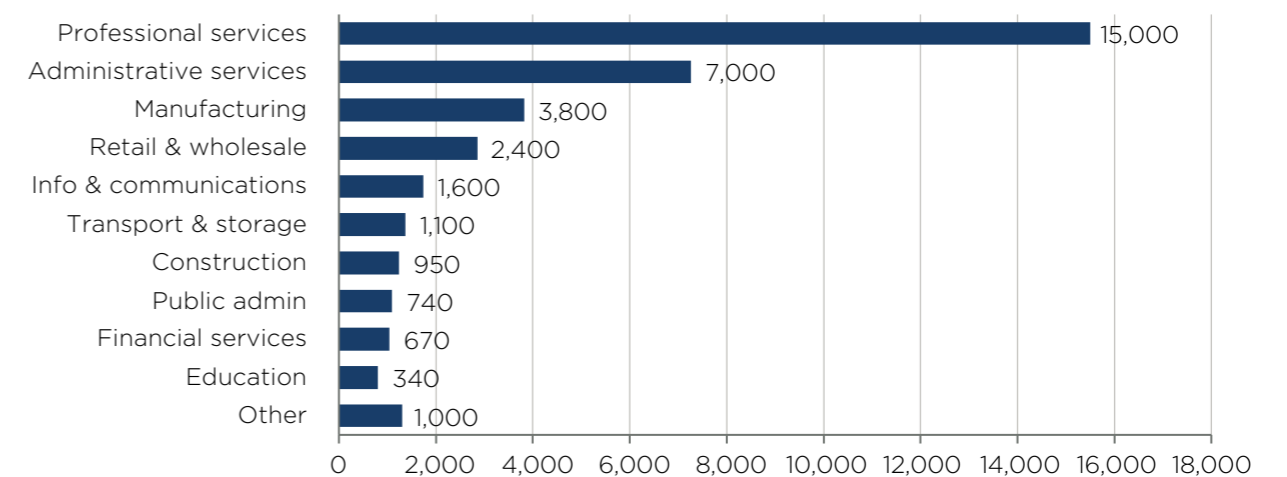
3.1 SUPPLY CHAIN CONTRIBUTION

A wide variety of inputs are needed to produce the output of the Air Sector business, drawn from supply chains across the UK and supporting further economic activity. In 2023, the business spent almost £2.5 billion on inputs from some 1,400 suppliers in

This procurement spending is estimated to have supported 35,000 people in employment in the UK in 2023. The largest employment contributions were professional and administrative services, reflecting the nature of the Air Sector's spending on technical consultancy. This is followed by manufacturing and retail & wholesale, reflecting the spending done by the business on parts and materials.

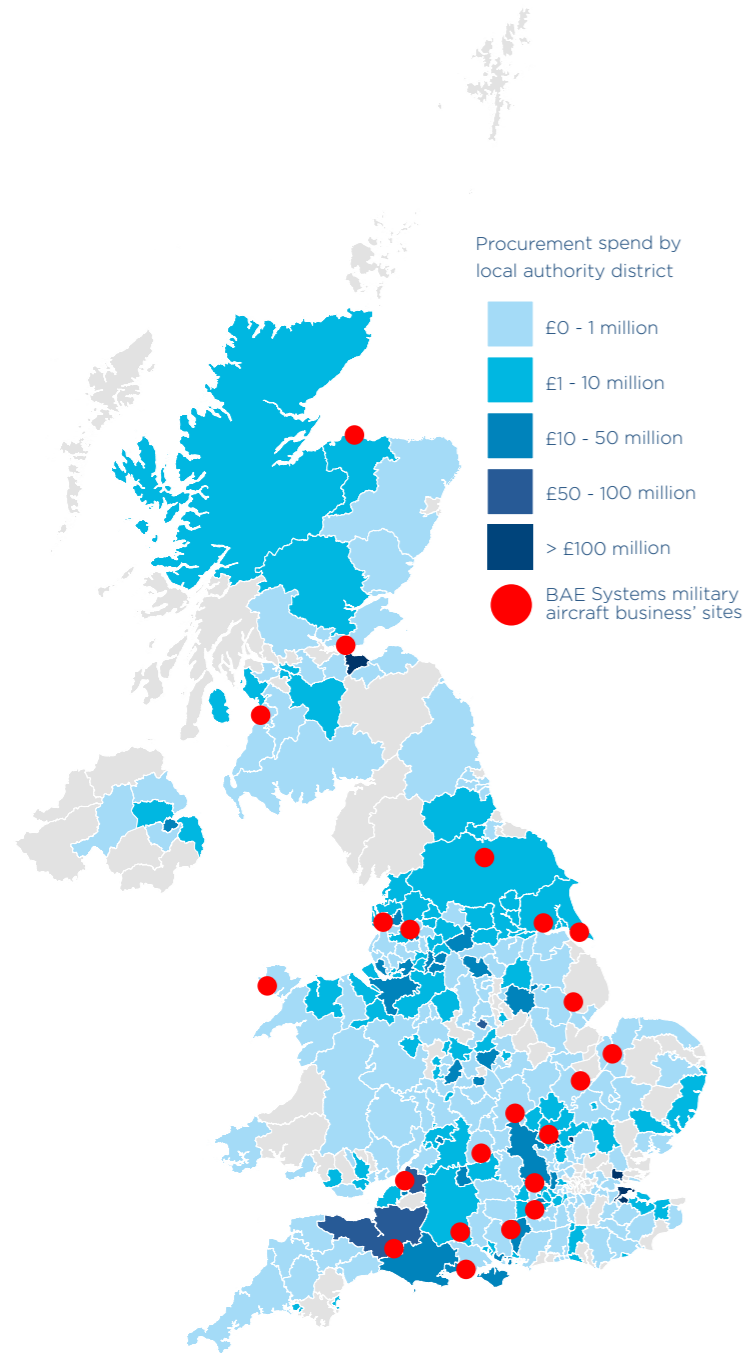
Fig. 9: Indirect employment contribution by industry, 2023

Employment (headcount)



Source: Oxford Economics, BAE Systems

Fig. 10: BAE Systems' Air Sector business' procurement spending by local authority district, 2023



The Air Sector business spends with suppliers around the country, as shown in Fig. 10, helping to support employment across all regions and nations of the UK. The largest concentrations of spending by the business in 2023 were in the South West and East of England, with £700 million and £500 million, respectively, in each region. However, notably, spending by the business was also seen in every region of the UK.

As with the effects on employment, the expenditure of the Air Sector business on goods and services helped to support a substantial GDP contribution through the indirect channel, estimated at a total of £2.1 billion in 2023. Of this, almost 37% (or £790 million) of the indirect impact was in the professional services sector, while £410 million (or 19%) accrued to manufacturing firms.

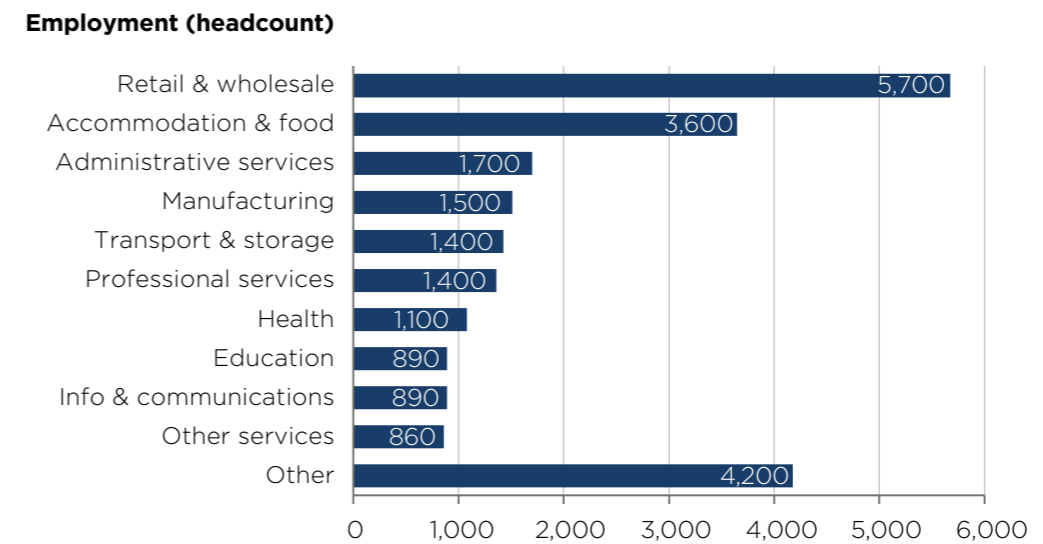
Source: Oxford Economics

3.2 CONSUMER SPEND CONTRIBUTION

Both the Air Sector business and its suppliers pay wages to their staff, which workers subsequently use to buy food, clothing and a wide range of other goods and services. This constitutes the induced impact of the business on the UK economy, estimated at 23,200 jobs in 2023. Consumer-facing sectors such as retail and wholesale, as well as accommodation and food services, were the largest beneficiaries of these impacts, as shown in the figure below. The supply chains of these industries supported further jobs in sectors such as businesses in manufacturing and administrative services.

This economic activity supported through the induced channel also supports a contribution to GDP, estimated at £1.8 billion for 2023. The real estate sector was a notable beneficiary of this expenditure (accounting for £480 million, or over 26% of the induced GDP contribution), which represents household spending on rent and mortgage payments. The retail sector received a further large impact at £270 million, or almost 15% of the total.

Fig. 11: Induced employment contribution by industry, 2023



Source: Oxford Economics

3.3 TOTAL CONTRIBUTION

3.3.1 National impacts

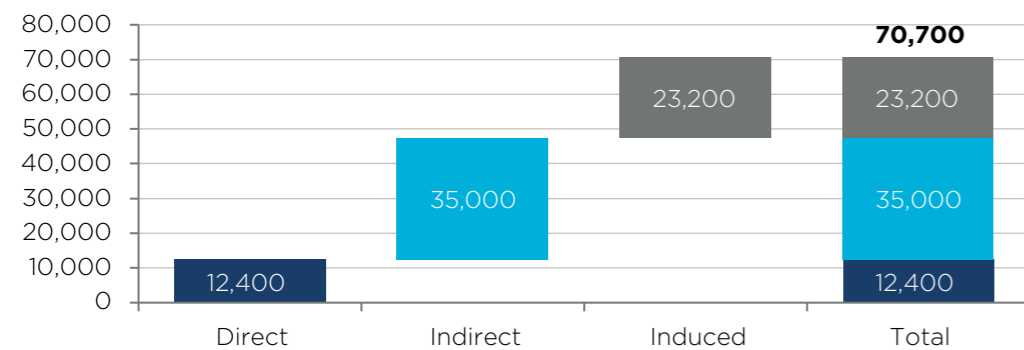
In 2023, including all impact channels, BAE Systems' Air Sector business supported almost 70,700 jobs in the UK. With 12,400 employed directly by the business, this means that for every worker employed at the Air Sector business itself, its expenditure on inputs and wages supported approximately a further five jobs across the UK economy.²⁰

In total, we estimate that the Air Sector business contributed £5 billion to UK GDP in 2023. This accounts for 0.2% of all economic output in the country—or one in every £540 pounds of economic output in the UK.

The Air Sector business directly contributed just over £1 billion to national GDP, with the remaining £4 billion supported through its supply chain and consumer spending multiplier effects. Our modelling indicates that BAE Systems' Air Sector business in the UK had a GDP multiplier of 4.9. That is, for every £1 of economic activity it produced in the UK, its expenditure on inputs and wages stimulated a further £3.90 across the UK economy.

Fig. 12: BAE Systems' Air Sector business' contribution to employment in the UK, 2023²¹

Employment (headcount)

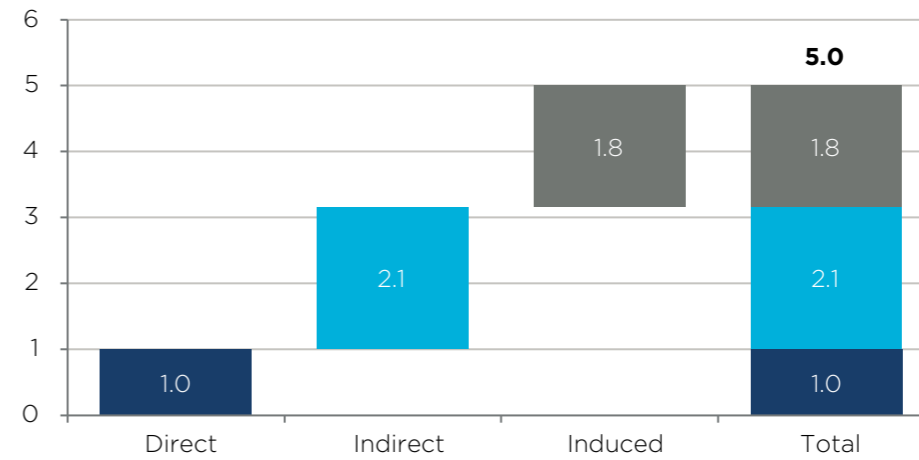


Source: Oxford Economics

28 ²⁰ The "approximately 5" jobs is 4.7 unrounded, and include those resulting from the indirect and induced multiplier effects. .
²¹ Numbers may not sum due to rounding.

Fig. 13: BAE Systems' Air Sector business' contribution to UK GDP, 2023²²

Gross value added (£bn)



Source: Oxford Economics

3.3.2 Impact around the UK

The large concentration of Air Sector business workers in the North West means that this region had the largest overall employment impact at 20,900 jobs, out of the total 70,700 across the country. Within the North West, approximately 10,400 of the 20,900 workers were employed directly by the business, while nearly 6,900 were supported by workers spending their wages in the region.

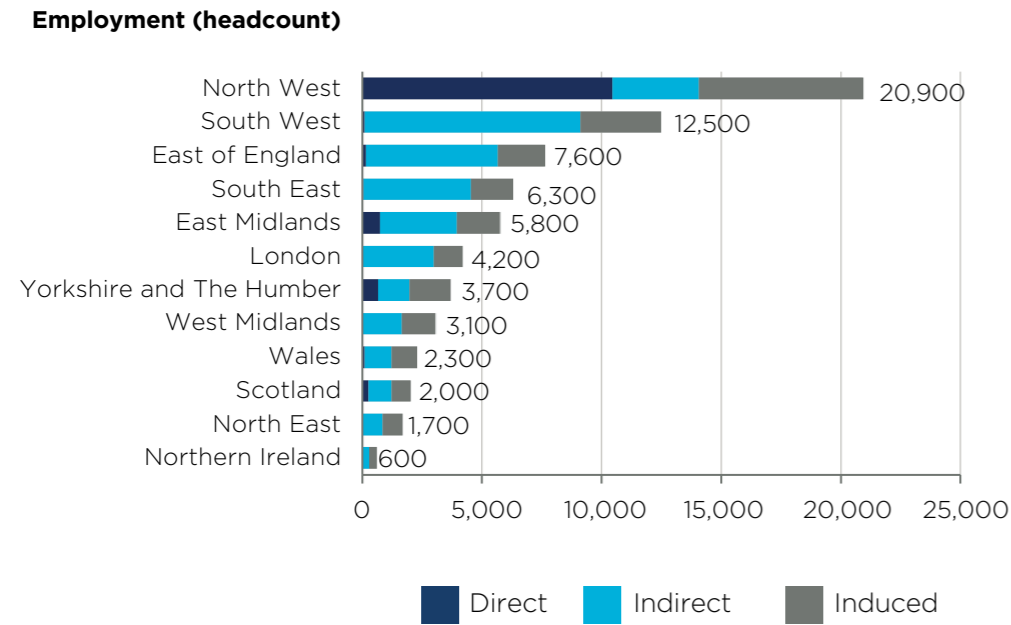
The next largest region was the South West, with a total of 12,500 jobs supported. However, in this region, the scale of the impact was due to the high level of procurement spending by the business in the region, with approximately 70% of these workers supported through the indirect channel.

The GDP impact follows a similar geographical pattern to the employment impact—of the Air Sector's total GDP contribution of £5 billion, the largest regional impact of approximately £1.4 billion was in the North West. Again, this was largely due to the locations of the business in that region, with the direct impact comprising £780 million of this total, and spending by the Air Sector's workers helping contribute to a further £470 million induced impact.

The next largest impact was again in the South West, with a total of £750 million in GDP contributions, largely made up of impacts through the indirect channel due to the large amount of Air Sector business spending in the region.

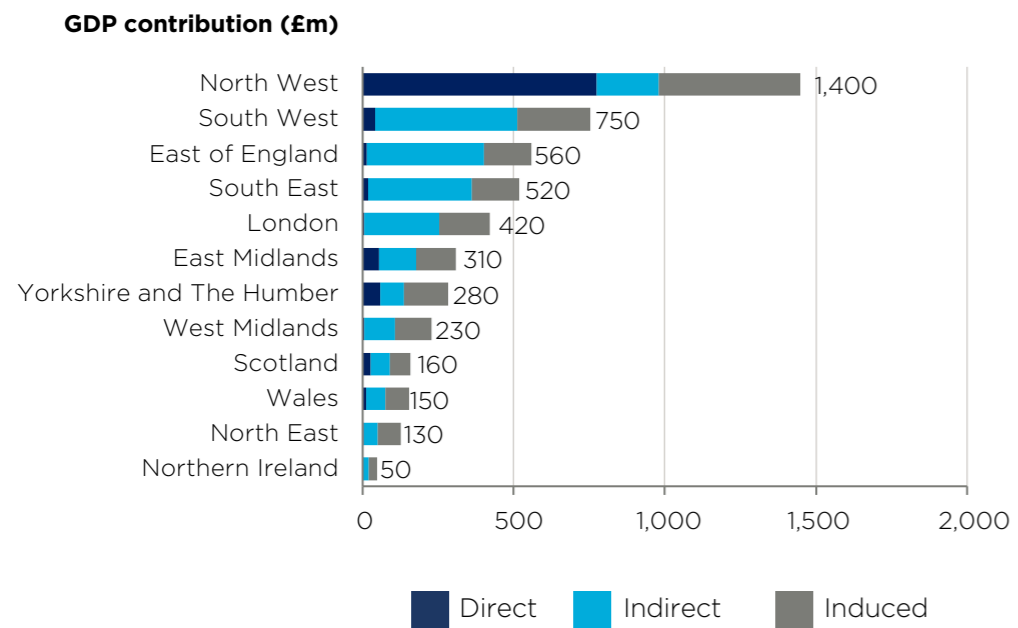
²² Numbers may not sum due to rounding.

Fig. 14: The Air Sector business' total employment across the UK by region and nation



Source: BAE Systems

Fig. 15: Air Sector business' total GDP impact across the UK by region and nation



Source: BAE Systems



DEVELOPING TYPHOON FOR NOW AND FOR THE FUTURE

The Typhoon fighter aircraft has been an important programme for the UK for many years. It is delivered through the Eurofighter consortium, a European industrial partnership between the UK and Germany, Italy, and Spain. The aircraft is in operation with by nine nations across Europe and the Middle East, with significant opportunities for further exports.^{23,24}

The UK's Typhoon Force forms the backbone of today's Royal Air Force's combat air capability, protecting UK airspace and delivering UK's foreign policy objectives. Typhoon plays a key role in NATO's air policing operations in eastern Europe,²⁵ helping to patrol and secure more than 1.4 million square kilometres of NATO airspace.

Since its inception, the programme continues to be a sizeable contributor to the UK economy, with the value of Typhoon sales contributing in excess of £30 billion; more than double the UK government's initial investment into the programme.²⁶

Two decades of a commitment to the aircraft's development has seen enhancements to radar systems, helmet technology, defensive aids, weapons and on-board computing capabilities, which has ensured that Typhoon remains at the heart of UK defence operations.

One example is the Mark 2 European Common Radar System, a new and highly advanced radar system, which undertook its maiden test

flight in September 2024. The Mk2 radar provides additional advanced electronic warfare capabilities and its ongoing development is estimated to support more than 1,200 highly skilled jobs in the UK.²⁷

Continued investment in capability development will ensure Typhoon remains in operation into the 2060s, whilst enabling the pursuit of further export sales, and providing a technological and industrial bridge to next generation combat air systems in the form of the Future Combat Air System (FCAS) programme.



²³ About the Typhoon fleet, Royal Air Force

²⁴ Aircraft fleet, Royal Air Force

²⁵ Typhoon - securing our skies, BAE Systems

²⁶ Eurofighter Typhoon economic impact, BAE Systems

²⁷ New electronic radar takes to the skies for the first time, BAE Systems, September 2024

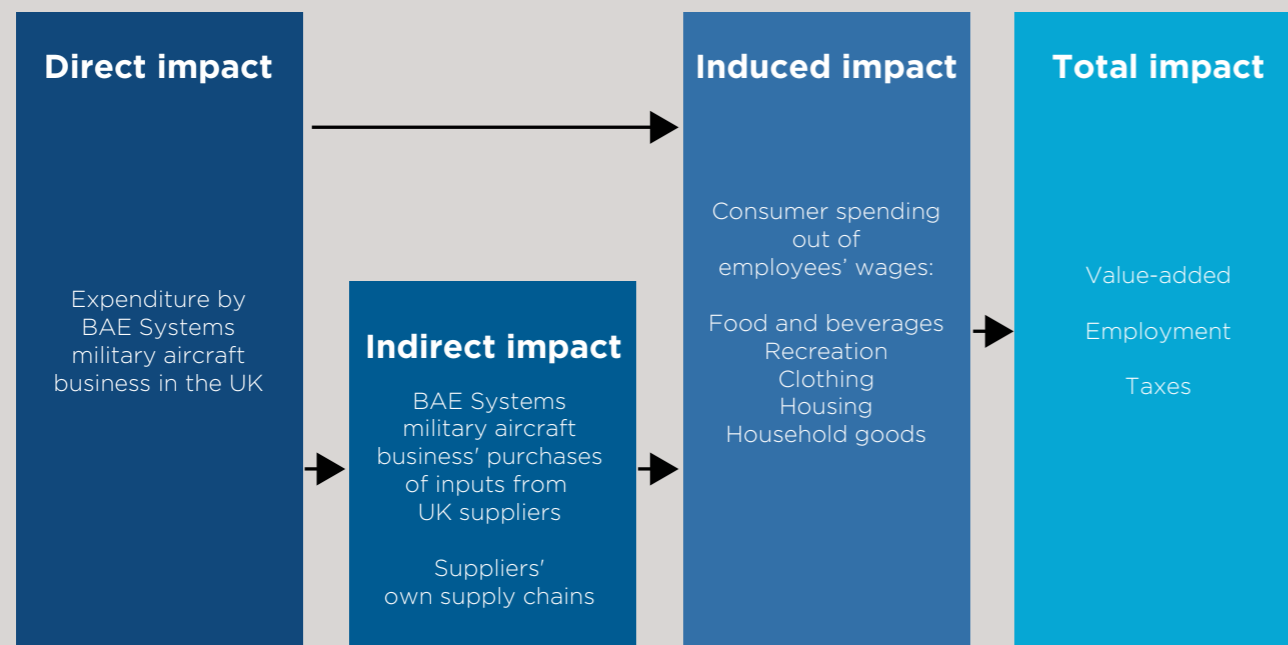
4. APPENDIX

ECONOMIC IMPACT MODELLING

Economic impact modelling is a standard tool used to quantify the economic contribution of an investment or a company. Impact analysis traces the economic contribution of an investment through three separate channels:

- **Direct impact**—which relates to the economic benefit of BAE Systems' Air Sector business' operations and activities in the UK;
- **Indirect impact**—which encapsulates the economic benefit and employment supported in the business' supply chain as a result of its procurement of goods and services; and
- **Induced impact**—comprising the wider economic benefit that arises when employees within the Air Sector business and its supply chain spend their earnings, for example, in local retail and leisure establishments.

Fig. 16: Direct, indirect, induced, and total economic impacts



Direct impacts

The direct value added of BAE Systems' Air Sector business in the UK is calculated as revenues minus the cost of goods bought in. Value added per employee, a measure of productivity, is derived from dividing direct value added by the number of employees.

Indirect and induced impacts

Indirect and induced impacts are estimated using an input-output model, which gives a snapshot of an economy at any point in time. The model shows the major spending flows from "final demand" (i.e. consumer spending, government spending, investment, and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector—the supply chain, in other words); how much of that spending stays within the economy; and the distribution of income between employment and other forms such as corporate profits. As the model measures activity within an economy, the direct impact figures will often not match BAE Systems' annual accounts, which follow accounting standards and rules.

An input-output model uses a matrix representation of a nation's interconnected economy to calculate the effect of changes by consumers, by an industry, or by others, on other industries and therefore on the economy as a whole. These input-output tables ultimately measure "multiplier effects" of an industry by tracing the effects of its inter-industry transactions—that is, the value of goods and services that are needed (inputs) to produce each dollar of output for the individual sector being studied (outputs). These models can be used to measure the relationship between an economic change or "shock," and the final outcome across the whole of the economy. In essence, an input-output table shows who buys what from whom in the economy.

Oxford Economics used the input-output analytical table for the United Kingdom for 2019, published by the ONS in 2023, for this analysis. This was the most recent dataset available at the time of analysis. Direct, indirect, and induced employment figures in this report have been rounded, generally to two significant figures.

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November 2024

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The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

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