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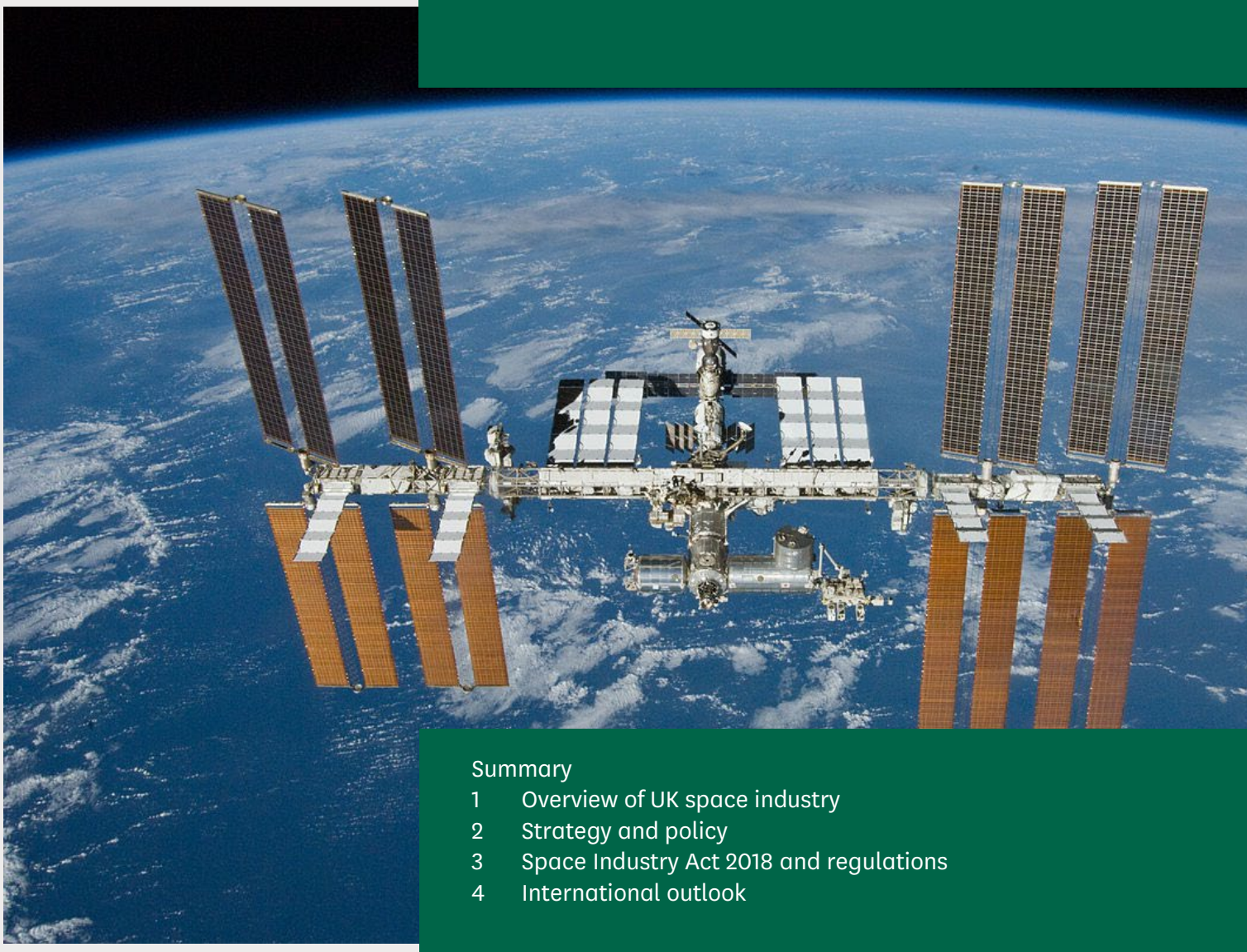
By Elizabeth Rough

The UK Space Industry



Summary

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There is a separate Library briefing on the International Regulation of Space.

Overview of UK Space Industry

The UK space industry is a fast-growing sector that supports a range of public services, particularly through satellite data and imagery, such as disaster relief, telecommunications, global positioning systems (GPS), and weather forecasting. In 2021-22, total UK space industry income was £18.9 billion, with the space industry supporting over 52,000 jobs across the UK.

The government invests in, and funds, the civil space sector in a variety of ways. As well as purchasing 'downstream' services, such as geospatial data and satellite services for communication and positioning, it also invests directly in 'upstream' manufacturing and facilities. For example, in January 2025, the government invested £20 million in the UK launch company Orbex to build and launch a rocket from Scotland.

A sizable proportion of the government's funding for the civil space sector is directed through the UK Space Agency (UKSA), an executive agency of the Department for Science, Innovation and Technology (DSIT). In 2022-23, UKSA's expenditure was £647 million representing an increase in expenditure of 74.5% since 2018-19 (when expenditure was £373 million).

Strategy and policy

The government published a National Space Strategy in September 2021. It was jointly produced by what is now DSIT and the Ministry of Defence (MoD), with the aim of establishing a more integrated approach across military and civil space policy. The strategy describes the UK's 10-year vision to "build one of the most innovative and attractive space economies in the world". This includes the UK becoming the first country in Europe to achieve small satellite launch from a UK spaceport and establishing itself as a leader in commercial small satellite launch. In July 2023, the National Space Strategy in Action set out the government's achievements to date in delivering the National Space

Strategy. This was followed by the government's Space Industrial Plan in March 2024 which provided more information about how the government may use public procurement to help grow the space industry.

A 2024 report by the National Audit Office (NAO) found that the National Space Strategy had been welcomed by industry and had helped to "stimulate interest from investors and industry in the sector". The NAO concluded, however, that DSIT had failed to provide "enough clarity or detail on its strategic ambitions", leaving delivery bodies with insufficient guidance on the outcomes the government was looking to achieve.

Space Industry Act 2018 and regulations

The Space Industry Act 2018 created the high-level legal framework to enable commercial spaceflight to be carried out from spaceports in the UK. It also made provision to establish a more detailed regulatory framework through secondary legislation. During 2020, the Government held several consultations seeking views on its draft regulations. Three sets of space-related regulations were subsequently made in 2021. They included the Space Industry Regulations 2021 which enabled the licensing and regulation of spaceflight, spaceports and range control activities taking place in the UK. They also appointed the Civil Aviation Authority (CAA) as the regulator and gave the CAA additional powers to monitor, and enforce compliance with, the regulations.

International outlook

Over 80% of the UKSA's budget in 2022-23 (£553 million) was spent on the government's participation in the European Space Agency (ESA). Its membership of ESA was not affected by the UK leaving the EU as ESA is not an EU organisation. UKSA's commitments to ESA are agreed every two to four years. This happened most recently in November 2022, when the UK announced it would invest £1.6 billion to deliver international space programmes via ESA over the next five years. The government announced in March 2025 that the UK had secured ESA contracts in the last quarter of 2024 worth £80 million more than government's contributions to ESA. The government reported that between 2022 and 2024 the total value of contracts secured for the UK through ESA was £844 million.

1 Overview of UK space industry

The space sector typically evokes images of space exploration; of rockets, astronauts, satellites and spaceflight. Over the years, however, space has shifted from being primarily an area of scientific endeavour, involving a handful of countries, to one which has multiple commercial applications. The UK is increasingly dependent on space-based services: as the government explained in its 2023 Case for Space, space provides "critical national infrastructure" which plays a "vital yet hidden" role in day-to-day life.[1] Satellite capabilities, for example, support navigation, meteorology, communications and earth observation.

This briefing examines the UK space industry, including its size and the types of activities that it supports. It also sets out government policy for the UK space sector and provides an overview of the Space Industry Act 2018. Finally, the briefing covers key UK Space Agency programmes and missions, and considers the international outlook for the UK space industry.

A more international outlook is provided in the Library briefing on the International Regulation of Space.

1.1 The space economy

The Size and Health of the UK Space Industry was surveyed in 2023 by London Economics (LE) on behalf of the UK Space Agency (UKSA). LE found that, for the 2021-22 financial year, total UK space industry income was £18.9 billion, representing an a "decrease of £142m (0.7%) from 2020-21".[2] Over 1,700 organisations were identified in the survey as engaging with the space industry (as defined in Box 1), directly supporting 52,000 jobs. [3]

Overall, LE found that the space industry contributed "£7.2 billion of direct Gross Value-Added (GVA) to UK economic output in 2021-22 (38% of industry income), versus £7.7bn (40%) in 2020-21 and £7.5bn (41%) in 2018-19". [4]

The 2024 survey examining the Size and Health of the UK Space Industry was launched in October 2024. The results are expected in summer 2025.

1 Department for Science, Innovation and Technology, The Case for Space, July 2023, PDF
2 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024
3 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024
4 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024

1 Definition of the space industry

London Economics defines the 'space industry' as including all "organisations (or part thereof) that are engaged in any space-related activity. It comprises both:

- Commercial organisations (i.e. businesses, companies, firms) that earn revenue from the manufacture, launch and operation of satellites/spacecraft, and from utilisation of the signals and data supplied by satellites/spacecraft to develop value-added applications; and
- Non-commercial organisations (e.g. universities, research institutes) that secure funding to contribute space-specific research and expertise throughout the industry supply chain, often in partnership with commercial organisations".[5]

1.2 Range of space industry activities

The space economy has previously been categorised in terms of "downstream" and "upstream" activities. Downstream activities include space applications which use satellite signals and data, such as direct-to-home broadcasting (like Sky TV). Upstream activities include space manufacturing, such as launch vehicles, satellites, payloads and scientific instruments. The most recent Size and Health of the UK Space Industry report has moved away from the upstream and downstream classification and a revised segmentation of the industry is used. An overview is set out in Box 2 below.

2 Segmentation of the space industry

Examples of 'space related activity' include:

- "**Space Manufacturing: Design and/or manufacture of space equipment and subsystems**

Including: launch vehicles and subsystems, satellites / payloads / spacecraft and subsystems, scientific instruments, ground segment systems and equipment (control centres and telemetry), suppliers of materials and components, scientific and engineering support, fundamental and applied research.

- **Space Operations: Launch and/or operation of satellites and/or spacecraft**

[5] UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024

Including: launch services, launch brokerage services, proprietary satellite operation (incl. sale/lease of capacity), third-party ground segment operation, ground station networks.

- **In-Space Economy**

Including: in-orbit servicing (incl. space-tugs), in-space manufacturing, Space Surveillance and Tracking (SST), debris removal, space tourism, space resource utilisation, other in-space/lunar activities.

- **Space Applications: Applications of satellite signals and data**

Including: Direct-To-Home (DTH) broadcasting, fixed and mobile satellite communications services (incl. Very Small Aperture Terminal (VSAT)), location-based signal and connectivity service providers, supply of user devices and equipment, processors of satellite data, applications relying on embedded satellite signals (e.g. Global Positioning System (GPS) devices and location-based services) and/or data (e.g. meteorology, commercial Geographic Information System (GIS) software and geospatial products), other (e.g. Quantum Key Distribution).

- **Ancillary Services**

Including: launch and satellite insurance (incl. brokerage) services, financial and legal services, software and IT services, market research and consultancy services, business incubation and development, policymaking, regulation and oversight."[6]

As in previous years, space applications contributed the largest share (72%, £13.7 billion) to UK space industry income. This is because the segment is dominated by direct to home TV (DTH), which makes up 47% (£8.8 billion) of total industry income.

Space manufacturing and space operations made up 13% (£2.5 billion) and 11% (£2.2 billion) respectively of total space industry income. This represents year on year growth of 7.2% for space manufacturing and 30.4% for space operations. In contrast, space applications experienced a decline of 4.5%, part of which London Economics linked to a "stagnation in DTH broadcasting".[7]

The space industry is commercially focused; 83% of income is generated by sales to consumers (49%) and businesses (34%). Just under 20% of space industry income comes from the public sector. [8]

6 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024
7 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024
8 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024

1.3 Location of UK space organisations

The London Economics (LE) survey analysed the location of UK space organisations by region. Scotland, Wales and Northern Ireland are each classified by LE as a region and England is split into nine separate regions. All 12 UK regions are home to the headquarters of space organisations, with a higher concentration of industrial sites (and employment) in the South East, London, the South West and Scotland. London also accounted for the majority of income (£12.9bn, 68%), which is primarily generated by space applications. [9]

Innovate UK (the UK's national innovation agency, part of UK Research and Innovation) and the UK Space Agency (UKSA) have collaborated to map the companies, universities, funding bodies and networks that form the UK Space sector. The UK Space Sector Landscape Map is an interactive tool that captures the capabilities of over 1000 organisations in the industry and their location across the UK.

1.4 Employment in the UK space industry

In 2021-22, the UK space industry directly supported just over 52,000 jobs, meaning that the space industry employed approximately 0.16% of the total UK workforce. London and the South East accounted for 51% of all employees, followed by Scotland (12%) and the East of England (8%). The workforce is highly skilled, with four out of five employees surveyed by London Economics holding a bachelor's degree or higher qualification. [10]

Difficulties recruiting staff and skills shortages were identified in the LE survey as constraining the growth of the sector. A separate survey, the Space Sector Skills Survey 2023 Report, found that 52% of organisations reported "skills gaps in their current workforce" resulting from "struggling to hire new staff (48%), new staff not having the right skills (45%), and existing staff leaving (34%)". [11]

In summer 2024, the UKSA announced funding for five new projects aimed at addressing some of the key skills gaps identified by the UK space industry:

> The funding will boost the availability of training programmes, courses and other learning interventions that can break down barriers to opportunities within this fast-growing, high-tech sector.
>
> The projects will be led by the universities of Edinburgh, Leicester and Portsmouth, the Royal Institute of Navigation, and Plastron Training, a

9 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024
10 UK Space Agency, Size and Health of the UK Space Industry 2023, July 2024
11 UK Space Agency, Space Sector Skills Survey 2023 Report, September 2023

specialist provider of training services focused on safety in the commercial space sector.[12]

The UKSA has also published space careers resources and runs an Education and Future Workforce programme. In 2024, the Space Skills Alliance ran a Space Census in order to understand better the demographic of people working in the UK Space Industry. The results are due to be published in 2025-26.

1.5 Government funding for the civil space sector

The government invests in and funds the civil space sector in a variety of ways. As well as purchasing 'downstream' services, such as geospatial data and satellite services for communication and positioning, it also invests directly in 'upstream' manufacturing and facilities. For example, in January 2025, the government invested £20 million in UK launch company Orbex to build and launch a rocket from Scotland.[13]

A sizable proportion of the government's funding for the civil space sector is directed through the UK Space Agency (UKSA), an executive agency of the Department for Science, Innovation and Technology (DSIT). In 2022-23, UKSA's expenditure was £647 million, representing an increase of 74.5% since 2018-19 (when expenditure was £373 million).[14]

Over 80% of the UKSA's budget in 2022-23 (£553 million) was spent on the government's participation in the European Space Agency (ESA). Its membership of ESA was not affected by the UK leaving the EU as ESA is not an EU organisation. ESA has two types of programmes, mandatory and optional. The contribution to the mandatory programmes is calculated by ESA according to each member's gross national product, whereas the contribution to the optional programme is decided by each country.

UKSA's commitments to ESA are agreed every two to four years. This happened most recently in November 2022, when the UK announced it would invest £1.6 billion to deliver international space programmes via ESA over the next five years, including:

- UK leadership of the Rosalind Franklin mission to search for signs of life below the surface of Mars
- a new satellite, TRUTHS, to calibrate climate measurements from space
- bolstering space safety through improving forecasting and resilience from dangerous space weather via the VIGIL mission

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12 UK Space Agency, Plans unveiled for stronger European Space Agency presence in UK and space skills training, 23 July 2023

13 Scottish rocket launch boost to get Britain back into space race - GOV.UK, 29 January 2025

14 UK Space Agency Annual Report 2022 - 2023 - GOV.UK, July 2023

- three new UK astronauts, including the world's first astronaut with a disability
- research in telecommunications to enable faster 5G and future 6G connectivity, and to support constellations of Low Earth Orbit satellites
- strengthening space sustainability via satellite management, maintenance and removal.[15]

The UKSA's annual report and accounts for 2023-24 show that expenditure has fallen slightly to £642 million. The government announced in March 2025, however, that the UK had secured ESA contracts in the last quarter of 2024 worth £80 million more than government's contributions to ESA.[16] The government reported that between 2022 and 2024 the total value of contracts secured for the UK through ESA was £844 million.[17]

The National Audit Office (NAO) reported in 2024 that DSIT does not have a good understanding of how much the department is spending through its other agencies to support civil space endeavours. For example, DSIT funds UK Research and Innovation (the UK's national funding agency for science and research) which, in turn, funds the Rutherford Appleton Laboratory (RAL) Space, the space hub within UKRI. However, the NAO reported that "UKRI does not separately track space funding as distinct from its overall budget".[18]

3 National Space Innovation Programme

The UK Space Agency's (UKSA) National Space Innovation Programme (NSIP) was launched in July 2020 to "provide grant funding to UK project teams to support the development of their innovation ideas".[19] Most recently, £33 million was made available to invest in "high-potential" innovative space technologies. The UKSA announced in July 2024 that eight projects would receive £24 million from the fund and an additional 15 'Kick Starter' projects would receive £9 million between them. The latter are projects that are at an earlier stage of development, covering a "wide range of space-related capabilities, from in-orbit servicing and manufacturing, as well as advanced material development and the use of satellite imagery".

The eight projects receiving a share of £24 million include:

> "[…] funding for a sub-orbital rocket test by HyImpulse (Glasgow) from SaxaVord spaceport in Shetland, support for Rolls Royce (Derby) to develop

15 UK Space Agency, UK Space Agency Annual Report 2023-2024, September 2024
16 DSIT, UKSA, Science Secretary hails UK space sector for securing record-breaking contracts and propelling government's mission forward, 11 March 2025
17 DSIT, UKSA, Science Secretary hails UK space sector for securing record-breaking contracts and propelling government's mission forward, 11 March 2025
18 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p9
19 UK Space Agency, National Space Innovation Programme, 22 July 2020, PDF

micro reactors to support space exploration, and backing for Cambridge University spin-out SuperSharp to develop and launch a heat-detecting telescope to gather data that can be used to help tackle the climate crisis.

The funding will also support Lunasa (Harwell) to build and test technology to help satellites safely dock with one another, Orbit Fab (Harwell) to develop a solution for satellite refuelling, and Wayland Additive (Huddersfield) to develop an electronic propulsion system".[20]

[20] UK Space Agency, £33 million boost for national space programme, 22 July 2024

2 Strategy and policy

2.1 Space Landscape Review

The UK Space Agency is an executive agency, sponsored by the Department for Science, Innovation and Technology (DSIT). Prior to 2021, it led on civil space strategy and policy.

In early 2021, it was reported in the media that government had undertaken a "space landscape review". The review appears to have been an internal exercise whose findings were not published. According to the National Audit Office (NAO), the review examined the "existing distribution of space functions" and responsibilities across government and subsequently led to changes in the governance structure.[21]

Following the completion of the review, the Daily Telegraph reported that the UK Space Agency had "lost control of handling space policy and strategy", with responsibility for coordinating civil space policy passing to the Department for Business, Energy and Industrial Strategy (BEIS, DSIT's predecessor department).[22] The then Business Secretary, Kwasi Kwarteng, subsequently emphasised to the Commons Science and Technology Committee that his department would be taking the lead on developing a new space strategy:

> I [...] said explicitly that we would own the space strategy. If you look at space and the policy around space, that was sitting in lots of different buckets. Obviously, No. 10 had a clear interest in it, as did the UK Space Agency, the MoD and other Departments. I have said that BEIS will take the lead on this. We are holding the pen on the space strategy. We are very keen and excited about delivering that in the next few months.[23]

2.2 National Space Strategy

The government published a National Space Strategy in September 2021. It was jointly produced by what is now the Department for Science, Innovation and Technology (DSIT) and the Ministry of Defence (MoD), with the aim of establishing a more integrated approach across military and civil space

21 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p48

22 James Titcomb, Shake up for UK's space plans after OneWeb row, Daily Telegraph, 31 January 2021

23 Science and Technology Committee, Oral evidence: A new UK research funding agency, HC 778 2019-21, Q263

policy. The strategy sets out the UK's 10-year "vision" to "build one of the most innovative and attractive space economies in the world" and identifies five goals to achieve the vision:

- grow and level up our space economy
- promote the values of Global Britain
- lead pioneering scientific discovery and inspire the nation
- protect and defend our national interests in and through space
- use space to deliver for UK citizens and the world.[24]

According to the government, while UK civil expenditure on space has increased from £300 million in 2014 to £700 million in 2019, other nations have "invested proportionally more", leaving the UK behind its international peers.[25]

The strategy is broad and wide ranging, though some projects are identified as areas that the UK should focus on. They include:

- returning samples from Mars to the Earth for the first time and monitoring the sun for space weather events like solar flares
- collaborating on the NASA-led Artemis programme to return humans to the Moon
- maintaining our role in the European Space Agency whilst building new and enhanced bilateral relationships with countries such as the United States
- working at the UN to deliver leadership on a safe, sustainable, and secure space environment, in particular to deliver a new resolution on space threats
- becoming the first country to launch a rocket into orbit from Europe in 2022 with the aim of becoming a leader in commercial small-satellite launch. [26]

The strategy also includes "10 point plan" with "initial focus areas", as set out in Box 3 below.

[24] Ministry of Defence, Department for Science, Innovation and Technology, National space strategy, published September 2021, updated February 2022

[25] Ministry of Defence, Department for Science, Innovation and Technology, National space strategy, published September 2021, updated February 2022

[26] Ministry of Defence, Department for Science, Innovation and Technology, National space strategy, published September 2021, updated February 2022

4 National Space Strategy: initial focus areas

1. Capture the European market in commercial small satellite launch
2. Fight climate change with space technology
3. Unleash innovation across the space sector
4. Expand our horizons with space science and exploration
5. Develop our world class space clusters
6. Lead the global effort to make space more sustainable
7. Improve public services with space technology
8. Deliver the UK Defence Space Portfolio
9. Upskill and inspire our future space workforce
10. Use space to modernise and transform our transport system[27]

Overall, DSIT identified "69 commitments underlying the Strategy".[28] According to the National Audit Office, DSIT had originally intended to provide an implementation plan, detailing how the strategy and its goals/commitments would be delivered. The NAO added, however, that there had been a ministerial decision not to pursue this option.[29]

The government did not set out the costs of, or any funding for, the strategy. Instead, it stated that the Autumn 2021 Comprehensive Spending Review "would set budgets for government space activities into the coming years."[30] No further details of funding for space were included within the Autumn Budget and Spending Review 2021.

2.3 National Space Strategy in Action

Almost two years after the publication of the National Space Strategy, DSIT and the MoD published a policy paper, the National Space Strategy in Action, in July 2023. This set out the government's achievements to date in delivering the National Space Strategy. Notably, it reported the progress made against the 10 point plan. This included developing the UK's launch capabilities at

27 Ministry of Defence, Department for Science, Innovation and Technology, National space strategy, published September 2021, updated February 2022

28 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p23

29 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p23

30 Ministry of Defence, Department for Science, Innovation and Technology, National space strategy, published September 2021, updated February 2022

Spaceport Cornwall which, in January 2023, saw the UK's first attempt at launching into space from UK soil.

It also set out changes to how space policy is governed through the establishment of a National Space Board and National Space Council:

> DSIT and MOD have jointly brought together the responsible space departments into a single coordinated delivery framework overseen by a National Space Board. In July 2023, the Prime Minister established the National Space Council as a new Inter-Ministerial Group, to set cross-government ministerial direction for space policy and strategy. In addition, UKSA has outlined in its corporate plan how it is transforming into a world-leading delivery agency.[31]

The NAO described the 'strategy in action' as a "broad high-level view of upcoming policy work" but said it "lacked detail on how the government intended to prioritise delivery of the rest of the Strategy".[32]

2.4 Space Industrial Plan

The National Space Strategy set out a long-term goal for the government to "redefine" its partnership with industry, so that it changes from a "primary funder to an influential customer" as the space sector develops and matures.[33] The Space Industrial Plan, jointly published by DSIT and the MoD in March 2024, provided more information about how the government may use public procurement to help grow the industry: its purpose was to signal to industry where the government expects to see growth across the space sector, and where it is likely to invest its resources, while also setting out the government's role in facilitating that growth. [34]

A total of 22 "national space capability goals" were outlined and a National Space Capability Development Plan, with details on how the 22 goals were to be delivered, was due to be completed in autumn 2024. This commitment was made by the Conservative Government, prior to the 2024 general election being called. At the time of writing, a development plan has not been published.

In the short-term, the government said in the Plan that it wanted to focus its support on five specific areas:

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31 Ministry of Defence, Department for Science, Innovation and Technology, National Space Strategy in Action, July 2023

32 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p9

33 Ministry of Defence, Department for Science, Innovation and Technology, National space strategy, published September 2021, updated February 2022

34 Ministry of Defence, Department for Science, Innovation and Technology, Space Industrial Plan: from ambition to action - advancing UK space industry, March 2024

- Space Domain Awareness (deliver a world-class sensing and data management system for objects in space to effectively protect and manage UK-licensed spacecraft)
- In-Orbit Servicing, Assembly and Manufacturing
- Space data for Earth applications (such as earth observation and space weather monitoring)
- Position, Navigation and Timing
- Satellite Communication Technology.[35]

In addition, the plan emphasised that the government aimed to develop and enhance the way it works with the space industry, and the European Space Agency (ESA) to help create the conditions for growth.[36] This included "enhancing the regulatory environment and sustainable practices for space" such as:

- publishing a Space Regulatory Review that will identify barriers faced by the UK's space sector, including licensing, sustainability, data policies, novel activity regulations, and procurement practices,
- ensuring effective orbital licensing for current and future EO capabilities, and
- delivering groundbreaking variable liability insurance and finance incentives, including variable liability limits, for responsible space operators to reward sustainable practices and drive innovative approaches to sustainable space operations. [37]

Modern Industrial Strategy

Between 14 October and 25 November 2024, the Labour government consulted on Invest 2035: the UK's modern industrial strategy. This is the government's proposed 10-year plan for the economy. The consultation document posed questions on, among other things, skills, competition and technology adoption and space is expected to form a part of the resulting strategy.[38] The Guardian reported in February 2025 that the final strategy is expected to be published in June 2025, alongside the outcomes of the spending review.[39]

35 Ministry of Defence, Department for Science, Innovation and Technology, Space Industrial Plan: from ambition to action - advancing UK space industry, March 2024

36 Ministry of Defence, Department for Science, Innovation and Technology, Space Industrial Plan: from ambition to action - advancing UK space industry, March 2024

37 Ministry of Defence, Department for Science, Innovation and Technology, Space Industrial Plan: from ambition to action - advancing UK space industry, March 2024

38 DSIT, UKSA, Science Secretary hails UK space sector for securing record-breaking contracts and propelling government's mission forward, 11 March 2025

39 Labour will not release long-awaited industrial strategy until June, The Guardian, 13 February 2025

2.5 Stakeholder responses to government space policy and strategy

National Audit Office

The National Audit Office (NAO) published a report in July 2024 examining whether DSIT and the UKSA were securing value for money from their work overseeing and delivering the National Space Strategy. The NAO found that the strategy had been welcomed by industry and had helped to "stimulate interest from investors and industry in the sector". It concluded, however, that DSIT had failed to provide "enough clarity or detail on its strategic ambitions".[40] The NAO said that this meant delivery bodies were left with insufficient guidance on the outcomes the government was looking to achieve.[41] It added that it was not always clear who was leading on particular aspects of space policy:

> Departments and industry stakeholders we spoke to were also not always clear on the roles and responsibilities or which team or department was leading on certain areas [...] Industry stakeholders told us that it was difficult to understand what they can expect from the government, who they should be liaising with, and when key meetings and engagement events were taking place.[42]

The NAO recognised that the government was working to change its relationship with the space industry, so that it becomes a customer rather than a direct funder. The NAO noted, however, that the "government's space procurement is decentralised" at present, with "limited awareness of opportunities across departments".[43] It added that DSIT recognised it needed to "improve the coherence and efficiency of all government space procurement and become a more intelligent customer of space technology".[44]

Commons Science and Technology Committee

The Commons Science and Technology Committee published a report on UK space strategy and UK satellite infrastructure in November 2022. While welcoming the publication of the National Space Strategy, the committee criticised the strategy for lacking "coherence", measurable aims and dedicated funding. It added that government's approach to space policy was "disjointed and unclear" and questioned why the government had disbanded the National Space Council less than two years after it had been

40 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p8-9
41 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p8-9
42 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p9, p28
43 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p28
44 National Audit Office, National Space Strategy and the role of the UK Space Agency, July 2024, p28

established.[45] In its response to the committee's report, the government stated that the National Space Council had been re-established by the Prime Minister as an Inter-Ministerial Group.[46]

2.6 UK commercial spaceflight programme: LaunchUK

LaunchUK is the UK's commercial spaceflight programme. It aims to enable the UK to be the first country in Europe to achieve small satellite launch from a UK spaceport. The details of the UK Spaceflight Programme were first published in July 2018 by the UKSA, Department for Transport (DfT) and the Civil Aviation Authority (CAA). They have since been updated in April 2023.

The UK is a world leader in small satellite technology applications, telecommunications, robotics and earth observation.[47] NASA defines small satellites as those with a mass less than 180kg ("about the size of a large kitchen fridge", though others will be much smaller and about the size of shoe box).[48] According to Ingenia, a publication of the Royal Academy of Engineers, "one in eight satellites in the skies was manufactured in the UK".[49] Despite the UK leading the world in satellite manufacturing and data processing, it has not had the capability to send these objects into space from the UK.

At present, UK companies and academic institutions looking to launch small satellites rely on sites in other countries to launch satellites, and scientific experiments, into space. The growth of the sector has created a greater demand for launches. In addition, small satellites have typically had to depend on infrastructure designed to launch large satellites because these have traditionally been the key customers for launch services. This has left small satellites dependent on the needs of other, larger customers.

The government has said that establishing a launch capacity in the UK could:

> [...] mitigate increasing launch costs, reduce legal and logistical costs, and reduce delays and uncertainty by offering more predictable launch options for both UK and non-UK customers. Domestic access to space would also provide the UK's scientific community, for whom space is an invaluable but largely inaccessible research environment, with new opportunities for exploration and

45 Commons Science and Technology Committee, UK space strategy and UK satellite infrastructure, November 2022, HC 100

46 Commons Science and Technology Committee, UK space strategy and UK satellite infrastructure: Government Response to the Committee's Second Report, March 2023

47 LaunchUK: Leading the commercial space age - GOV.UK, April 2023

48 What are SmallSats and CubeSats? - NASA, accessed 10 March 2025

49 Launching low Earth orbit satellites from UK spaceports, Ingenia, March 2020

> discovery, and could accelerate the exploitation of revolutionary future spaceflight technologies.[50]

Spaceports located in Scotland for example, such as those in Shetland Islands and Sutherland in the northern Highlands, offer several advantages as sites to launch small satellites, including:

> [...] direct flightpaths into polar and Sun-synchronous orbits [which] do not pass over population centres or oil installations, and there is no interference from commercial airline traffic or military flights".[51]

In addition, Unst, one of the North Isles of the Shetland Islands, has the UK's highest latitude, meaning that satellites can be seen on average 9.4 times per day "making it an optimal location for downloading data from space".[52] Spaceport Cornwall in Newquay, which has immediate access to the north Atlantic and an existing 2.7km runway, has also been developed as a UK spaceport.

UKSA has funded a range of industry-led projects to build new UK launch capabilities including:

- £31.5m to establish launch services in Scotland, supporting Orbex to launch from Sutherland, Lockheed Martin to launch from the Shetland Islands, and to build an innovative spacecraft in Reading
- £11.3m of central government grant funding to support launch by Virgin Orbit from Spaceport Cornwall
- £1.3m to help other local airports to develop business plans to offer space launch services[53]

Recent milestones

- In January 2023, the first ever orbital launch was attempted from UK soil by Virgin Orbit at Spaceport Cornwall (the satellites onboard were not placed into orbit due to a "technical anomaly with the rocket's second stage engine").[54]
- In December 2023, SaxaVord spaceport on the Shetland Islands became the UK's first vertical launch site to receive a spaceport licence.[55]
- SaxaVord spaceport was awarded a range control licence by the CAA in April 2024. This sets out the type of information that needs to be provided

50 Department for Transport and UK Space Agency, Space industry regulations consultations: summary of views received and government's response, 5 March 2021
51 Launching low Earth orbit satellites from UK spaceports, Ingenia, March 2020
52 Launching low Earth orbit satellites from UK spaceports, Ingenia, March 2020
53 Spaceflight from the UK - GOV.UK, January 2023
54 Report outlines lessons learned from first U.K. launch - SpaceNews, December 2023
55 SaxaVord granted spaceport licence by UK Civil Aviation Authority, UK Civil Aviation Authority, December 2023

to the CAA prior to a launch, such as evidence of a plan to warn relevant people and stakeholders about the timing of a launch.

- Rocket Factory Augsburg (RFA), a German firm, was awarded the UK's first vertical launch operator licence, under the Space Industry Act 2018, enabling it to launch into space from the SaxaVord Spaceport.[56]

2.7 OneWeb

OneWeb is a Low Earth Orbit (LEO) satellite constellation with over 400 satellites in orbit. After the company filed for bankruptcy in early 2020, the government led a successful bid in July 2020 to acquire the satellite technology firm alongside Bharti Global Ltd (part of a global conglomerate owned by Mittal), with each partner contributing $500 million (£374 million). The government acquired a 'golden share', giving it certain rights over the company, including a veto over the future sale of the company, its supply chains and customers presenting a potential risk to national security.[57] The government set out its rationale for the purchase in a press release:

> The deal will enable the company to complete construction of a global satellite constellation that will provide enhanced broadband and other services to countries around the world.
>
> [...]
>
> With a sovereign global satellite system, the UK will further develop its advanced manufacturing base, making the most of its highly skilled workforce as the hardware is further developed and equipment and services are deployed to make the most of this unique capability.
>
> OneWeb will also contribute to the government's plan to join the first rank of space nations, along with our commitment to making the UK a world leader in science, research, and development.[58]

Prior to the government announcement, the then Business, Energy and Industrial Strategy (BEIS) Acting Permanent Secretary, Sam Beckett, wrote to the then Secretary of State for Business, Alok Sharma, seeking a Ministerial Direction for the purchase. In the letter, Ms Beckett noted the time available to review the purchase, value for money and potential non-monetary benefits.[59]

In September 2020, industry experts were questioned by the Business, Energy and Industrial Strategy Committee on the OneWeb deal. The experts thought

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56 RFA receives launch licence from the UK, Rocket Factory Augsburg, January 2025

57 PQ HL2252 [on OneWeb], 30 July 2021

58 Press release: UK government to acquire cutting-edge satellite network, Department for Business, Energy & Industrial Strategy, 3 July 2020

59 Letter to the Secretary of State from the Acting Permanent Secretary and Accounting Officer, BEIS, 26 June 2020

that the deal had potential in allowing the UK to enhance its internet connectivity through OneWeb producing and launching satellites. They suggested, however, that the government needed a more coherent strategy for the UK's overall satellite infrastructure, especially with regards to GNSS (Global Navigation Satellite System) capabilities.[60]

In 2022, France's Eutelsat, which already owned 24% of OneWeb, bought the company, diluting the government's then 18% share in OneWeb. However, the government retained its veto rights.

In the memorandum of understanding signed between the UK Government and Eutelsat, the "exclusive rights" retained by the government included:

- a range of national security rights, including over security standards of the OneWeb network and use of the OneWeb network for national security purposes
- the UK remaining the preferred location for future OneWeb launches
- OneWeb preferring businesses in the UK for future procurement for manufacturing on a commercial basis.[61]

The UK Government currently has a 10.89% shareholding in Eutelsat Group.[62]

2.8 UK spaceflight programme

UKSA signed an agreement with Axiom Space in October 2023 to work together to pursue "a commercially sponsored, UK astronaut mission". Axiom Space is a private, commercial space company based in Houston, Texas. The press release about the agreement states:

> On this future flight, the UK astronauts would launch to space, spending up to two weeks on orbit to carry out scientific research, demonstrate new technologies, and participate in education and outreach activities.[63]

The Guardian reported that the British astronaut Tim Peake will come out of retirement to lead the mission.[64] According to The Telegraph, the three other British astronauts joining mission are expected to be John McFall, a Paralympian, Rosemary Coogan, an astronomer and Meganne Christian, an

60 Business, Energy and Industrial Strategy Committee, Oral Evidence: OneWeb, HC 806, 17 September 2020, Q26
61 OneWeb merger with Eutelsat - GOV.UK, July 2022
62 PQ HL4032 [on Eutelsat OneWeb: Finance] 8 May 2024
63 Axiom Space, UK Space Agency and Axiom Space Sign Agreement on Plans for Historic Human Spaceflight Mission, 25 October 2023
64 Tim Peake to quit retirement to lead UK's first astronaut mission, The Guardian, 25 October 2023

industrial chemist.[65] All three were selected to join the European Space Agency's (ESA) astronaut programme in 2022.

Tim Peake was also an ESA astronaut and took part in ESA's Principia mission to the International Space Station in 2015. The October 2023 press release by Axiom Space states that its human spaceflight mission with the UK has the "full support of the European Space Agency".[66]

[65] Tim Peake leaves retirement to lead UK's first astronaut mission into space, The Telegraph, 25 October 2023

[66] See also UK Space Agency and Axiom Space sign agreement on plans for historic human spaceflight mission - GOV.UK, 25 October 2023

3 Space Industry Act 2018 and regulations

In 1967, the UN Outer Space Treaty was introduced to place obligation on governments to:

- maintain a register of objects sent into space,
- ensure safety of operations for such space activities, and
- bear ultimate liability for costs arising from accidental damage to 3rd parties from UK space activities.

In response, the UK Government introduced The Outer Space Act 1986 (OSA) which provides the legal basis for the regulation of activities in outer space carried out by persons connected with the UK, thereby implementing the UK's obligations under the UN Space Treaties.

Further information can be found in the Library briefing on the International Regulation of Space.

In 2017, the government considered that neither international aviation nor space law were suitable to regulate the risks to safety and security posed by commercial spaceflight activities in the UK. On 9 February 2017, the then Secretary of State for Transport, Chris Grayling, announced forthcoming legislation on spaceflight:

> We intend to publish a draft spaceflight Bill later this month, dedicated to commercial spaceflight in the UK. This legislation will be fundamental to enabling small satellite launches and sub-orbital flights from the UK, ensuring the UK is well placed to take advantage of a growing global market. The Government's intention is to introduce this Bill formally early in the next Session, following a period of scrutiny and engagement with industry and other interest groups.
>
> The space sector is vital to the future of the UK economy, with a strong record of creating high-value jobs and generating wealth across the country. To help the creation of the space launch market in the UK, the UK Space Agency is inviting commercial space consortia to apply for grant funding to take the action that will make our ambitions a reality.
>
> Together, the proposed legislation and grant funding announced today will have the potential to enable commercial spaceflight from a UK spaceport by 2020

The Space Industry Bill was introduced into the House of Lords on 27 June 2017 and received Royal Assent on 15 March 2018. The Outer Space Act 1986 now only applies to space activities carried out by UK entities overseas.[67]

3.1 Space Industry Act 2018

The Space Industry Act 2018 (SIA) provided for the creation of a regulatory framework to enable commercial spaceflight activities (involving both launch to orbit and sub-orbital spaceflight) to be carried out from spaceports in the UK. The aims of the act were to:

- create a framework for the regulation of spaceflight activities in the UK in line with the UK's international obligations,
- establish a system of licencing for UK space activities,
- create powers for the Secretary of State to appoint a regulator(s), with the regulator's primary objective to ensure public safety,
- create a framework for establishing safety, training and informed consent requirements for individuals participating spaceflight activities,
- create a framework to establish a launch site in the UK, including creating powers for the Secretary of State to make orders over land,
- create a framework for liability, indemnities and insurance for UK space activities, and
- create new offences and apply existing UK criminal law to space activities.[68]

Further information about the act and its progress through Parliament can be found in the Commons Library Briefing, The Space Industry Bill 2017-2019.

Overall, the bill was welcomed by both Houses and industry stakeholders. The main issue, repeatedly raised, was the lack of detail on the face of the bill and a reliance on developing more detailed rules for commercial spaceflight through secondary, rather than primary, legislation.[69] [70] The Commons Science and Technology Committee's 2017 inquiry into The Draft Spaceflight Bill reported that:

> The lack of detail on the face of the Bill has made detailed scrutiny difficult at this stage. There are still many 'unknowns' where commercial spaceflight is concerned, and the Government's approach has been to issue a "skeletal bill"

67 UK Space Agency, Department for Transport and Civil Aviation Authority, Brochure Spaceflight Programme, 15 July 2018
68 The Space Industry Bill 2017-2019, Commons Library Briefing Paper CBP-8197, 2 February 2018, p8
69 As above, p3, 21-22
70 Explanatory Notes, 29 November 2017, para 8.

> with powers placed in the hands of regulators, and the Secretary of State, to plot a course through the unknown. Consequently, the draft Bill contains a large number of delegated powers—103 provisions in a Bill with 67 clauses—to bring forward secondary legislation in the future, of which only six are afforded the 'affirmative resolution' procedure. Some of these, including clauses 29 and 63, are particularly wide-ranging, while others, such as clauses 21 and 51, are potentially inappropriate delegations of legislative power.[71]

During the House of Lords stages these broad delegated powers were discussed, as well as environmental issues, powers over land and liability, indemnity, and insurance provisions.[72] More information about the amendments made can be found in the Library Briefing paper.

3.2 Licencing framework

As noted above, The Space Industry Act 2018 (SIA) created the high-level legal framework to enable commercial spaceflight in the UK and made provision to establish a more detailed regulatory framework through secondary legislation.

There have been continued concerns over the need to pass the secondary legislation so that the framework for commercial spaceflight is in place, allowing the UK space industry to grow.[73]

Throughout 2020, several consultations were published by the government. These sought views on draft regulations that were proposed under the SIA.

In July 2020 a consultation was published by the DfT asking for views on the draft regulations and guidance documents that are required to:

- operate a spaceport
- carry out spaceflight activities
- provide range control service.[74]

A second consultation was published by the DfT in October 2020, covering the draft insurance, liabilities and charging requirements to implement the SIA.[75] The results of the two consultations were published together on 5 March 2021. In a statement, the then Parliamentary Under Secretary of State for Transport, Rachel Maclean, said:

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71 House of Commons Science and Technology Committee, Draft Spaceflight Bill, HC1070, 29 April 2017, Summary.

72 The Space Industry Bill 2017-2019, Commons Library Briefing Paper CBP-8197, 2 February 2018, p20

73 HC Deb, 4 February 2021, c1155-1157, c1169-1170, c1171-1173

74 Department for Transport and UK Space Agency, Spaceport and spaceflight activities: regulations and guidance, 29 July 2020, p12

75 Department for Transport and UK Space Agency, Commercial spaceflight: insurance and liabilities requirements, 13 October 2020

> We are pleased to report that our modern regulatory framework was supported by the vast majority of respondents with many applauding the flexibility of our proposed approach, which fosters adaptability through an outcomes-based focus.
>
> The response I am sharing today sets out the ways we have adjusted the draft Space Industry Regulations and associated guidance material to reflect, and where possible accommodate, the suggestions and recommendations made through the consultation process. We believe that this collaborative approach will not only strengthen the licensing regime we are implementing, but also demonstrates the Government's on-going commitment to growing this exciting sector.
>
> My Department has worked closely with the Department for Business, Energy and Industrial Strategy, the UK Space Agency and Civil Aviation Authority to legislate for a wide range of new commercial spaceflight technologies, including traditional vertically launched vehicles, air-launched vehicles and sub-orbital spaceplanes and balloons. It is our intention to bring this legislation before the House later this year.[76]

The Space Industry Regulations Consultations (PDF) document contains a summary of views collected and the government response. Overall, respondents were supportive of the regulatory approach proposed. Some of the key concerns and the government's response to these are shown below.[77]

Table 1 Space Industry Regulations: concerns and Government response

Concern raised	Details	Government response
The alignment between the Outer Space Act 1986 (OSA) and the Space Industry Act 2018 (SIA) is unclear.	OSA has a traffic light system to provide early guidance about an application, majority view is that the SIA should contain this system.	The government will introduce an optional traffic light system.
	Prospective orbital operator licence applicants need to understand how the OSA and SIA relate to one another.	The government will arrange a plenary session to address how the SIA relates to the OSA.
Alignment between spaceport and launch operator licences	Respondents felt that there should be alignment between the two licenses.	The government will not mandate the sharing of information between the licenses.

[76] HCWS827, 8 March 2021

[77] Department for Transport and UK Space Agency, Space industry regulations consultations: summary of views received and government's response, 5 March 2021

Launch from a ship	Respondents queried whether the regulations accounted for launching a space object from a ship.	The SIA does not recognise a ship as a spaceport but would regulate launch activity from a ship. The regulator will consider licence applications for launch from a ship on a case by case basis, taking into consideration the SIA and OSA.
Payloads	Respondents highlighted that the payload might not be known at the time of application or there might be no payload involved in the launch.	Regulations will be adjusted so that detailed information about the payload is only required if this information is known.
Training requirements	Respondents proposed that the training requirements be expanded.	The regulations will now include all individuals who participate in licenced activities, even if they do not have a specified role. Training will now include "human factors".
One-off charges for orbital licencing	Queries about how this applies to constellations of satellites.	The government will maintain the approach of having a one-off charge of £6500 but will look at ways to reduce fees of constellation operators.
Modelled Insurance Requirements (MIR)	Support for MIR and setting insurance requirements for launch and licence conditions. Queries in relation to liabilities.	Wider review to be carried out by the government in 2021, see Commercial spaceflight: launch liabilities and insurance - GOV.UK

Source: Source: DfT and UK Space Agency, Space industry regulations consultations: summary of views received and government's response, 5 March 2021, p5-6

Three sets of space-related regulations were subsequently made in 2021:

- The Space Industry Regulations 2021: enabled the licensing and regulation of spaceflight, spaceports and range control activities taking place in the UK. They also appoint the Civil Aviation Authority (CAA) as the regulator and give the CAA additional powers to monitor, and enforce compliance with, the regulations

- The Spaceflight Activities (Investigation of Spaceflight Accidents) Regulations 2021: established the Spaceflight Accident Investigation Authority (SAIA) to conduct safety investigations following spaceflight accidents. The Air Accidents Investigation Branch has since been nominated by the Secretary of State for Transport to act as the SAIA for the UK. It will operate independently of the CAA and the UKSA

- The Space Industry (Appeals) Regulations 2021: the 2018 Act allowed for decisions made under the act to be appealed. The appeals regulations set out how the appeal process will work

- Regulator's Licensing Rules: while not regulations, the licensing rules support the regulator's power regarding the granting and renewal of launch operator, spaceport and range control licences under the 2018 Act

3.3 Space regulatory review, 2024

In May 2024, the government published a review of space regulations, ahead of the general election being called. Notably, it considered the operation of the space industry act and the current licensing regime. The government reported that the "overwhelming message from industry, academia and government stakeholders was the need for clarity, certainty, and confidence" in the regulatory framework.

Overall, the review found that the SIA was "performing well" and that it provides a "solid foundation, which supports safe access to space from UK spaceports, and orbital missions, whilst allowing for innovation and growth".[78]

Areas for improvement included:

> - [delivering a] more streamlined and economical licensing process that provides greater transparency on the progress of applications in the licensing process and the government's role in the CAA's [Civil Aviation Authority] statutory consultation on draft licence conditions and consent. We will, with the regulator look at the merit to providing greater transparency where possible.
>
> - [taking] a lighter touch approach to suborbital launches will allow the UK to compete globally for more business in this area for example sounding rockets. This is a complex issue to address as it may require changes to primary and secondary legislation, but we will develop policy options on this issue.
>
> - if the UK wishes to be competitive compared to other countries, then the UK Government and regulator would need to do all they can to keep licensing costs to a minimum. We will explore opportunities with the

[78] DSIT and HM Government, Space Regulatory Review 2024, 16 May 2024, p34

> regulator to reduce the regulatory burden where possible in ways that do not diminish the current safety thresholds.[79]

3.4 Space Industry (Indemnities) Bill, 2024-25

The Space Industry (Indemnities) Bill is a private members' bill introduced by John Grady (Labour) to the Commons on 16 October 2024. It is a government hand-out bill; "a Bill offered by the Government to a backbench MP to take forward as a Private Members' Bill".[80] The bill seeks to amend the SIA 2018 and require operator licences for spaceflight to specify the licensee's indemnity limit.

Under section 36 of the SIA 2018, a person carrying out spaceflight activities must indemnify the government, and several named public bodies (including the Health and Safety Executive), against any claims brought against the state "in respect of damage or loss arising out of or in connection with those [spaceflight] activities". Section 12(2) of the 2018 act stipulates that an operating licence "may" specify a limit on the amount of a licensee's liability to indemnify under section 36, but it is not mandatory for a licence to do so.

In response to the government's consultation on spaceflight liability, insurance and charging, published in March 2021, stakeholders emphasised that "operators would be exposed to unlimited liability" for claims made under section 36 of the SIA.[81] The government said that it could not remedy this, and change section 12(2) from "may" specify a limit to "must", because "there are no regulation-making powers [in the 2018 act] to amend section 12(2)". It added that primary legislation was needed to make the change.

In the interim, and in the absence of primary legislation, regulation 220 of the Space Industry Regulations 2021 stated that the "operator licence must specify a limit on the amount of the operator's liability" and that this limit would be "determined by the regulator". The government would then indemnify a claimant for losses above that limit.

The Explanatory Memorandum to the 2021 regulations stated that the government exercised its power to set a limit to third party liability:

> [...] based on evidence from research and market engagement conducted by the UK Space Agency that indicated that it would not be possible for launch operators to obtain insurance for an unlimited liability. Furthermore, companies holding unlimited liabilities can face difficulty raising finance. Launch operators also stated they will not launch from the UK until a limit on

79 DSIT and HM Government, Space Regulatory Review 2024, 16 May 2024, p34-35

80 Hand-out Bill - UK Parliament, accessed 10 March 2025

81 HM Government, Unlocking Commercial Spaceflight for the UK. Space Industry Regulations Consultations: summary of views received and the Government's response, 5 March 2021, PDF, para 4.107

> liability is in place both for the strict liability to third parties and for the indemnity of Government.[82]

The government has since tried to change the wording of section 12(2) of the SIA through introducing private members' bills (government hand-out bills). Most recently, John Grady (Labour) introduced the Space Industry (Indemnities) Bill in the Commons on 16 October 2024. The bill has two clauses and amends section 12(2) of the Space Industry Act 2018; "may" is substituted for "must" and the bill makes a consequential amendment to section 36(3)(a). As with the SIA, the bill extends to England and Wales, Scotland and Northern Ireland. The explanatory notes accompanying the bill state that the change would:

> [...] if enacted, provide industry with legal certainty that the amount of an operator's liability will be capped, by making it mandatory to cap the amount of liability to indemnify under section 36.[83]

During the bill's second reading, on 7 March 2025, the government emphasised its support for the changes. The Minster for Local Transport, Simon Lightwood, said the government recognised that the question of liability and insurance was of "utmost concern to the space sector" and that industry "holding unlimited liabilities [would] have an adverse effect on the UK's spaceflight industry".[84] The bill was unopposed at second reading and stood committed to a Public Bill Committee, the next stage in the bill scrutiny process.

The bill was considered in committee on 18 June 2025. John Grady, the bill's sponsor, said that UK spaceflight operators' current exposure to unlimited liabilities was deterring investment in the industry.[85] He added that it was a "long-standing unresolved issue" on which the UK was out of step with "competitor nations".[86] The Minister for Aviation, Maritime and Security, Mike Kane MP, said that the bill was "consistent with government policy" and would improve the Space Industry Act.[87]

Both clauses were ordered by the committee to stand part of the bill and the bill was reported to the House without amendment. The remaining stages of the bill in the Commons are due to take place on 4 July 2025.

82 Explanatory Memorandum to The Space Industry Regulations 2021, PDF
83 Space Industry (Indemnities) Bill Explanatory Notes, February 2025, PDF
84 HC Deb, 7 March 2025, c625-626
85 PBC, 18 June 2025, c4
86 PBC, 18 June 2025, c4
87 PBC, 18 June 2025, c5

4 International outlook

4.1 The Integrated Review, 2021

The government's Integrated Review of Security, Defence, Development and Foreign Policy, published March 2021, referred to the importance of the UK's commercial and military use of space:

> Space will be a domain of increasing opportunity, as the application of new technologies in space enables new possibilities – from commercial opportunities to international development and climate action. But increasing commercial and military use of space will make it an important sphere of competition; there will be considerable risks to strategic stability if this is not managed and regulated effectively.[88]

The Review indicated, for the first time, that the UK's national space strategy would "establish an integrated approach across military and civil space policy" (see section 2.2 of this briefing).[89] This would include the establishment of a new Space Command, funded by the MoD,[90] with the aim of "ensuring that the armed forces have cutting-edge capabilities to advance UK interests on Earth and in space – enhancing our cooperation with allies and ensuring we can compete with our adversaries".[91]

For a summary of the key points of the Integrated Review, see the Commons Library briefing on Integrated Review 2021: Summary.

4.2 UK space industry: participation in EU programmes

As noted in section 1.5, the UK remains a member of the European Space Agency (ESA). Its membership of ESA was not affected by the UK leaving the EU, as ESA is not an EU organisation. The UK's participation in some EU space

88 HM Government, Global Britain in a competitive age. The Integrated Review of Security, Defence, Development and Foreign Policy, March 2021, CP 403, p29
89 HM Government, Global Britain in a competitive age. The Integrated Review of Security, Defence, Development and Foreign Policy, March 2021, CP 403, p58
90 HM Government, Spending Review 2020, 12 December 2020
91 HM Government, Global Britain in a competitive age. The Integrated Review of Security, Defence, Development and Foreign Policy, March 2021, CP 403, p58

programmes, however, was affected by the UK leaving the EU. The EU Space Programme includes the following components:

- European satellite navigation programmes, Galileo (the global navigation satellite system, GNSS) and European Geostationary Navigation Overlay Service (EGNOS)
- Copernicus Earth Observation programme
- EU Space Surveillance and Tracking (EUSST) programme
- Governmental Satellite Communications (GovSatCom)
- Space Traffic Management[92]

UK participation in all the programmes listed above has ended, with the exception of Copernicus.

Copernicus is the EU's earth observation programme. It relies on satellite and in situ data to help monitor and map changes (for example in land use) and improve forecasts (for example of the ocean and atmosphere). Following agreement by the UK and EU on revised terms of participation in September 2023, and the formal adoption by the UK and EU of a Protocol on Programmes and activities in which the UK participates (Protocol I) in December 2023, the UK participation in Copernicus began on 1 January 2024.

Association to Copernicus gives UK entities the same rights as EU entities to bid for EU Copernicus contracts and join consortia bids with some limited exceptions. For further information see the Commons Library briefing on UK participation in EU programmes: Horizon Europe and Copernicus.

4.3 International collaborations

UK-Australia 'Space Bridge'

The UK and Australia signed the Space Bridge Framework Arrangement (PDF) in February 2021. It aimed to "unlock improved access to trade, investment and academic research opportunities, better advice to businesses and innovative bilateral collaborations."[93] In a press release, the then Minister for Exports, Graham Stuart MP, said:

> Space exports hit £5.5 billion in 2017 and it is this international demand for our space goods and services which is driving the development of the UK's vibrant and innovative space industry.

92 EU Space Programme - European Commission, accessed 11 March 2025

93 'Space Bridge' across the world will help UK and Australia get ahead in global space race - GOV.UK, February 2021

> Like the UK, Australia recognises the enormous potential of space science and recognises that closer partnership and alignment between our two sectors can boost progress and jobs in both countries. I believe that UK exports to Australia could grow by £900 million as a result of a Free-Trade Agreement and the Space Bridge programme can play a critical role in space contributing to this growth, and further strengthening our UK-Australia relationship.[94]

In February 2024, the UKSA and the Australian Space Agency celebrated three years of the UK-Australia Space Bridge. It has focused on areas such as:

- government-to-government collaboration on space programmes and technology
- trade and investment
- knowledge-sharing, research, and education[95]

This has included the UK Government investing invested £250,000, approximately half a million Australian Dollars, in "five projects that saw UK and Australia join forces on developments in Earth observation, next-generation satellite networks, monitoring Antarctic sea-ice, improving crop production, and satellite quantum encryption".[96]

UK and New Zealand blueprint for the removal and servicing of operational satellites

The UK and New Zealand space agencies signed a "blueprint for the removal and servicing of operational satellites that are very close together or making contact with one another" in October 2024. A UKSA press release explained that the arrangement between the two companies is designed to support missions involving in-orbit servicing, space debris removal and satellite refuelling, and sets out how the two countries will cooperate.[97]

UK and Canada Redwing microsatellite collaboration

In October 2024, the UK Government announced that it would be working with Canada on the Redwing microsatellite Space Domain Awareness mission.

Redwing is a research and development mission; it aims to help improve the monitoring of objects in space and reduce risks to Canadian and UK infrastructure from space debris and/or space congestion. The UK has signed a contract option to add a nanosatellite (about the size of a cereal box) to the existing satellite constellation (about the size of a washing machine). The nanosatellite will incorporate an experimental short wave infrared (SWIR)

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94 UK Space Agency and Department for International Trade, 'Space Bridge' across the world will help UK and Australia get ahead in global space race, 23 February 2021

95 Celebrating three years of the UK-Australia Space Bridge – UK Space Agency blog, February 2024

96 Celebrating three years of the UK-Australia Space Bridge – UK Space Agency blog, February 2024

97 UK and New Zealand agree blueprint for satellite removal and servicing missions - GOV.UK, October 2024

camera. Its ability to operate around the south pole, where "glare from the Antarctic ice sheet can hinder object identification in orbit", will be assessed.[98]

[98] UK and Canada announce satellite collaboration - GOV.UK, October 2024; Government of Canada, Tandem satellites will advance R&D in space domain awareness, October 2024

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