



NEW ZEALAND
FOREIGN AFFAIRS & TRADE
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Opportunities in the United Kingdom's Space Sector

MARKET INTELLIGENCE REPORT

Summary

- The United Kingdom (UK) government is embracing a more proactive approach to developing and directing its space sector, recognising the role that space technology plays in economic growth, national security, and resilience, as well as in addressing global challenges including climate change.
- The UK space sector has grown at 6.4% per annum on average since 2000, outpacing the rate of growth in the global space economy in recent years. A 2023 study found that the UK accounts for 17% of the \$47 billion invested in the space sector globally since 2015, making it the second largest recipient of investment after the US. The UK government is investing £10 billion over the next ten years.
- The UK's Space Industrial Plan released in March 2024 sets out a phased plan for developing the sector. It prioritises five areas for developing UK capability: (1) space domain awareness; (2) in-orbit servicing, assembly, and manufacturing; (3) utilising space data; (4) position, navigation, and timing; and (5) satellite communication technology.

- The UK is strengthening international collaboration on space and recently signed several bilateral partnerships including with Australia, Canada, and Japan. The UK Space Agency's International Bilateral Fund helps to fund space projects with partners relating to research, exports, and investment.
- New Zealand and the UK cooperate on a range of space-related issues commercially, in international organisations and in defence. Connections at the researcher and institutional level are strong and growing in areas such as space sustainability.
- The NZ-UK Free Trade Agreement (FTA), our Research, Science and Innovation Arrangement with the UK, and upgraded Working Holiday/Youth Mobility Schemes provide an excellent platform to grow the bilateral relationship and build opportunities for New Zealand businesses in the space sector.

Report

Overview

Historically the UK has not taken a state-led approach to the development of its space sector, spending roughly 0.05% of GDP on space in 2022 (a proportion five times lower than the US and three times lower than France but similar to Germany). This, combined with the UK's strong scientific and technology base, has resulted in a space sector with many small and innovative companies. According to data from 2022, the UK's space sector consists of approximately 1,600 organisations employing 48,000 people and generating £17.5 billion in annual income.

The UK's space sector grew 5.1% in real terms in 2020/21, outpacing the rate of growth in the global space industry (+1.6%) and the UK's broader economy (which contracted during this time due to Covid-19). The longer-term trend is a rate of growth of 6.4% per annum since the year 2000. This growth has been driven in part by the UK's success in securing a growing proportion of international investment. One [2023 study](#) found that the UK received 17% of the \$47 billion investment in the global space industry since 2015 - the second largest share after the United States.

The UK's main commercial strength is space applications, in particular the manufacture, design, and operation of small and nano satellites (the central belt in Scotland oversees the manufacture of the highest number of satellites in Europe). The UK also has a thriving professional services sector that supports the space sector including IT, consultancy, insurance, and legal services. Earth observation (EO) technology and downstream analytics are areas of strength, with over 160 EO companies operating from the UK. The key areas of investment into the UK are EO technology, manufacturing, and satellite connectivity.

The UK space sector benefits from the UK's strong research base, with strengths in areas such as physics, chemistry, engineering, and earth sciences. Over 50 universities in the UK have active space science functions with astronomy a particular area of strength. The UK has the fourth highest number of space-related publications amongst the top 10% most cited. The UK's space research is also highly internationally connected, with 80% of publications done with an international partner. Top collaborators include the US, France, and Germany.

Towards a more state-led approach

Over the past five years, the UK government has played a greater role in developing its space sector. This is driven by the desire to capture a larger share of the emerging global space economy, a push to develop sovereign capabilities for national security and resilience purposes, as well as an increasing recognition of the importance of space technologies in addressing global challenges such as climate change.

The UK's decision to leave the European Union is also a factor in the UK's drive to develop sovereign capabilities. While the UK's membership of the European Space Agency (ESA) is not affected by leaving the EU, it resulted in a reduction in (or termination of) UK participation in several EU funded programmes including [Galileo](#), the EU's satellite navigation system. Under a deal signed in 2023, the UK will participate in aspects of Copernicus (the EU's earth observation programme), the European Geostationary Navigation Overlay Service (EGNOS), and the EU Space Surveillance and Tracking (EUSST) program.

In March 2020, the UK government invested £500m in global satellite broadband provider OneWeb, which was facing bankruptcy. The investment, matched by the Indian government, made the UK the first European player in the constellation-based satellites market, with OneWeb aspiring to compete with Elon Musk's Starlink. Since the UK's investment, OneWeb has attracted further investments, diluting the UK's ownership but enabling OneWeb's growth. OneWeb has now completed its first phase of 600 small satellites and is rolling out satellite broadband globally. Perth-based Sat.One has entered a partnership with OneWeb to provide services in Australia and New Zealand.

In September 2021, the government published the UK's first [National Space Strategy](#), which describes the UK's ambitions for the space sector. The strategy brought together civil and defence aspects of space strategy for the first time and set out key goals for the UK, including priority capabilities for investment, including orbital launch. In March 2024, the UK published a [Space Industrial Plan](#), which goes into more detail and sets out a sequenced and prioritised plan for growing the UK's space sector. The plan sets out five capability areas for immediate focus: space domain awareness (SDA); in-orbit servicing, assembly, and manufacturing (IOSAM); space data for earth applications; position, navigation, and timing (PNT); and satellite communication technology.

The Space Industrial Plan sets out work programmes out to 2030 in the following priority areas:

- Transforming the relationship with industry
- Enhancing the regulatory environment and sustainable practices for space
- Boosting UK investment and access to finance
- Increasing the adoption of UK space services
- Improving government space procurement
- Building a skilled space workforce

- Stimulating international trade
- Developing the UK's space ecosystem

To achieve these goals, the UK has committed to investing £10 billion of funding for space activities over the decade from 2023 (£3 billion was allocated to the 2023 spending review). These investments support both the UK Space Agency (UKSA), as well as international collaboration through the European Space Agency (ESA). The UK has also established a cross-government institutional architecture for delivering on its objectives, including a National Space Council consisting of senior ministers whose portfolios include space-related responsibilities.

Defence's role in the UK space sector

UK Defence is also increasingly leaning into space, establishing Space Command in 2021 and publishing a [Defence Space Strategy](#) (DSS) in 2022. The DSS sets out how Defence will contribute to the UK's National Space Strategy and the role of space capabilities including communications and intelligence in ensuring the UK's national security. Defence has announced major investments including £5 billion over ten years to enhance SKYNET, the defence satellite communications network (the UK's largest defence space programme). An additional £1.4 billion over ten years announced in 2021 will be invested in the acquisition and development of new technologies including Intelligence, Surveillance and Reconnaissance (ISR).

A more directed approach to developing national capabilities

A major aspect of the UK's approach is a shift toward a more directed approach to developing national space capabilities. A set of 22 national capability goals for achievement by 2030 has been produced and the government intends to publish a National Space Capability Development Plan in 2024 that will include roadmaps for all 22 capabilities.

Priority capabilities under development include:

- **Position, navigation, and timing (PNT):** Nearly all PNT services in the UK are provided by global navigation satellite systems (GNSS), including the US's Global Positioning System (GPS). The loss of PNT services features in the 2023 National Risks Register, with government modelling indicating a one-week loss could cost the UK economy £7.6 billion. Accurate timing is integral to all 13 of the UK's Critical National Infrastructure (CNI) sectors. The UK in 2023 established a [Government Policy Framework for Greater PNT Resilience](#) to develop sovereign alternative capability, including the establishment of a National Timing Centre.

- **Satellite communications:** The UK is looking to leverage current strengths including investment in OneWeb and research strengths in areas such as quantum communications to build leadership in satellite communication technology. In March 2024 the UK government announced the [Connectivity in Low-Earth Orbit programme \(C-LEO\)](#), which will provide up to £160m of funding over the next four years to UK companies and researchers to develop innovative satellite communications technology. This work connects to the UK's work on future telecoms, which is one of the five national science and technology priorities.
- **Utilising space data:** Building new digital infrastructure to provide insights and enable uptake of space derived data (e.g. earth observation; intelligence, surveillance and reconnaissance data; space weather monitoring; and other sources) to serve a range of users include public and private sector. This is intended to help realise the benefits of UK investments in space infrastructure, to deliver better and more efficient public services and create new commercial markets for products and services.
- **Space domain awareness:** In 2024 the UK Space Agency and UK Space Command will launch the National Space Operations Centre combining civil and military space domain awareness capabilities to enable operations and protect UK interests in space and on earth from space-related threats, risks, and hazards. This will improve the UK's ability to track and analyse space-based objects (including debris) for both civil and defence purposes.
- **In-orbit servicing, assembly, and manufacturing (IOSAM):** The UK is prioritising investment in the emerging IOSAM market, which includes manufacturing in space and in-orbit services such as debris removal and refuelling of satellites. The UK will be looking to establish an in-orbit technology testing facility and a regulatory toolbox to develop the UK's core competencies for high-frequency, close-proximity operations, and help to shape global design standards and regulations.

The development of an orbital launch capability (which would be the first in Europe) also remains a priority for the UK, although there has been less public emphasis on launch from the UK's political leadership since the failure of the Virgin Orbit to launch in January 2023, and its subsequent collapse. While that mission was unsuccessful, the UK has made strides in areas such as regulation, licensing, and operation for launch purposes.

As well as the horizontal spaceport that has been established in Cornwall, two vertical spaceports have been established in Scotland (SaxaVord and Sutherland). The SaxaVord spaceport has now been licensed and has recently been awarded £10 million in UK government funding to support orbital launch in 2024. The first launchpad and hanger at the site have been contracted by German rocket manufacturer RFA Augsburg for a six-year contract. RFA Augsburg are planning to launch in late northern summer 2024. If this launch takes place, it would be the first orbital launch to take place from Europe

(current European launches take place in French Guiana).

Space sustainability

The UK is increasingly seeking to assume a global leadership role on the issue of space sustainability. This includes two “Active Debris Removal Phase B” mission studies that were awarded to Astroscale and ClearSpace in September 2022 (totalling £4 million). These missions will help the UK Space Agency to decide which mission concept to take forward to design and launch phase, culminating in a 2026 mission to rendezvous, dock with, and de-orbit two defunct UK satellites.

Beyond these missions, the UK is developing space domain awareness (SDA) capabilities including a space surveillance and tracking service for UK licensed satellite operators through the UK Space Operations Centre. The service, named Monitor Your Satellites, is currently in the public beta phase, and monitors over 90% of satellites with active licenses in the UK.

Regulations and standards are another area of focus for the UK, which has recently run a public consultation on [orbital liabilities, insurance, charging and space sustainability](#). This looks at policy initiatives to incentivise the adoption of more sustainable practices and includes a proposal to develop a long-term sustainability roadmap and work on a set of sustainability principles being developed in partnership between business and government ([the Earth-Space Sustainability Initiative](#)).

Space sustainability is also a priority for King Charles III, who in 2023 announced the [Astra Carta](#) initiative, which aims to convene the private sector in creating and accelerating sustainable practices across the global space industry. This is part of the King’s wider Sustainable Markets Initiative.

Cooperation between New Zealand and the UK

The New Zealand Space Agency and the UK Space Agency collaborate on space regulation and policy, with a particular focus on novel satellite applications such as active debris removal. Connections at the researcher and institutional levels are particularly strong, with the University of Canterbury and the University of Auckland (including Te Pūnaha Ātea | Space Institute) enjoying strong links with UK counterparts in a range of space related areas including debris removal, satellite manufacturing, earth observation, space situational awareness, and space sustainability.

To grow these connections further, the Ministry of Business, Innovation and Employment (MBIE) and the UK’s Department of Science, Innovation and Technology (DSIT) have recently agreed on aerospace as one of five areas under the NZ-UK Bilateral Research, Science, and Innovation Arrangement, for closer research collaboration.

With the entry into force of the NZ-UK Free Trade Agreement, New Zealand businesses will also be well placed to benefit from growth in the UK space sector, including opportunities for New Zealand businesses to secure space-related government procurement opportunities. MFAT and NZTE are currently exploring opportunities to grow the trade relationship with respect to space, including opportunities to increase UK investment in the New Zealand space sector. [Horizon Europe](#) provides another potential avenue for space technology cooperation between the UK and New Zealand, as both countries are associated to the EU programme.

Space sustainability is an area where there is likely to be opportunity to strengthen collaboration. Both New Zealand and the UK have expressed an intention to be world leaders in space sustainability, and both have companies at the forefront of space sustainability technologies.

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