



UK space manufacturing

How will Brexit effect the government's plans to capture 10% of the global space industry by 2030?



What are the potential effects of Brexit on the UK's space industry?

The UK's space industry is export led with flexible manufacturing supply chains that span EU borders. As a result, disruption to European trade could be highly damaging.

This is particularly important as Europe is the space industry's largest export partner by far, generating 49% of the UK's export revenue. By comparison, Asia-Pacific and North America split 35% in export revenue between themselves.

The UK may also lose access to important space programmes as a result of Brexit, such as the EU Global Navigation Satellite System, Galileo.

The loss of the European Geostationary Navigation Overlay Service or the upcoming Copernicus programme, the most ambitious Earth observation project to date, could also be damaging.

Free-trade agreements and collaboration treaties, such as those signed by Switzerland for participation in Galileo, may alleviate or nullify these risks.

Even so, exit from the EU has the potential to be particularly disruptive to the space industry, especially for small to medium-sized companies that receive funding from EU programmes and work from EU-led space projects.

How is the UK government investing in the space industry?

Between 2014 and 2015 the UK held 6.3% to 7.7% of the global space industry and the government is firmly committed to capturing a 10% share of the market by 2030.

The government also plans to build its own Galileo system, promising to invest £92m into the programme. It also recently invested £99m in establishing the National Satellite Test facility as part of its Industrial

Strategy Challenge Fund. The facility should be operational by 2021.

How is the space sector organised?

The satellite service subsector, an expansive market covering companies that depend on satellite data, made up around 74% of the space market's turnover in 2016, [according to European economic consultants London Economics](#).

This includes direct-to-home satellite television providers, satnav consumer equipment, mobile communications, data handling, banking and utilities management.

The more recognisable sectors of satellite operations and space manufacturing equate to 15% and 8% of the market respectively, while ancillary services retain 3%.

Space manufacturing is a bespoke business with very limited production runs and complex chains of subcontractors specialising in specific systems. It is particularly at risk from a unorganised Brexit.

This is especially true for the components market, for which Europe represents 94% of all exports, and makes Britain's manufacturers, who are known for their large weather satellites and smallsats, wary.

Edison's insight:

"After obtaining shareholder approval and subsequent court sanctioning, SCISYS has re-domiciled in the Republic of Ireland. The change will ensure that its German-based space business can continue to work on EU-funded space programmes, such as EGNOS, Galileo and Copernicus. SCISYS decided to finalise the move in Q4 as it is too risky to wait for the final Brexit deal." Richard Jeans, analyst

What are smallsats?

Satellites weighing less than 500kg have become popular investments as advances in microelectronics have lowered the cost of design and development.

Ranging from larger variants to the smaller 10–100kg microsats and 1–10Kg nanosats, smallsats are a large part of the growing space industry.

Cubesats, modular satellites with attachments that can be easily switched out to create a highly flexible platform, have also garnered significant attention.

On top of low production costs, smallsats' advantage over their peers is that they can mitigate tight launch windows with ridesharing systems. This

allows them to hitch a ride into space on the back of the often intermittent launches of larger satellites.

Why are investors interested in the space sector?

In the past, venture funds and investors have been wary of the space industry, partly due to complex supply chains and significant cross-border cooperation. This made it a somewhat sensitive market. In addition, high risks from failed launches or malfunctioning hardware could see companies lose hundreds of millions of pounds.

However, satellites are now cheaper and more reliable and international treaties and partnerships have stabilised supply chain management. This has resulted in an explosion of new ventures as increased commercialisation, privatisation and a renewed interest in space exploration re-energise the sector.

When added to the growth of mobile broadband, an increase in government budgets, a cultural resurgence of interest in outer space exploration and the potential of the data-heavy Internet of Things, the space industry has now become an attractive investment.

Which UK companies are heavily involved in space?

Airbus Defence and Space, one of the largest UK players, recently struck a deal with French satellite titan Eutelsat to develop components for two state-of-the-art satellites. The components will be manufactured in Britain before being shipped to Toulouse for final assembly. [SCISYS recently moved from the UK to Ireland](#) to satisfy EU requirements for bidding on EU projects.

GKN Aerospace is highly involved in the industry, alongside Boeing, Rolls Royce and BAE, which have all recently invested heavily into British rocket firm Reaction Engines.

In terms of recent launches, Surrey Satellite Technology, a subsidiary of Airbus, recently confirmed the successful launch of its Vesta satellite. And Clyde Space, [a UK subsidiary of Swedish company AAC Microtec](#), recently launched its Sustained Ocean Colour Observation satellite, SeaHawk-1.

At the same time, a number of US companies are signing partnership agreements with the UK Space Agency (UKSA), including Lockheed, which won £30m in UKSA funding in August. In addition, Virgin Orbit has agreed to launch its LauncherOne rocket from Newquay airport in Cornwall, once it is completed.