
Prosperity from space

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The UK must not miss its opportunity

by Ben Olivier / June 13, 2018 /

Invisible infrastructure. Engineering students are taught to take a pride in the achievements of their profession, often cited is the major contribution to the increase of life expectancy for all social groups from the Victorian's ambitious programme of water and sewerage works.

Sewers however are not newsworthy and rarely attract attention unless they stop working whether caused by the 'fatbergs' of today or the 'Great Stink' of 1858 which led Parliament to task the civil engineer Joseph Bazalgette with solving that problem.

Most of the production of the space industry could also be called invisible infrastructure, satellites enable communications, navigation, precise timing as well as the more familiar television and Google Earth type services. Satellite systems are one of the major tools to further the understanding and prediction of the effects of climate change and weather patterns. Today the UK and France are working together on the Microcarb satellite to measure global CO2 emissions.

The Space Industry in the UK is now more than 50 years old and the progress of industrial and scientific development is glimpsed through the media in the activities of Tim Peake on the International Space Station, but the industrial back-bone in the UK is led by the two major European space companies Airbus (with its subsidiary Surrey Satellite Technology Ltd) and Thales Alenia Space.

Thales Alenia Space is currently deploying a 66 satellite constellation, each about the size of a family car. Launched 10 at a time on Elon Musk's SpaceX rockets these satellites will provide the network for the next generation of global mobile communications operated by US company Iridium, who can connect you anywhere across the globe.

So what does the UK hold for the European business enterprises that challenge globally and provide many highly skilled jobs with productivity at multiples of the national average?

The European Space Agency (known as ESA) is where the UK and many other European nations invest their civil spending; ESA is constituted under a distinct treaty between its 22 member states and 7 cooperating states including Canada, and the first Director General was British. ESA programmes differ from the EU, most obviously in that ESA operates a subscription model with contributing countries receiving their financial contribution back in contracts that are tendered competitively. The UK is a founding member of ESA and of its precursor organisations that date back to 1962. The UK is also a founding member of EUMETSAT, created under an international convention in 1986 to procure and operate weather satellites.

ESA has a good record of delivering complex projects whether it is landmark science missions such as the Rosetta comet orbiter and lander, developing the meteorological satellites that underpin our weather forecasts or the technology for telecommunications satellites.

As one of the big four contributors to ESA the UK is too important to be ignored by any major space company in Europe. The UK is also good for ESA's member states having led the advance in commercialising space to accelerate investment and the uptake of services. The satellite operator and global mobile communications services company Inmarsat was founded in 1979. The UK government has been a leader in stimulating service based companies and the technology to develop them through its subscriptions to ESA.

The EU is playing an increasingly important role in space. Today ESA manages the procurement of research, development and proving of satellite programmes while the EU is

investing in the continuity of service and operations with programmes such as Galileo for navigation and timing and Copernicus for Earth Observation. The UK will need to adapt and evolve its strategy as the post- industrial landscape of a service led economy takes shape, if it is to stay ahead and reach the target of a £40bn space economy by 2030. As with the response to the Great Stink in 1858 government will need to work with industry.

Most pressing is a coherent strategy for active engagement with Europe and the emerging space nations, many of whom are part of the Commonwealth. The UK space industry has recently published its 'Prosperity from Space' manifesto which sets out ambitious plans to position space as a key component of the UK economy and the nation's Industrial Strategy. This opportunity should not be missed.