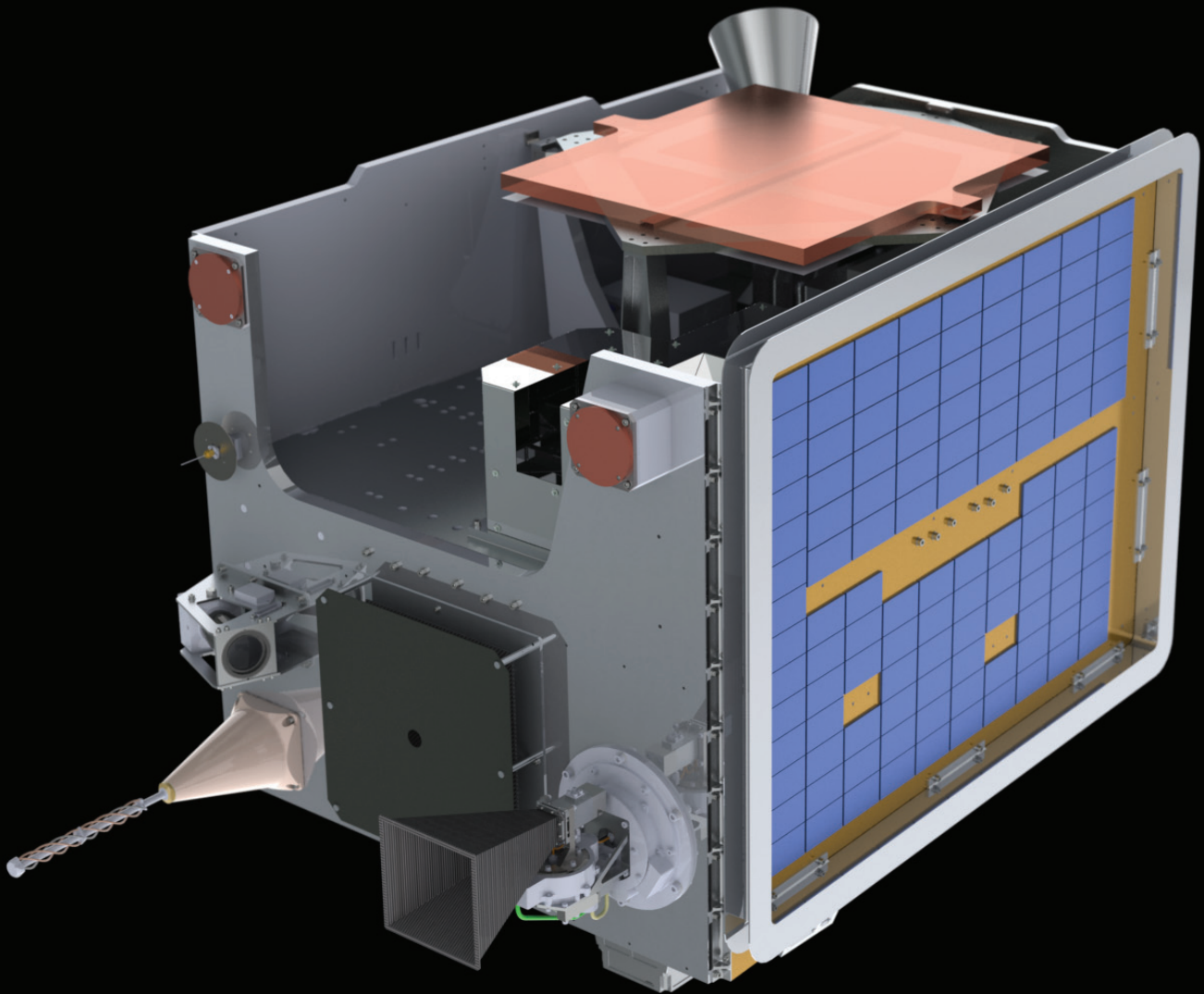


Satellite Applications Catapult Centre
Call for registration of interest
January 2012



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Summary

The Technology Strategy Board is establishing a Catapult centre in satellite applications and has set up a project delivery team to run this.

We are now inviting organisations to register their interest in working with the new Catapult by providing access to a capability that will help the centre to meet its objectives. We would also like to hear from organisations that would like to use the skills or assets of the Catapult once it is operational. The aim of the centre will be to increase UK wealth creation by enabling more effective commercialisation of satellite technologies and services provided by satellites.

The new Catapult will be a technology and innovation centre to help UK businesses develop new satellite-based products and services and stimulate growth across the UK economy. It will stimulate innovation, accelerate growth and anchor high-value development in the UK. It will provide a range of R&D intensive activities from the development and demonstration of game-changing satellite technology through to the delivery of everyday services derived from space data. It will not work on space science, space exploration, manned space flight, expendable rocket launchers or astronomy.

The Technology Strategy Board has established a Catapult project delivery team to work with the key industrial organisations that emerged during extensive discussions through 2011. We would like to hear from you if your organisation:

- would like to work with this Catapult by providing access to a capability that will contribute to the centre meeting its objectives
- would like to access its skills and assets.

In both cases, you should register your interest at <http://www.innovateuk.org/deliveringinnovation/catapults/satellite-applications-catapult-centre.ashx>

You will then be sent a short form to complete. The deadline to register interest is **noon 1 March 2012**.

What are Catapults?

This is the fourth Catapult to be established as part of the Technology Strategy Board's £200m programme to set up a network of technology and innovation centres over the next four years. These Catapults will be drivers of future economic growth, attracting substantial investment to establish world-leading capability and global impact in pre-commercial development.

They will provide access for business to the best technical expertise, infrastructure, skills and equipment, which individual organisations cannot afford to invest in on their own. The Catapult represent a long term investment in UK infrastructure and will support sustainable growth in the key areas of the UK economy.

See Technology and innovation centres: a prospectus and Technology and Innovation Centres: Closing the gap between concept and commercialisation: Strategy and implementation plan at www.innovateuk.org under Publications and Corporate Documents, for more background information.

Background

The UK's capability is world-class across the space sector. It has advanced manufacturing capabilities, world-leading satellite operators and one of the world's largest satellite broadcasters. It also has a global services sector - delivering systems integration and software to support new Space applications.

UK industry has welcomed the Satellite Applications Catapult as one of the logical next steps in the delivery of the UK Government's Space Innovation and Growth Strategy.

The space scene has changed in the last three years with the creation of the UK Space Agency; the publication of the *Space Innovation and Growth Strategy* and the presence of a European Space Agency facility at Harwell all contributing to the dynamic, new environment in which the UK can flourish. The UK Space Agency Strategy ¹ is committed to growth and they fully support the creation of a Satellite Applications Catapult.

The Catapult will play an important part in the Technology Strategy Board's role in promoting innovation in the UK space industry, and in the wider exploitation of space capabilities ². It will also be able to add value to the Catapult network with strong links to High Value Manufacturing, Offshore Renewable Energy, and other Catapults as they are developed.

The market opportunity

The 2011 OECD report *The Space Economy at a Glance* concludes 'space can increasingly be seen as an important potential source of economic growth, social wellbeing and sustainable development' ³.

The UK *Space Innovation and Growth Strategy* has set ambitious targets for the UK to grow its global market share from 6% to 10% by 2030 and to create 100,000 new high-value jobs. The worldwide space market was previously worth £160bn in 2008 and is forecast to grow to £400bn in 2030. Historically the UK's space sector has grown on average 9% per year over the last decade ⁴.

How to register your interest

<http://www.innovateuk.org/deliveringinnovation/catapults.ashx>

The challenge

During our extensive, open and well-publicised discussions since May 2011, feedback from the UK space industry has highlighted three key challenges to commercialisation that the Satellite Applications Catapult should address:

- risk reduction: prove that new solutions are robust in order to leverage investment and open new markets
- lead time reduction: help get new products and services to market quickly
- step change cost reductions: provide an environment for the development of disruptive solutions that can change the market.

The *National Space Technology Strategy*,⁵ recently published by the Space Leadership Council, has identified the areas of R&D activity that are important from a national perspective and will guide the Catapult technology priorities.

The most promising areas for space applications and services identified in *The Space Economy at a Glance* will require coordinated efforts from industry and the research base to fulfil the potential for UK growth:

- distance learning and telemedicine (broadcasting to remote areas, medical remote surveillance) and e-commerce (enabling changing work patterns due to mobile workforce/home working, HDTV teleconferencing)
- entertainment (digital radio, TV, data and multimedia broadcasting)
- location-based consumer services driver assistance and navigation aids, insurance based on real-time usage data, vehicle fleet management, asset tracking and road repair management)
- traffic management (location and positioning of aircraft and ships, optimisation of traffic management and road pricing, driver behaviour logging)
- precision farming and natural resource management (efficiency in equipment use and application of fertiliser, deforestation and forestry management)
- urban planning (plans, maps and numerical terrain models, precise positioning of engineering structures and buildings)
- disaster prevention and management

(telecom capability in absence of ground infrastructure, remote assessment of damage and pollution for insurance claims)

- meteorology/climate change (meteorological and sea condition forecasting, pollution maps).

Scope and role of the Catapult

The Satellite Applications Catapult will drive economic growth both through the development of new commercial space activities (products and services) and productivity/efficiency gains in other market sectors. It will provide UK industry with the end-to-end infrastructure required to link together innovative ideas from existing space sector players and new collaborators from outside the sector.

The Catapult will provide technology and service demonstration opportunities to address the problem of testing technologies and services from space. It will build on and expand satellite programmes such as TechDemoSat and UKube1 which provide open access to in-orbit test facilities. It will also provide ground infrastructure to allow smaller companies access to simulation, data management and visualisation capability. By providing both the in-orbit facilities and the ground-based data management capability, the centre will allow UK industry to work as a whole to de-risk new technology and demonstrate new services.

The Catapult will also coordinate a national network of R&D capability that will link together expertise and facilities across the UK. The aim is to establish an open innovation culture that encourages collaboration within the space sector and across other growth sectors, with the centre playing a key role in facilitating new connections and partnerships. It will work with key UK facilities such as the International Space Innovation Centre, National Physical Laboratory and GNSS Research Applications Centre of Excellence, through framework agreements to provide access to facilities and capability. It will not create new incubation facilities but will work with existing business incubators, to provide support for early stage businesses.

The Catapult will:

- be a single physical centre that is networked into centres of research and business excellence in the UK and internationally
- provide expertise and advice on technologies of relevance to new satellite applications
- provide the end-to-end infrastructure that enables collaboration, systems prototyping and service demonstrations
- be capable of attracting and sustaining inward investment
- exploit existing test and development assets and UK research and innovation strengths
- embrace advanced systems for data capture and analysis and provide data management, simulation and visualisation technologies that address the challenges of developing new satellite based services
- develop a strong and globally recognised brand.

It will need to build a wide-ranging, business-focused capability that delivers the following:

- rapid and cost-effective access to in-orbit test facilities and the expertise to operate demonstration satellites
- the capability to integrate satellite and terrestrial data sources and prove the viability of new services and applications
- help for organisations to judge investment opportunities
- the credibility to create new partnerships
- facilitation of access to existing satellite infrastructure, communication networks and data sources
- strong co-ordination and alignment with the UK Space Agency and European Space Agency commercial growth priorities.

This list is not exclusive and organisations are invited to explain how the impact of the Catapult could be increased.

Operating principles

The Catapult will be an autonomous entity, able to act independently of host organisations. It will be set up as a company limited by guarantee which, in order to comply with state aid regulations, will have non-profit distributing research organisation status. It should be led by an inspirational,

entrepreneurial director of international standing in translational and complex programme management. The Catapult will be overseen by a business-led board in which industry predominates with expert academics also having a key role in setting and overseeing strategy, priorities and programmes of activities.

Funding for the Catapult will be obtained from a mix of competitively earned commercial funding and core Technology Strategy Board investment. The funding model will vary throughout its life and can be expressed in simplified terms as following a one-third, one-third, one-third model. Under this model it will be required, when fully established, to generate its funding broadly equally from three sources:

- business-funded R&D contracts - won competitively
- collaborative applied R&D projects, funded jointly by the public and private sectors - also won competitively
- core public funding for long-term investment in infrastructure, applied R&D programmes, expertise and skills development.

It will help to attract work and engagement from a wide cross-section of industry, ranging from multinationals to small businesses, and will work closely with the best universities and other technology organisations in the UK and internationally. In doing this, they will act as facilitators and connectors who identify, improve and share appropriate expertise between Catapults, across research institutions and to ensure that access to these by the business community is better managed.

The Catapult will form part of a co-ordinated investment in innovation and will be integrated into the UK innovation system. It will complement and draw on other programmes of national investment delivered by the Technology Strategy Board, the UK Space Agency, the European Space Agency and other publicly funded research programmes including EU programmes. It will also complement other types of centre which operate at different points in the research and development cycle, from research council funded institutes, through innovation and knowledge

centres to contract research organisations, public sector research establishments, consultancies and virtual centres.

The process

We have set up a Catapult project delivery team involving the key industrial organisations that have emerged during our extensive discussions with a huge range of organisations across the public and private sector.

Our team will be working with Astrium Geo Information Services, Inmarsat, Surrey Satellite Technology Ltd, Logica and Nottingham Scientific Limited with a view to establishing a consortium that will run the Catapult as an independent entity. Together we will work with the wider industrial community, research base and public sector to develop a proposal and an outline business plan as well as seeking to gain broad support across the UK space community. The business plan will be assessed by an independent panel of experts who will make a recommendation on the suitability of the final consortium and initial business plan to the Technology Strategy Board's Governing Board.

We are now inviting registration of interest from organisations that:

- would like to work with this Catapult by providing access to a **capability that** will contribute to the centre meeting its objectives
- would like to **access its skills and assets** once it is established.

In both cases, you should register your interest at: <http://www.innovateuk.org/deliveringinnovation/catapults/satellite-applications-catapult-centre.ashx>

You will then be sent a short form to complete.

The deadline to register interest is **noon 1 March 2012**.

Those who would like to work with the Catapult will be asked to demonstrate how their contribution to the centre will strengthen its offering and its ability to deliver against its mission that will form an important part of the initial business plan.

Further information

www.innovateuk.org/deliveringinnovation/catapults.ashx

For the latest updates, go to our knowledge sharing portal _connect at: <https://connect.innovateuk.org/web/technology-and-innovation-centres-forum>

If you have any queries, call 0300 321 4357 or email catapult@tsb.gov.uk.

The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve quality of life.

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- 1 UK Space Agency Strategy 2011-2015, Consultation Document 1 April 2011 <http://www.bis.gov.uk/uk-space-agency/who-we-are/strategy>
- 2 Technology Strategy Board corporate strategy, Concept to Commercialisation 2011-2015, April 2011 <http://www.innovateuk.org/ourstrategy.ashx>
- 3 OECD, The Space Economy at a Glance, 2011 <http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=9789264084643>
- 4 A UK Space Innovation and Growth Strategy 2010 to 2030, February 2010 <http://www.bis.gov.uk/uk-space-agency/what-we-do/space-and-the-growth-agenda/uk-capabilities-for-overseas-markets/the-space-innovation-and-growth-strategy>
- 5 <https://connect.innovateuk.org/web/national-space-technology-strategy>