
Catapult centres

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Policy - what was the need?

- Globally strong academic base and well funded research activity in the UK resulting in the UK with the best academic research capability after the United States
- Huge inventive capability exists at UK universities and leading charitable sectors eg Cancer Research, Wellcome Trust ...
- Leading global businesses across multiple sectors reside in the UK
- The weakness was perceived as technology transfer from one place to the other, some great examples but on balance the position has been weak
- Prior governments over decades removed support from the intermediate sector, often through privatisation which resulted in a major gap

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To quantify the problem

The UK exhibits:

- world-class strengths in many aspects of the system, such as research excellence, higher education institutions and the business environment;
- concerning weaknesses in the talent base, especially in terms of basic skills, science, technology, engineering and maths (STEM) skills and management skills; and
- a sustained, long-term pattern of under-investment in public and private research and development (R&D) and publicly funded innovation

Insights from international benchmarking of the UK science and innovation system; BIS Analysis Paper Number 03; Tera Allas January 2014

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Our Competitor Nations

- The UK's total investment in R&D has been relatively static at around 1.8% of GDP since the early 1990s and was around £27bn in 2011.
- US alone spends around £250bn (2.8% of GDP) on R&D per annum.
- China increased its R&D by 28% in 2009 and 15% in 2010, to roughly £125bn (1.8% of GDP)
- South Korea doubled its expenditure between 2003 and 2011 to around £35bn (4.0% of GDP).
- France and Germany have consistently invested substantially more than 2% of their GDP in R&D, with aspirations to increase this to 3% or more.
- Public sector support for innovation is harder to compare, but such data as exist suggest that UK funding is very low.

Insights from international benchmarking of the UK science and innovation system; BIS Analysis Paper Number 03; Tera Allas January 2014

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Policy - what was the answer?

- Hermann Hauser invited by Peter Mandelson to answer whether the UK needed intermediate technology & innovation centres
- His review which looked at competitor nations and a broad consultation resulted in his report in 2010 "The current and future role of Technology and Innovation Centres in the UK"
- His conclusion was that the UK was indeed missing a key piece of infrastructure to enhance economic growth and he set out the conditions for Centres
- The Conservative Party in opposition also consulted Sir James Dyson who endorsed the approach
- In September 2010 the Prime Minister announced funding for technology and innovation centres
- This was a bold move considering the economic conditions at the time

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Catapults

A new force for innovation & growth

- Part of a **world-leading network** of technology and innovation centres
- **Bridge the gap** between businesses, academia, research and government
- Long-term investment to **transform** the UK's ability to create new products and services
- Open up global opportunities for the UK and **generate sustained economic growth** for the future
- Being established and overseen by the **Innovate UK**

7
Catapults

2013
All Catapults up
and running

£1.4bn
Private & public sector
investment

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Catapults – Spending Review & Budget

- Spending Review 2013 we made the case for 2 new Catapults plus expansion to the existing High Value Manufacturing Catapult
- Two areas identified:
 - Energy Systems
 - Precision Medicine
- Budget 2014
 - £55m investment in Cell Therapy manufacturing
 - £19m investment in Graphene Applications centre in CPI and University of Manchester
- New facilities have been opened or commissioned:
 - Second building at National Composites centre
 - National Biologics Manufacturing centre at CPI
 - Training centre at MTC in Ansty
 - Aerospace Centre & MTC Ansty

2
New Catapults

New Catapults up and running from
2015/16

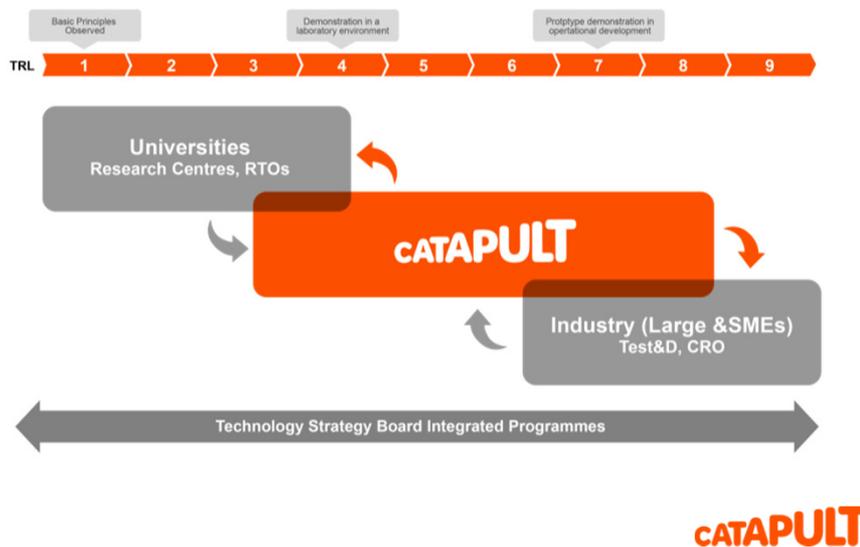
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What is a Catapult centre?

- Established following a review by Hermann Hauser 2010
- Business-focused technology and innovation centre that makes world-leading technical capability available to businesses to solve their technical challenges
- Provides:
 - Access to world-leading technology & expertise
 - Reach into the knowledge base for world-class science
 - Capability to undertake collaborative R&D projects with business
 - Capability to undertake contract research for business
 - Create a critical mass of activity
 - Skills development at all levels

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Technology Readiness Levels

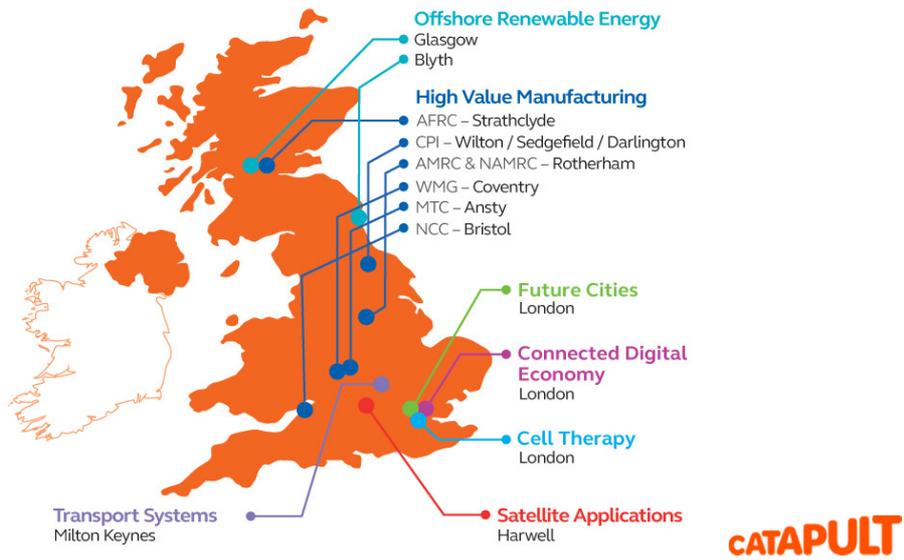


Catapult timeline

Current Catapults	Date operational
<i>High Value Manufacturing</i>	<i>October 2011</i>
<i>Cell Therapy</i>	<i>October 2012</i>
<i>Satellite Applications</i>	<i>December 2012</i>
<i>Offshore Renewable Energy</i>	<i>March 2013</i>
<i>Connected Digital Economy</i>	<i>June 2013</i>
<i>Future Cities</i>	<i>June 2013</i>
<i>Transport Systems</i>	<i>August 2013</i>
2 New Catapults	Target Date operational
<i>Energy Systems</i>	<i>April 2015 target</i>
<i>Precision Medicine</i>	<i>April 2015 target</i>

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Catapult Locations



Catapult People

Catapult	CEO	Chair	Board
<i>High Value Manufacturing</i>	<i>Dick Elsy</i>	<i>Bob Gilbert</i>	✓
<i>Cell Therapy</i>	<i>Keith Thompson</i>	<i>John Brown</i>	✓
<i>Satellite Applications</i>	<i>Stuart Martin</i>	<i>Tim Sherwood</i>	✓
<i>Offshore Renewable Energy</i>	<i>Andrew Jamieson</i>	<i>Colin Hood</i>	✓
<i>Connected Digital Economy</i>	<i>Neil Crockett</i>	<i>Andy Green</i>	✓
<i>Transport Systems</i>	<i>Steve Yianni</i>	<i>Will Whitehorn</i>	✓
<i>Future Cities</i>	<i>Peter Madden</i>	<i>Sir David King</i>	✓

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Hermann Hauser review of Future Catapult Strategy

- Is the policy as set out in 2010 working – review where the network has got to in the last three years
- What should the future direction and scope and scale for the network be, Vince Cable Harwell speech on Catapults
- Review will consider Including consideration of:
 - Organic growth
 - Distinct Catapult models – challenge (e.g. Future Cities), technology (e.g. Offshore Wind), network (e.g. High Value Manufacturing)
 - Is there a role for adding other (Catapult-like) centres to the network, can the model be franchised in any way
 - The role of the network in delivering the government's Industrial Strategy & Eight Great Technologies
 - The role of the network delivering skills in each area

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Hermann Hauser review - Challenges

- SME Engagement
 - Most Catapults have in place a strategy to engage SMEs but the review calls for far more engagement across the network
- University Engagement
 - Similarly all Catapults have comprehensive networks of both University and Business engagement, probably stronger on Business right now than university links
- Creating a pipeline for the future leading to the 30 by 2030 ambition for the economy
 - By far one of the more exciting challenges is developing a pipeline for future Catapults in consultation with business and universities
- What would be the best funding model for a larger, more ambitious network

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Closing the gap between concept and commercialisation

Find out more at:

Catapults
Catapult.org.uk

Innovate UK
innovateuk.org

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