

# The Technology Strategy Board's Strategy for Catapults

David J Way

Director Knowledge Exchange and Special Projects

Technology Strategy Board

[david.way@tsb.gov.uk](mailto:david.way@tsb.gov.uk)



# What is the Technology Strategy Board?

- The UK Innovation Agency: our goal is to accelerate economic growth by stimulating and supporting business-led innovation.
- We work across business, the knowledge base and government
- We mostly come from business
  - 200 people with over 2000 years of business experience
- We invest about £400m pa.

# The Problem

- **Business investment is too low and too late**
  - Constrained by technical and financial risks & access to capital
- **Innovation disrupts value chains and business models**
  - New partnerships are required to build new supply chains
  - Investment and innovation is required at multiple points
- **Longer term trends not visible to all players**
  - Impact and opportunities from emerging technologies & policies
- **Innovation infrastructure complex and inefficient**
  - Fragmented and difficult to navigate, knowledge flows impeded
- **Government does not make best use of its levers**
  - Procurement, regulation, standardisation, fiscal incentives

# TSB's 5 Strategic Focus Areas

- **Accelerating the journey – from concept to commercialisation**
  - How businesses can get to market sooner - and more effectively
- **Connecting the innovation landscape**
  - Helping companies to find the best answers, expertise and help
- **Turning Government action into business opportunity**
  - Where Government procures, regulates, standardises...
- **Investing in theme areas based on global potential**
  - Large markets which the UK is equipped to exploit
- **Continuously improving our organisational capability**
  - Impact assessment, metrics, measures, efficiency, effectiveness.

# What we do.....

- We help **strengthen** the global competitive position of our leading businesses
- We identify and **grow** sectors and businesses with the capacity to become the best in the world
- We **nurture** the businesses that can succeed in the growth sectors of tomorrow

## We consider....

**Can the UK do it?**

**Is there a large market opportunity?**

**Is the idea 'ready'?**

**Can we make a difference?**

# The Toolset

Range of tools with different objectives / characteristics

**Smart**

**SBRI** Government challenges.  
Ideas from business.  
Innovative solutions.

**Collaborative R&D**

**\_connect**

Knowledge  
Transfer  
Partnerships



**eurostars™**

Knowledge  
Transfer  
Networks



**CLEAN AND COOL**  
MISSION 2012

24 - 31 March

**CATAPULT**

**Launchpad**

# What is a Catapult centre?

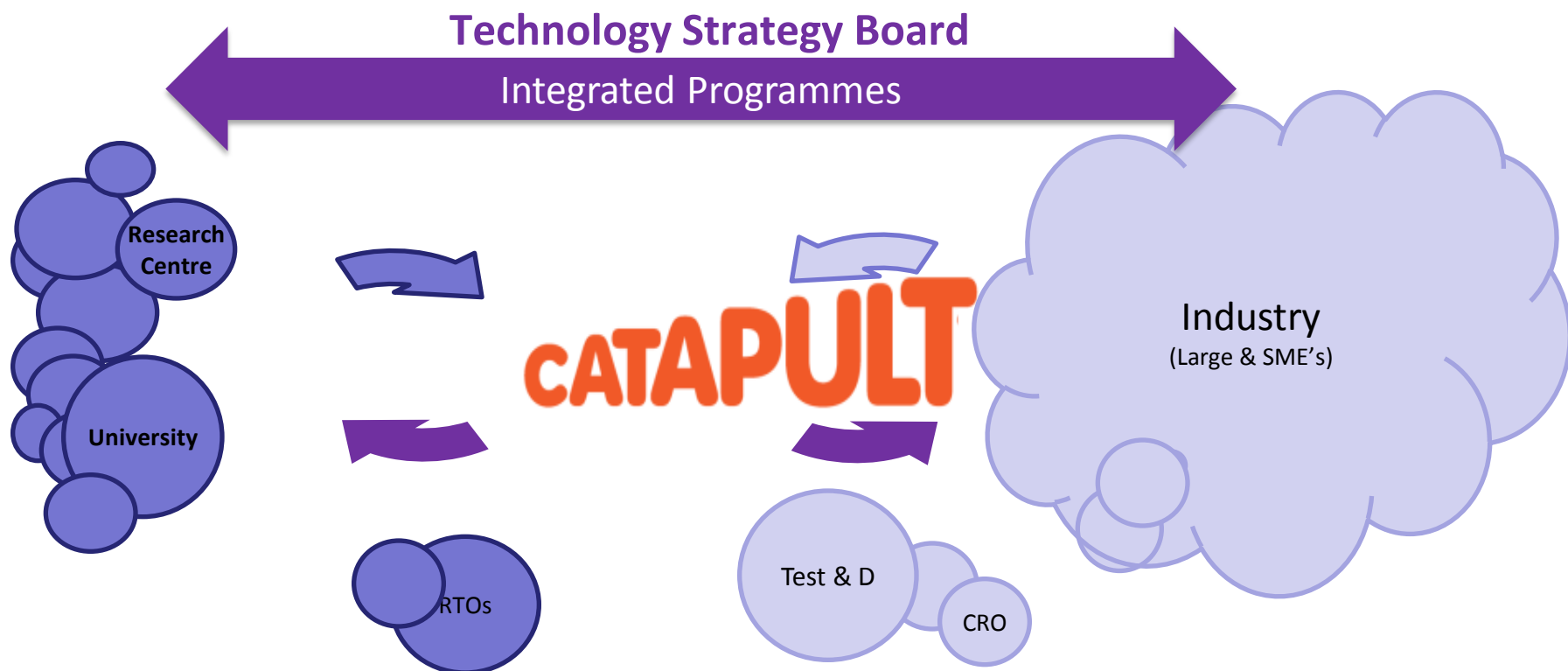
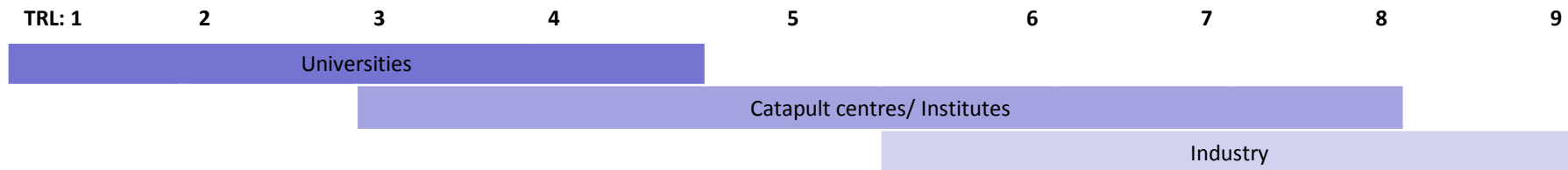


Business-focused technology and innovation centre that makes world-leading technical capability available to businesses to solve their technical challenges

## 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
- Strongly business-focused with a professional delivery ethos
- Create a critical mass of activity
- Skills development at all levels

# Technology Readiness Levels





# Choice of Areas

- Potential global markets worth £ billions
- UK world-leading research capability
- UK business has ability to exploit the technology and capture a significant share in the UK
- A Catapult centre will enable UK to attract and anchor knowledge-intensive activities of globally mobile companies
- Closely aligned with, and essential to achieve, national strategic technology objective

## Catapult - operational











### 2011

- High Value Manufacturing

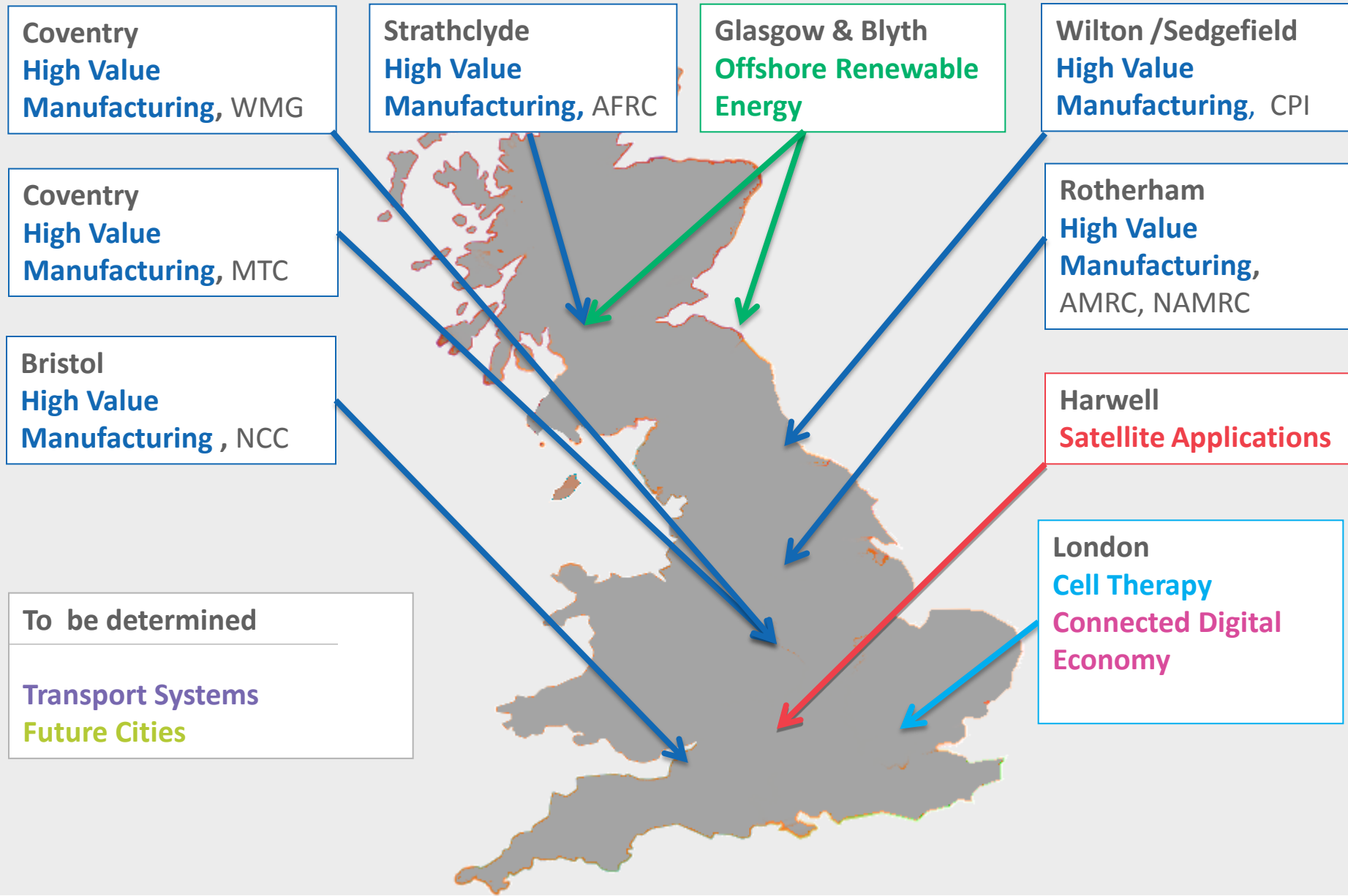
### 2013

- Cell Therapy
- Satellite Applications
- Offshore Renewable Energy
- Connected Digital Economy
- Future Cities
- Transport Systems

## Catapult - update

	CEO	Chair	Board
High Value Manufacturing			
Cell Therapy			
Offshore Renewable Energy			
Satellite Applications			
Connected Digital Economy			
Future Cities			
Transport Systems			

# Catapult Locations



# Impact & Scale

- A critical mass to anchor globally mobile companies & reflect the UK context
- Funding Model:
  - $\frac{1}{3}$  = business funded contracts = competitive
  - $\frac{1}{3}$  = CR&D projects = competitive
  - $\frac{1}{3}$  = Core public investment
- Total revenue ~£20-30m pa (or greater) equates to 100-200 staff  
£10-15m pa from businesses

# High Value Manufacturing Catapult

- provides access to world-class assets and talent, with co-location of engineers and scientists to enable cross-sector learning.
- operational
- Uniquely, provides industry with the ability to:-
  - De-risk investment in manufacturing process innovation
  - Inspire, train and up-skill manufacturing engineers
  - Shape & drive the research agenda (UK & EU) and influence Government investment in innovation

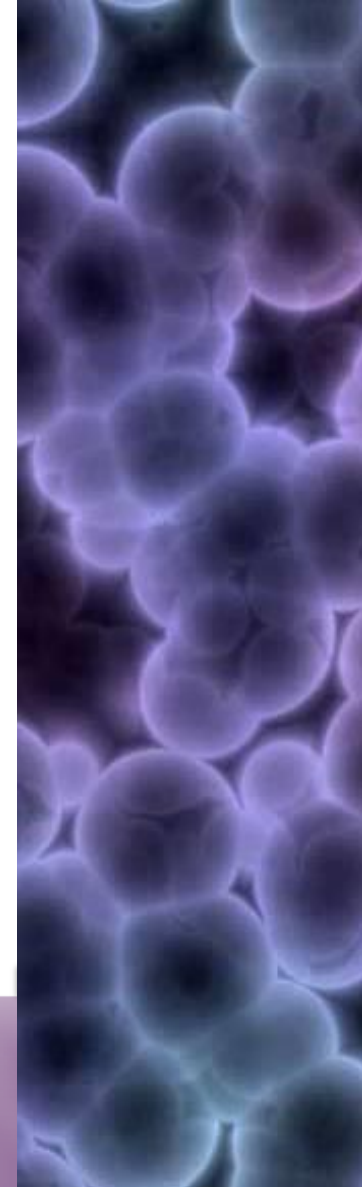
**Transforming brilliant ideas into valuable products, processes and services**

# Cell Therapy

**Make the UK a global leader in development, delivery & commercialisation of cell therapy**

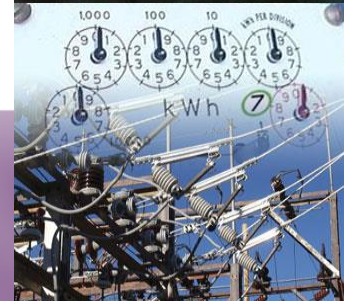
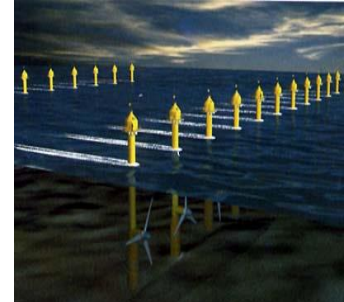
*Enabling regeneration of cells tissues or organs;  
Cells as delivery vehicles for other therapies;  
Modulating the immune system to prevent infections  
or treat cancers*

- Taking therapies into clinical trial, so de-risking future investments
- Access to clinical expertise in NHS
- Provide technical expertise & infrastructure to develop processes for GMP
- Help businesses manage the regulatory environment



## Offshore Renewable Energy

- **Offshore wind**  
Transferring knowledge from established offshore engineering and linking to other UK strengths
- **Marine Power**  
Covering Tidal and Wave  
Will grow in importance as sector evolves
- **Infrastructure 'to shoreline'** and underpinning technologies

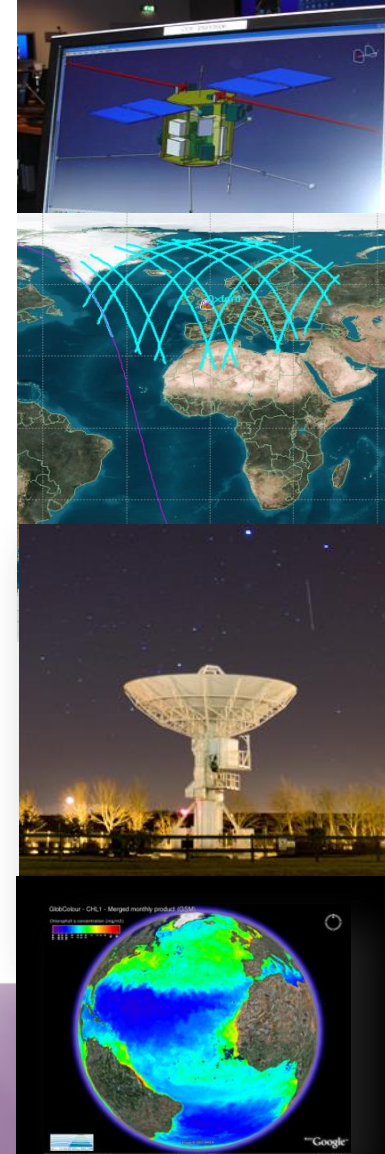




## Satellite Applications

**Drive economic growth through the development of new commercial space activities; link existing space sector players and new collaborators**

- Provide end-to-end infrastructure that enables systems prototyping and service demonstrations
- Provide access to in-orbit test facilities & expertise to operate demonstration satellites
- Integrate satellite and terrestrial data sources to demonstrate viability of new applications
- Facilitate access to existing satellite infrastructure, communication networks & data sources

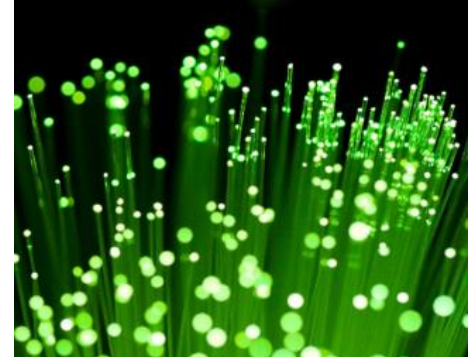


## Connected Digital Economy

To make the UK the best place in the world to develop and launch digitally-enabled systems, services and products

In-depth consultation has identified 3 areas where the community expects the Catapult to add most value.

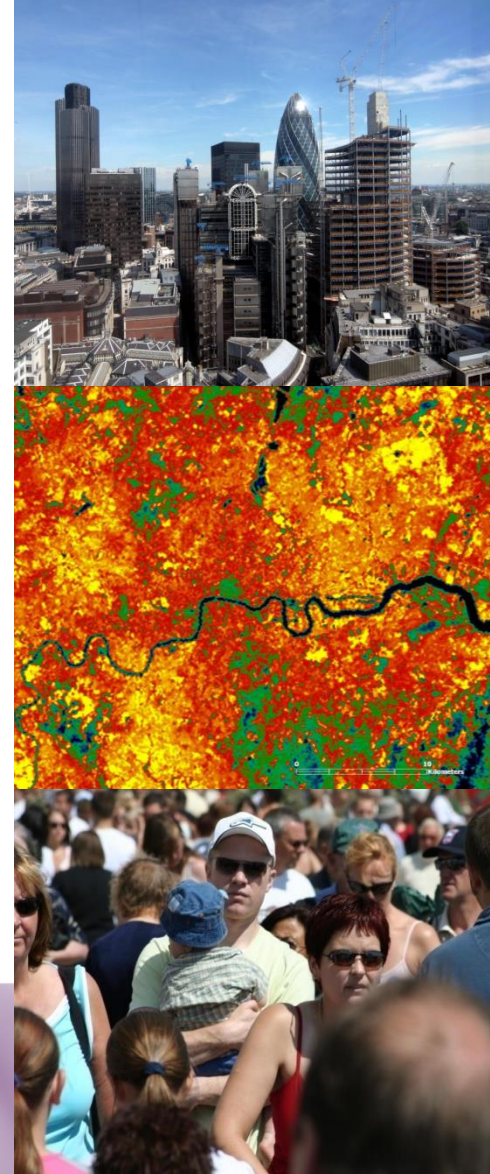
- **Media and Content**
- **Digital adoption across all services sectors**
- **Merging of physical and virtual worlds**



## Future Cities

**To help UK businesses develop integrated urban solutions and sell those to the world**

- Connecting city systems to enable integration and interoperability
- Increasing city density and population without congestion
- Transition to resource-efficient, low-carbon cities
- Resilient energy systems
- Real time analysis & control



# Transport Systems

**Make the UK the first place in the world where companies develop and deploy their next generation of Integrated solutions for transport.**

- Modal Integration & more effective use of combined capability
- System Performance, including smart infrastructure asset management
- New Business Models to unlock new value chains
- Increase take-up of Real-time Information



# Closing the gap between concept and commercialisation



**Find out more about the Technology Strategy Board and Catapults at [www.innovateuk.org](http://www.innovateuk.org)**