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Knowledge Transfer Manager – Advanced Composites

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How the UK Supports Manufacturing

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ktn-uk.org @KTNUK

Why Manufacturing is Important to the UK

- Global Market worth £6.3 trillion
- UK in top 10 world manufacturers
- GVA of £130bn (10% UK GVA)
- Half of UK Exports
- Ranked 2nd in World for Aerospace
- 2 of top 6 pharma' companies UK based
- Resurgent auto industry – 84% exported
- Global leader in £20 billion subsea equipment market

Racing ahead

The main car plants' car production ('000)



Halewood
Owner **Jaguar Land Rover*** (UK)
Main models **Evoque** (pictured), **Freelander**

150.0
240.0



Ellesmere Port
Owner **General Motors** (US)
Main model **Astra**
(5-door and estate versions)

90.2
160.0



Castle Bromwich
Owner **Jaguar Land Rover*** (UK)
Main models **XF** (pictured), **XJ, XK**

55.9
140.0



Oxford
Owner **BMW** (Germany)
Main models **Mini**

207.5
230

Key
2012
2017 forecast

UK car production
Output

2012	2017
1.5m	2.0m



Sunderland
Owner **Nissan** (Japan)
Main models **Juke, Note, Qashqai**

510.6
610.0



Derby
Owner **Toyota** (Japan)
Main models **Auris, Avensis**

109.4
200.0



Solihull
Owner **Jaguar Land Rover*** (UK)
Main models **Defender** (pictured), **Discovery**

155.4
240.0



Swindon
Owner **Honda** (Japan)
Main models **Civic, CR-V, Jazz** (pictured)

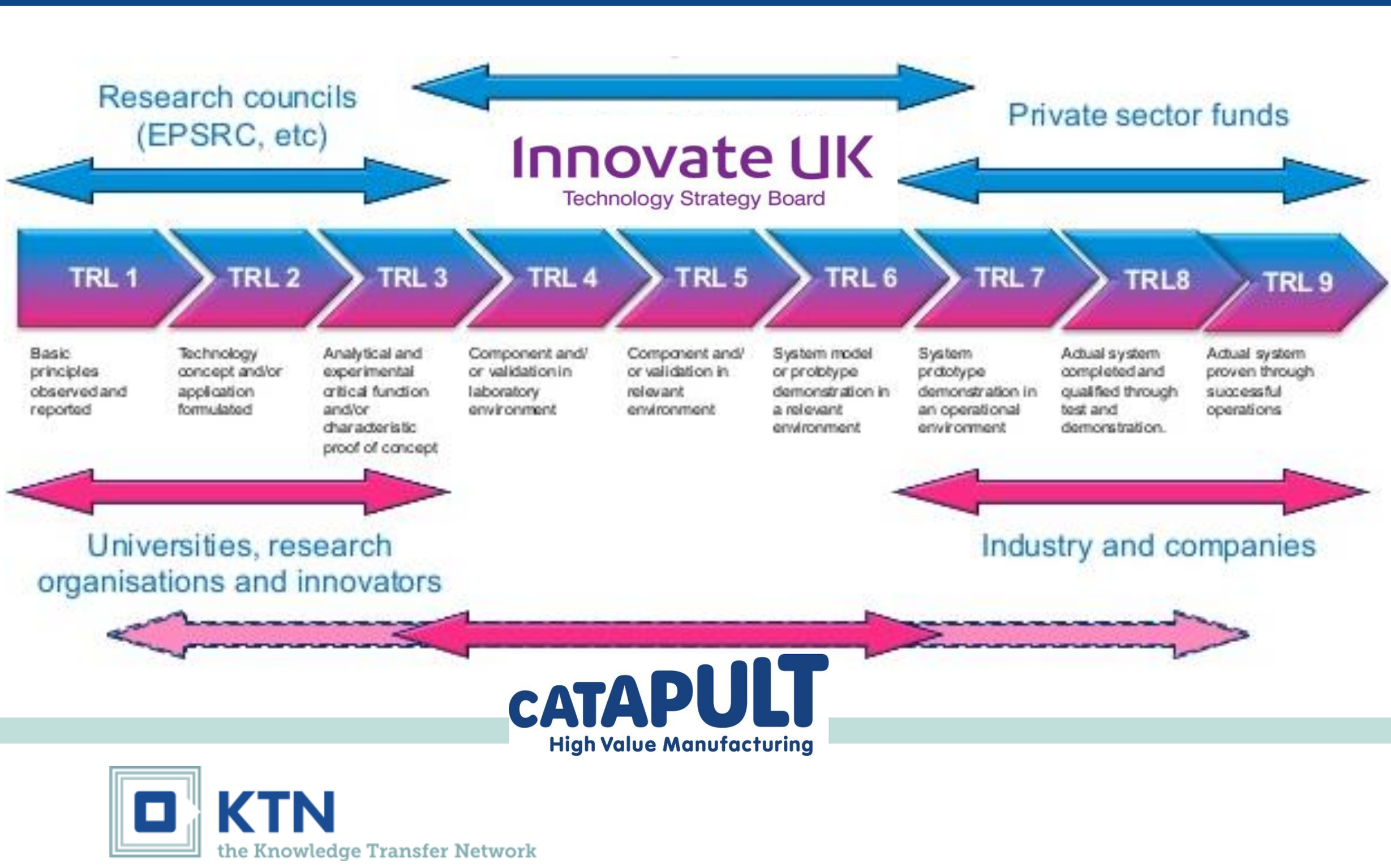
165.6
210.0

Sources: SMMT; FT research; companies

FT graphic

* Parent company is Tata (India)

The TRL Scale and UK Support



Academic Support for HVM: EPSRC

- EPSRC: **E**ngineering and **P**hysical **S**cience **R**esearch **C**ouncil
- Total Annual Budget: £800m (1.1Bn Euros)
- EPSRC Centres for Innovative Manufacturing
- EPSRC Specific Calls (e.g. Autonomous Manufacturing, Innovative Manufacturing Processes: Flexible and Reconfigurable Manufacturing Systems
- Manufacturing Fellowships

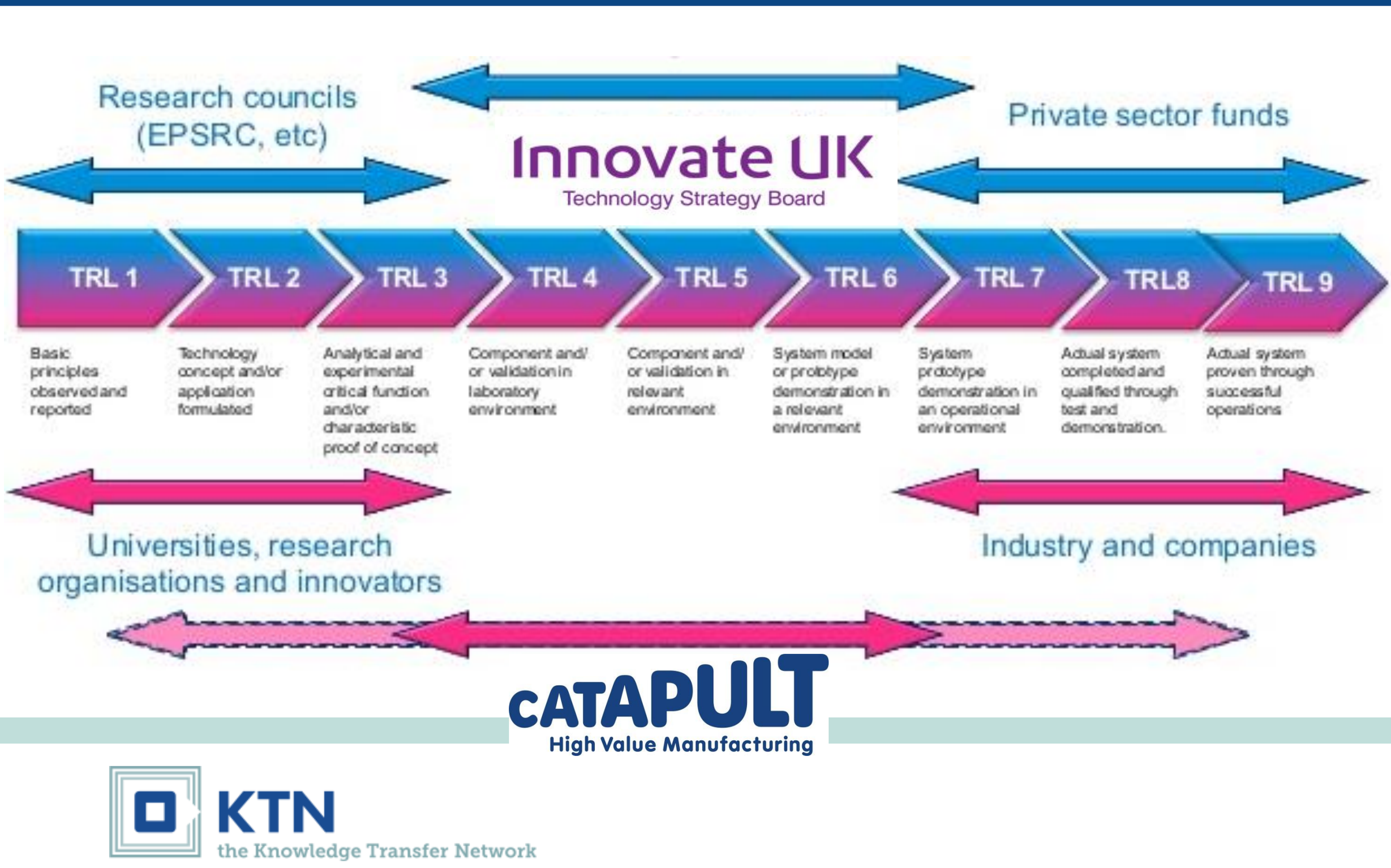
EPSRC Centres for Innovative Manufacturing

- Ultra Precision
- Through-life Engineering Services
- Photonics
- Liquid Metal Engineering
- Regenerative Medicine
- Medical Devices
- Laser based production processes
- Composites
- Additive Manufacturing
- large-area electronics
- Intelligent Automation
- Industrial Sustainability
- Food
- Emergent Macromolecular Therapies
- Continuous Manufacturing and Crystallisation
- Advanced Metrology

https://www.epsrc.ac.uk/research/centres/innovativemanufacturing/

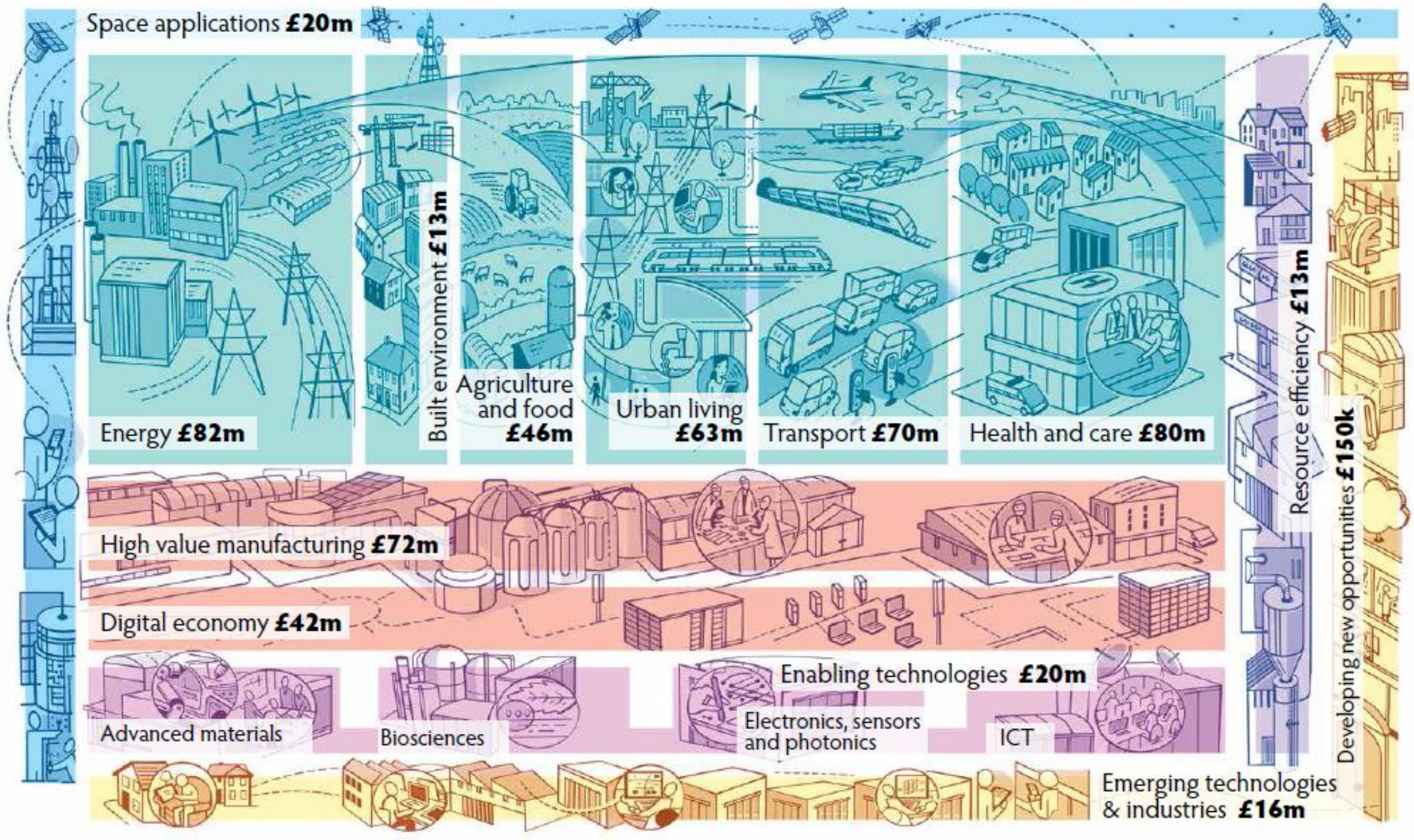
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The TRL Scale and UK Support



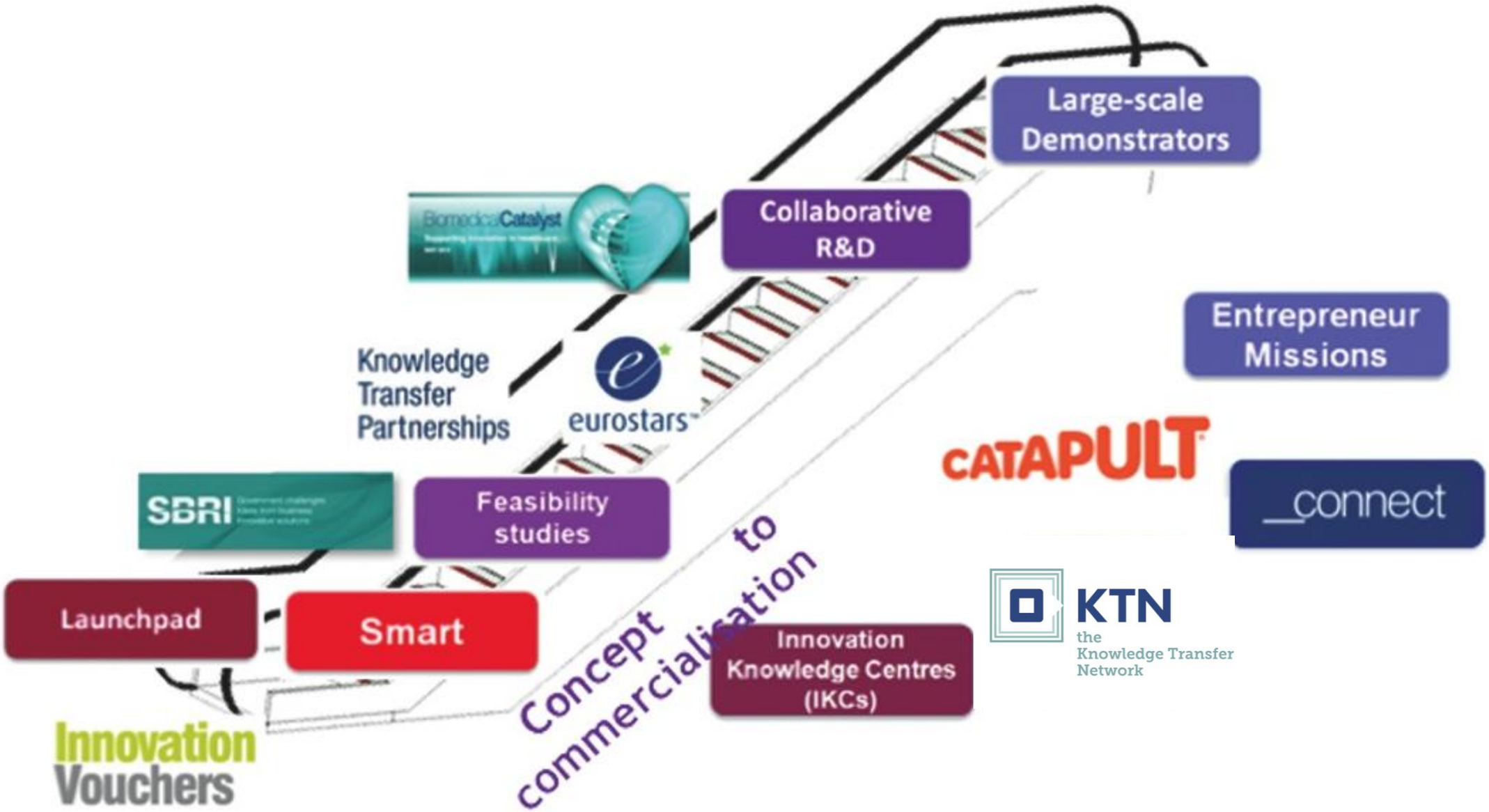
Innovate UK Support for HVM

2014-15 figures



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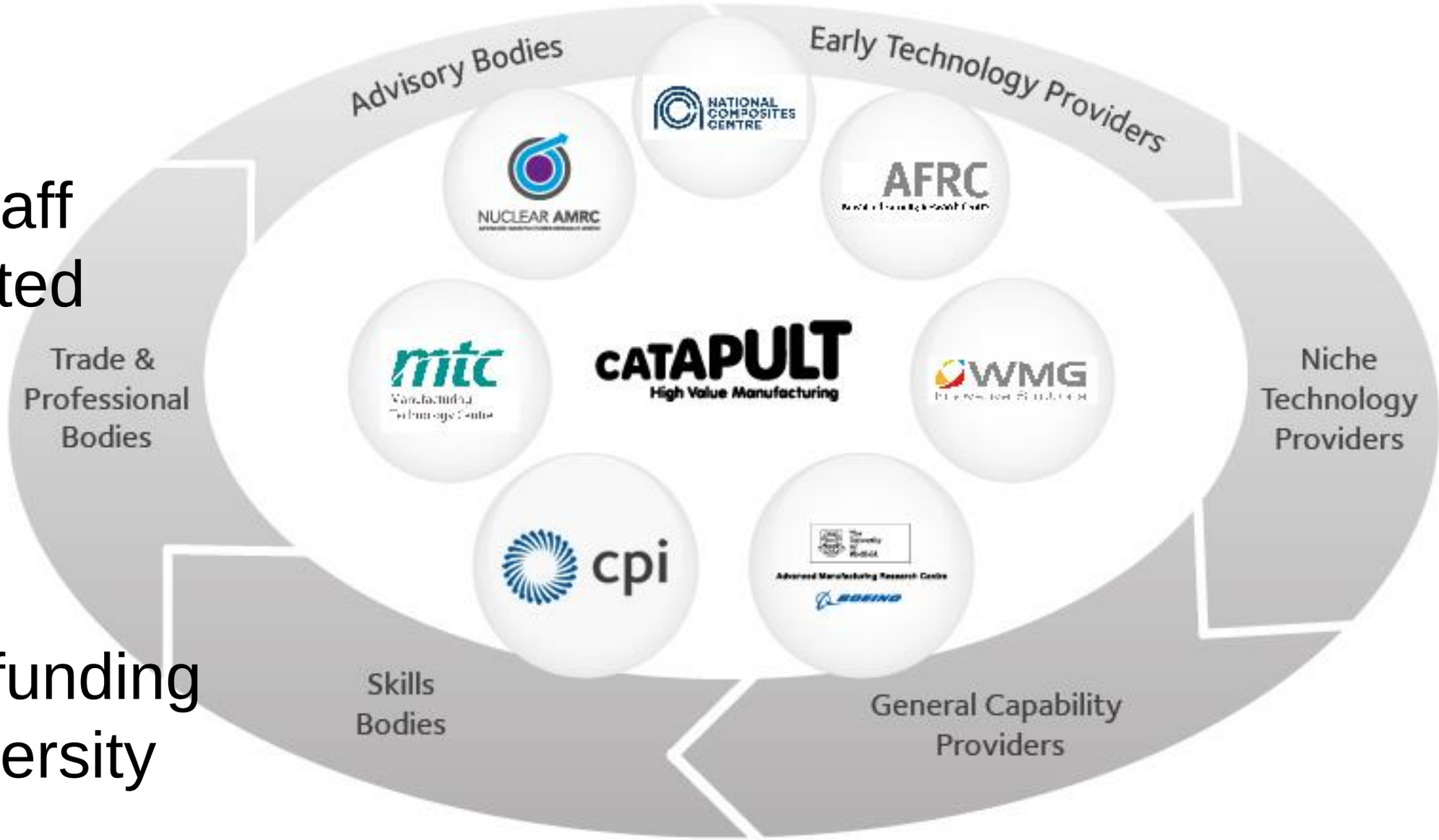
The Innovate UK Escalator



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The High Value Manufacturing Catapult

Vital Stats:
1200 expert staff
£350m+ invested



£140m+ core funding
Excellent University links

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The High Value Manufacturing Catapult Competencies and Key Processes

- Forging
- Electronics Fabrication
- Materials Analysis/Test
- Tooling and Fixtures
- Additive Processes
- Assembly
- Chem/Bio Processing
- Modelling
- **Joining**
- Automation
- Nuclear Manufacture
- Composites
- Forming
- Measurement – Inspection
- Machining
- Pharmaceuticals

https://hvm.catapult.org.uk

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UK AIRTO Members Supporting High Value Manufacturing

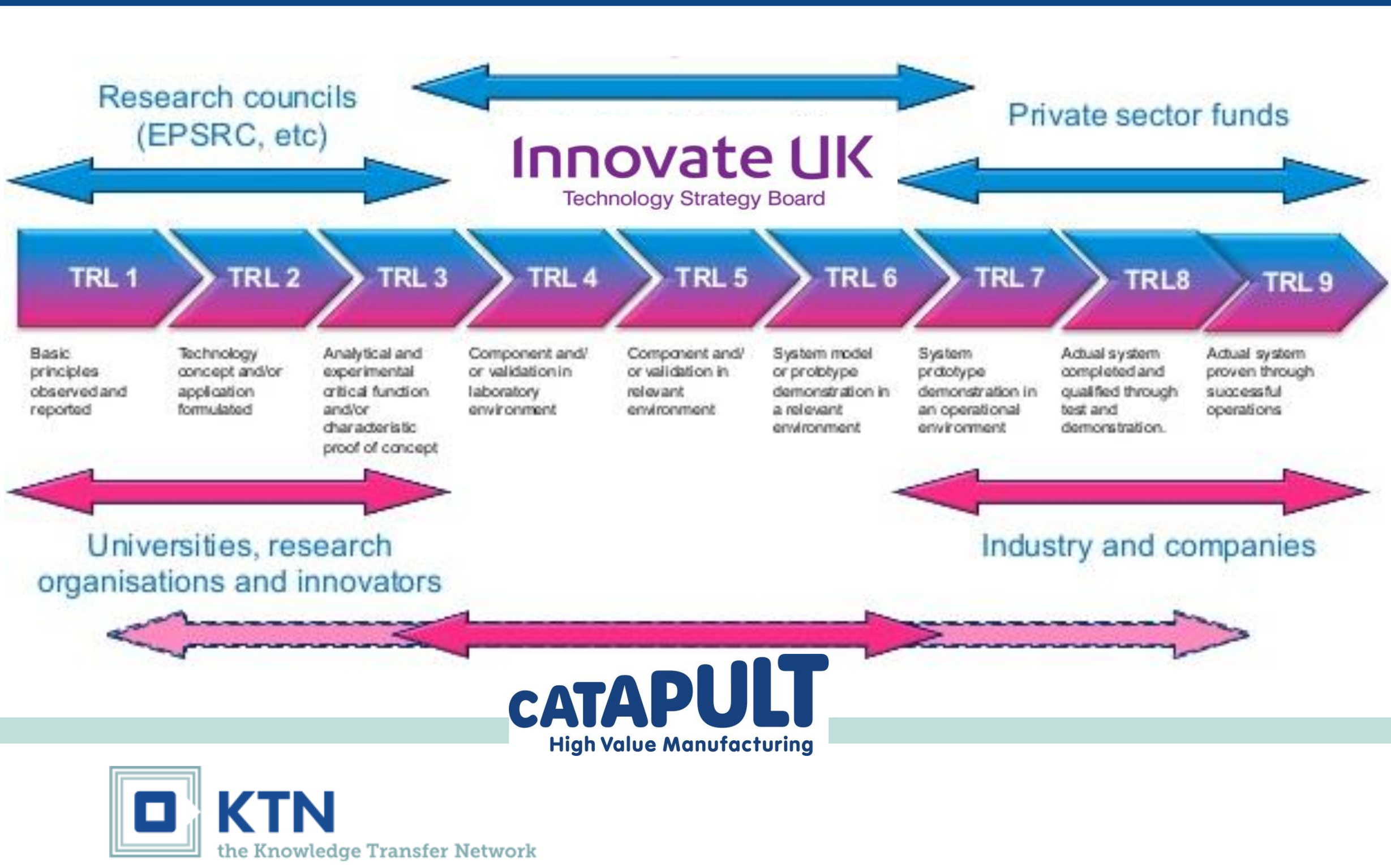
- AIRTO – Association for Innovation, Research and Technology Organisations
- AIRTO members typically supply business-to-business and government services such as R&D, consultancy, validation and testing, multi-client project inception and management, incubation and financing.
- The work of the Innovation, Research and Technology (IRT) sector is vital in helping to raise the productivity of UK companies and in connecting businesses, government and academia to the resources needed for the successful uptake of new technology.
- Many are involved in providing services to High Value Manufacturing

http://www.airto.co.uk/our-members.html

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airto
driving growth and innovation

The TRL Scale and UK Support



Advanced Manufacturing Supply Chain Initiative - AMSCI

- The Advanced Manufacturing Supply Chain Initiative is a funding competition designed to improve the global competitiveness of UK advanced manufacturing supply chains. Funding is available to support research and development, skills training and capital investment to help UK supply chains achieve world-class standards and encourage major new suppliers to locate in the UK.

https://www.financebirmingham.com/amsci/

The Knowledge Transfer Network

Connecting people to accelerate innovation

Strategic

Connecting people who wouldn't usually meet to solve innovation challenges.

Interdisciplinary

Bringing together businesses and researchers from different sectors.

Entrepreneurial

Linking people with new ideas and technologies to partners and customers.

Commercial

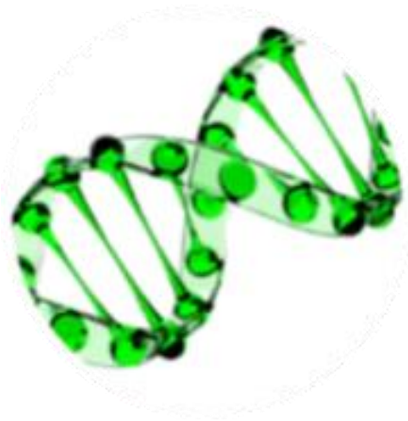
Introducing innovators to public and private funders and investors.

Clustered communities, groups and business programmes

Focus is on bringing together groups that would not normally meet



Materials
Chemistry
Environmental
Services



Agri-Food
Biosciences
Health



ICT
Electronics, Sensors & Phototonics
Defence & Security
Space



Built Environment
Transport
Energy



Creative Industries
Digital Economy
Design

Sustainability, H2020, International, Access to Finance, Design

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What do we do?

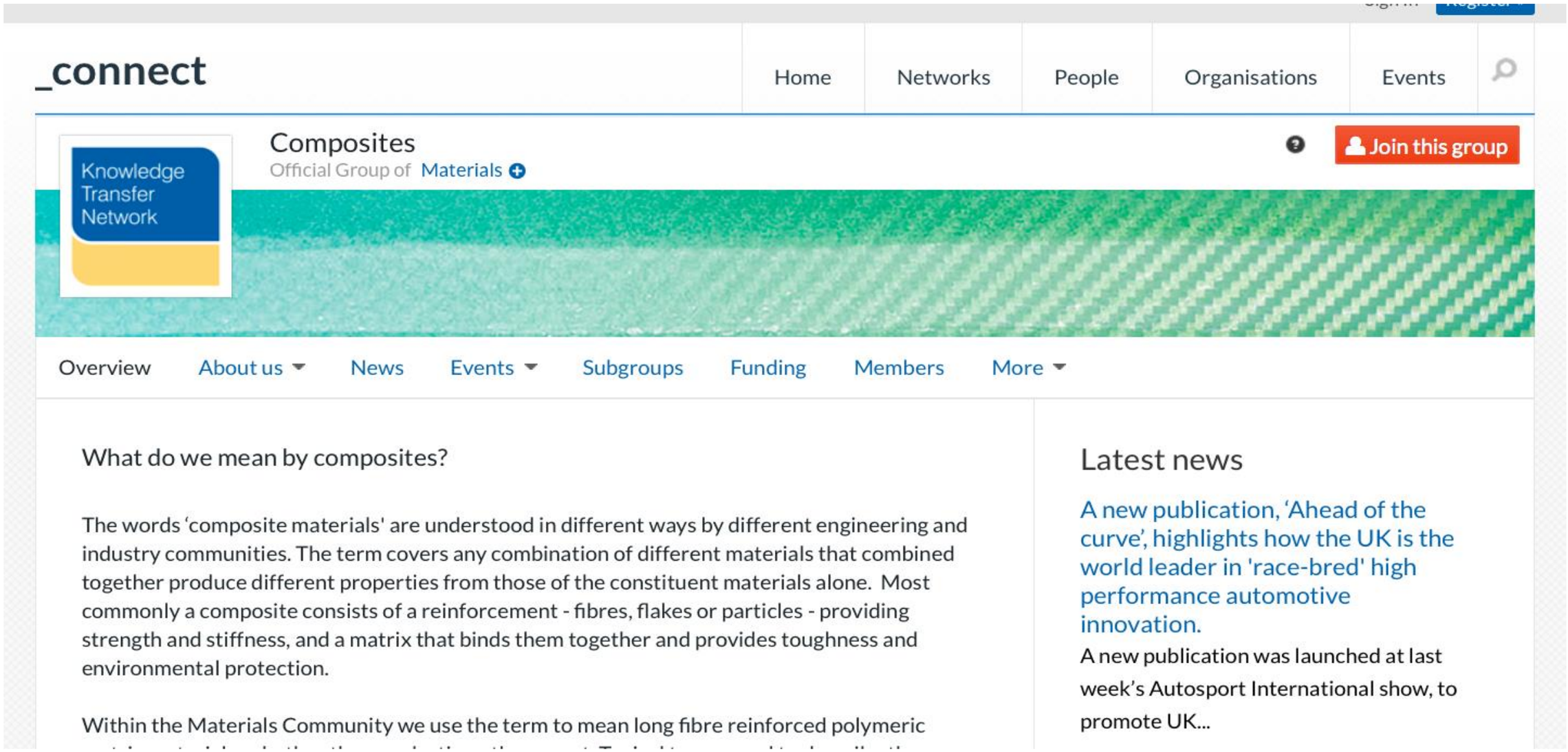
Helping companies take advantage of innovation opportunities by:

- Signposting companies to public funding (Innovate UK, EU, MoD, ESA, ….) opportunities
- Signposting companies to private funding opportunities
- Putting companies in touch with private organisation who offer services in public funding project application, administration and management
- Putting companies in touch with potential partners (RTOs, SMEs, Academia) from the network who may have technology that can help companies
- During visits, offering a view on the technology being presented and making suggestions based on knowledge and experience gained from working in the industry
- After learning about your needs, keeping an eye out for anything that may be of interest to the company and similarly (with their permission) making others aware of the company's offering/services

What do we do (Cont'd)

- If the company and others in the network identify similar needs, putting together groups/workshops/reports to address common issues to benefit the community as a whole
- Giving company access and helping them find the correct expert from 140 Knowledge Transfer Managers in different disciplines, at least one of whom should be able to answer the innovation enquiry or will know someone in their network who can
- Posting technology request on KTN Composites noticeboard (anonymously if required)
- Organizing scoping workshops for Innovate UK Competitions
- Carrying out market or technology reviews for public bodies
- Pushing technology from the research base to industry when both are ready
- Independent in all of the above, not aligned to any organization, industry sector, material or process
- KTN can lead Exploitation and Dissemination WP in H2020
- KTN can be a partner in CSA in H2020
- All services offered to UK based organisations free of charge

Composites on _Connect



https://connect.innovateuk.org/web/composites

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National Contact Points

- Informing and Awareness Raising (Info days, seminars,…)
- Feedback to/from Commission on work programmes
- Clarification of documentation and rules
- Guidance on choosing thematic priorities and instruments
- Scope queries with Project Officers
- Feedback on proposals
- Assistance in partner search
  - through theme specific databases or across the network of other Member State NCPs
  - through network support (Knowledge Transfer Network, Enterprise Europe Network)
- Feedback on results..

Thank you

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