

Technology Strategy Board

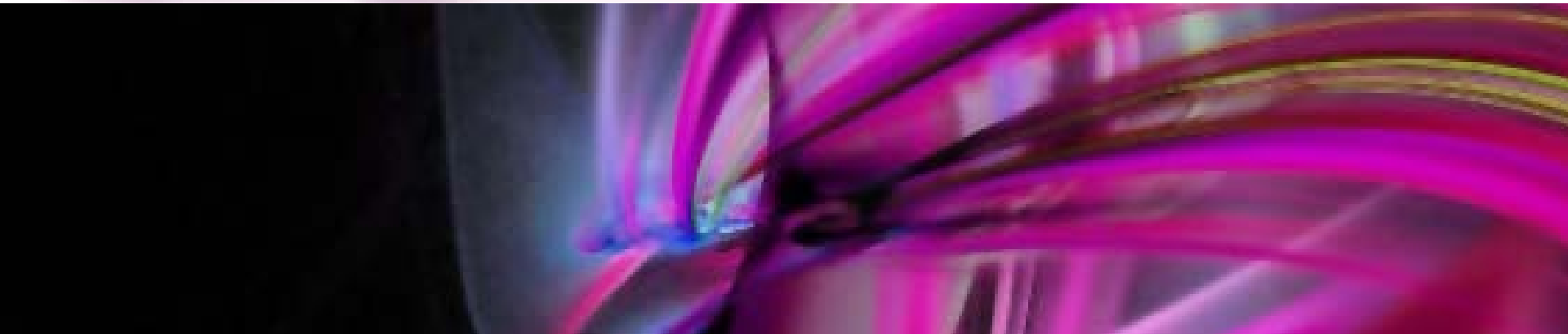
Driving Innovation

Technology Strategy Board The UK's Innovation Agency

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Lead Technologist - Advanced Materials

Thursday 12th December 2013



A brief history...

- The original DTI Innovation Unit and advisory “Technology Strategy Board” was set up in 2004
- It was spun out of government as a “non-departmental public body” in July 2007, relocated to Swindon and staffed with people from business
- Since then it’s budget has increased from £250m to £440m a year – and it’s going up more in 2015/16

What is the problem we are addressing?

- **Business investment is too low and too late**
 - Technical and financial risks need to be mitigated
 - The time for financial return is too long for many players
- **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 are not visible to all players**
 - Impact and opportunities from emerging technologies & policies
- **Innovation infrastructure is complex and inefficient**
 - Fragmented and difficult to navigate
- **Government does not make best use of its levers**
 - Procurement, regulation, standardisation

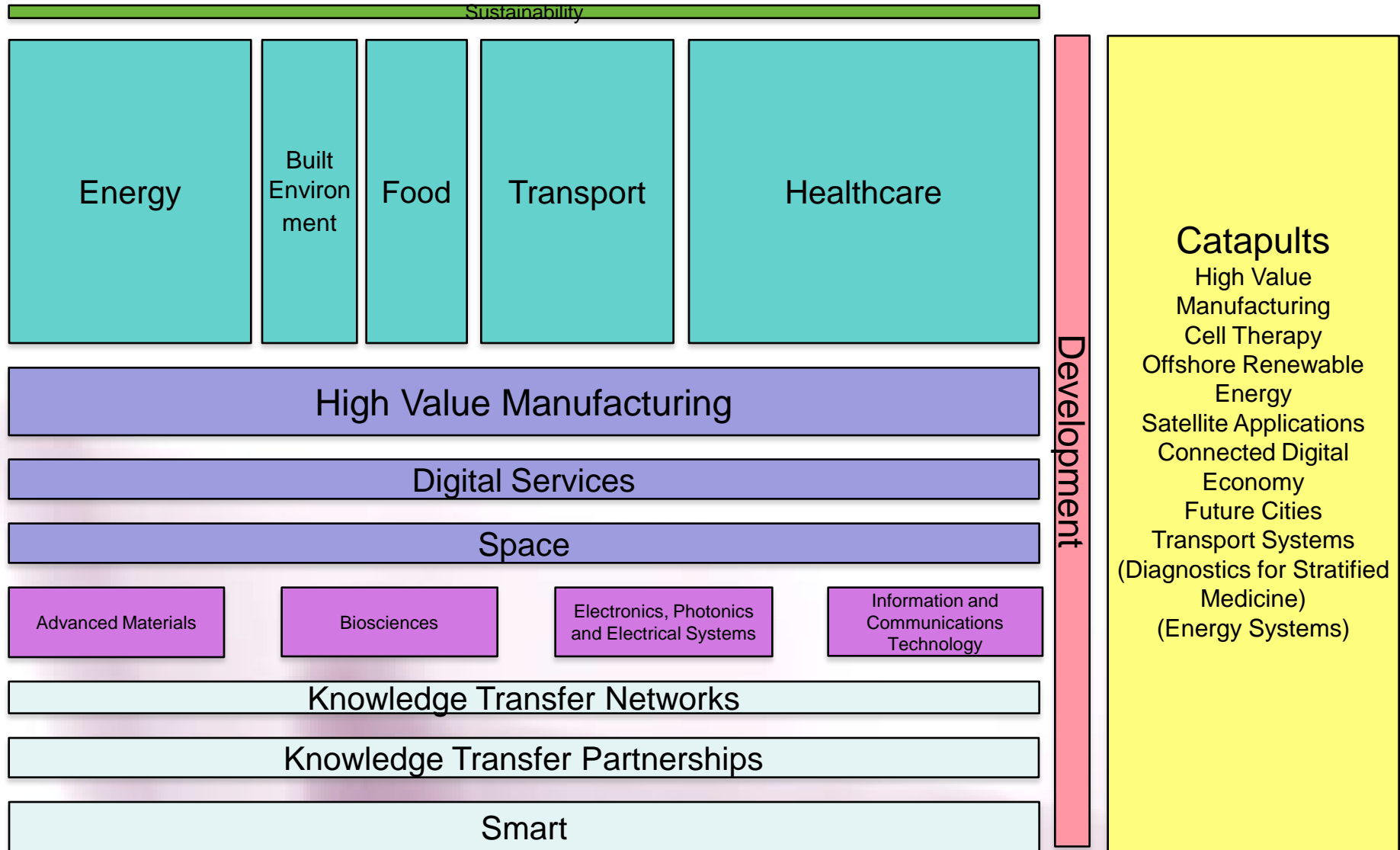
What are our Criteria?

- **Market**
 - What is the current and projected size, how fast is it growing, who are the competition?
- **Capability**
 - Does the UK have a strong research base in the area, the skills, the business capacity?
- **Timing**
 - Is the cost curve balanced by the value curve?
- **Additionality**
 - Why should the taxpayer support this project?

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2014/15



Enabling technologies
Strategy

2012-2015

Advanced materials

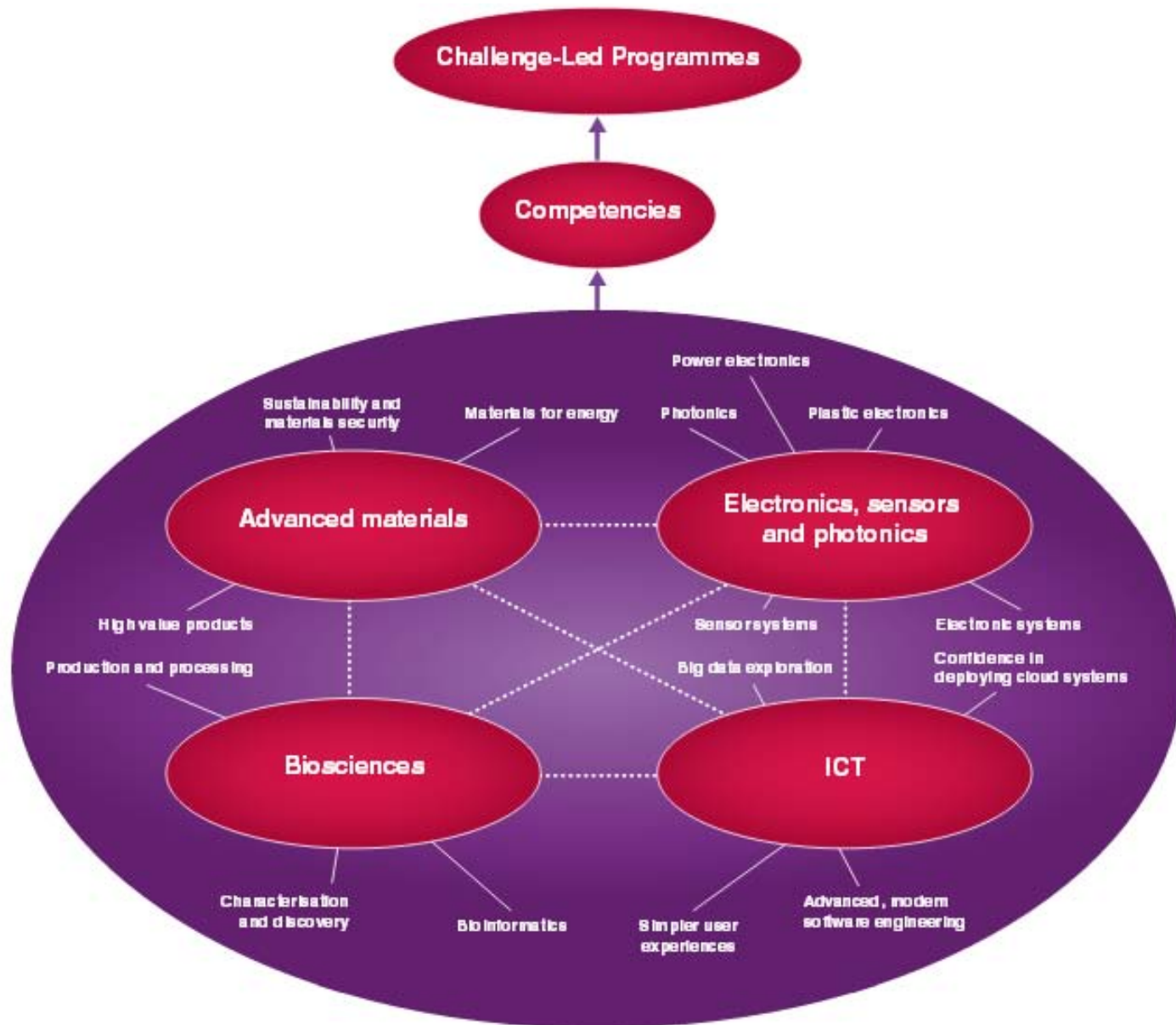
Biosciences

Electronics, sensors and photonics

Information and communication technology

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Advanced Materials

UK businesses that produce, process, fabricate and recycle materials have an annual turnover of around £197bn. They form a critical element in the high-value manufacturing supply chain.

The interdependency between advanced materials and high value manufacturing, in particular, offers a huge opportunity for innovation

Innovation in advanced materials will strengthen the UK's world-leading position as a provider of high-value-added products, processes and services bringing sustainable growth and high economic value to the UK



Advanced Materials Priority Areas

Sustainability and materials security

- lightweight materials
- reduced environmental impact through-life
- nanotechnology-enabled materials and functionality
- substitution approaches
- circular economy
- infrastructure and asset protection and traceability

Materials for energy

- materials for cheaper and more efficient energy storage and management
- materials for energy transmission/distribution that minimise energy, power and thermal loss
- materials for high-durability energy generation at small and large scale

High value markets

- integration of new materials, coatings and electronics
- materials to survive in aggressive environments with extremes of temperature, corrosion, erosion or stress
- bio-based materials.

Enabling technologies action plan 2013-14

Challenge: Across all enabling technologies

- **Technology-inspired innovation:** Accelerating the development of underpinning technologies through collaboration, science-to-business knowledge transfer and participation across the supply chain, helping to scale up ideas from previous technology-inspired competitions
- **Technology-inspired innovation:** Enabling small and micro businesses to demonstrate the feasibility of innovative underpinning technologies

Action

- Collaborative R&D competition
- Feasibility studies competition

Timing & Budget

- Q2
Up to £8m
- Q4
Up to £4m

Challenge: Advanced materials

- **Lightweighting:** Stimulating innovation in lightweight materials applied to transport, structures and devices to reduce energy consumption and emissions and to increase efficiency
- **Materials for energy:** Stimulating innovation in materials for cheaper and more efficient energy storage and management
- **MERANET:** Stimulating innovation and transnational partnerships in materials science and engineering

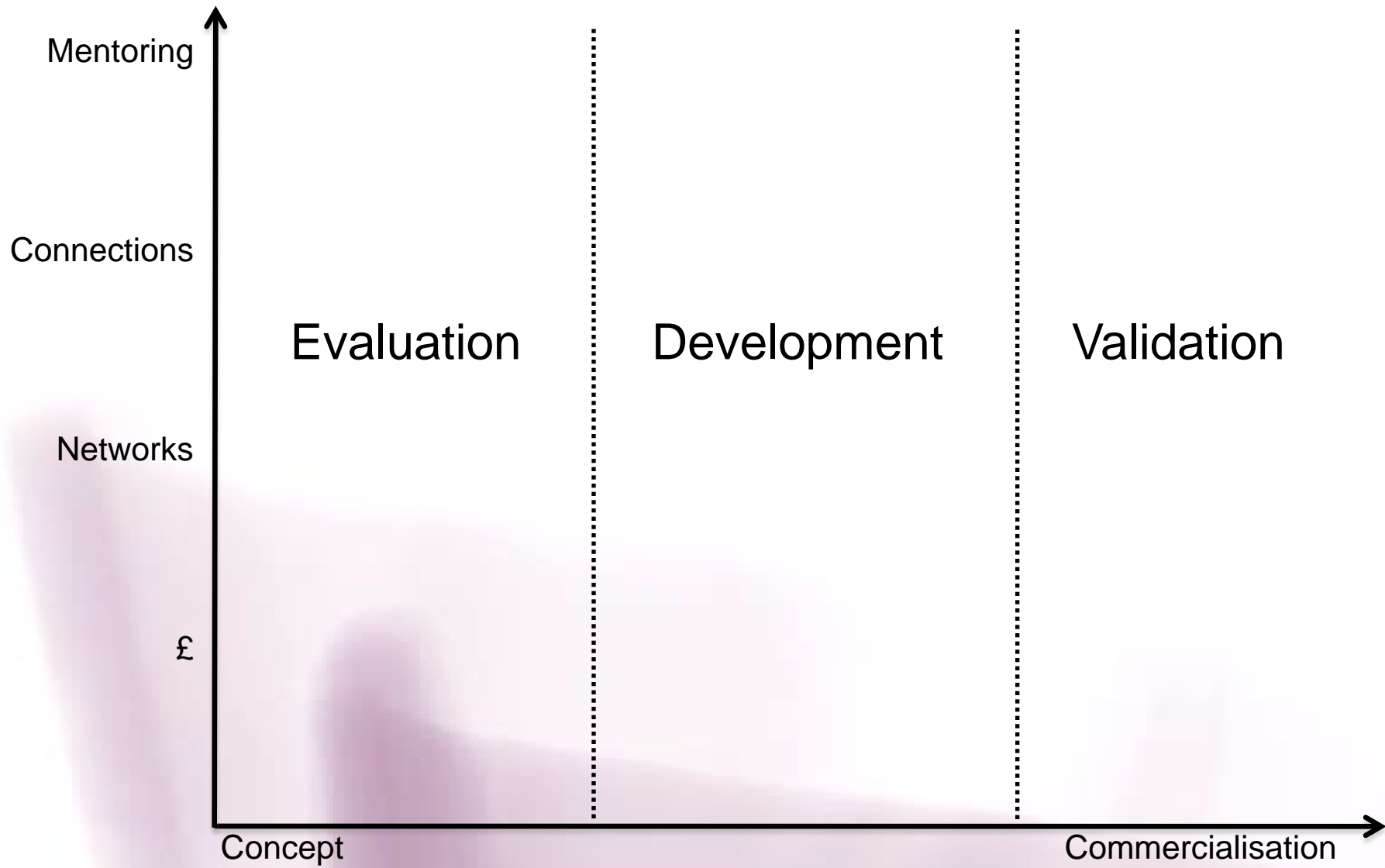
- Collaborative R&D competition
- Collaborative R&D competition

EU competition

- Q4
Up to £2m
- Q4
Up to £1.5m
- Q3
Up to £630k

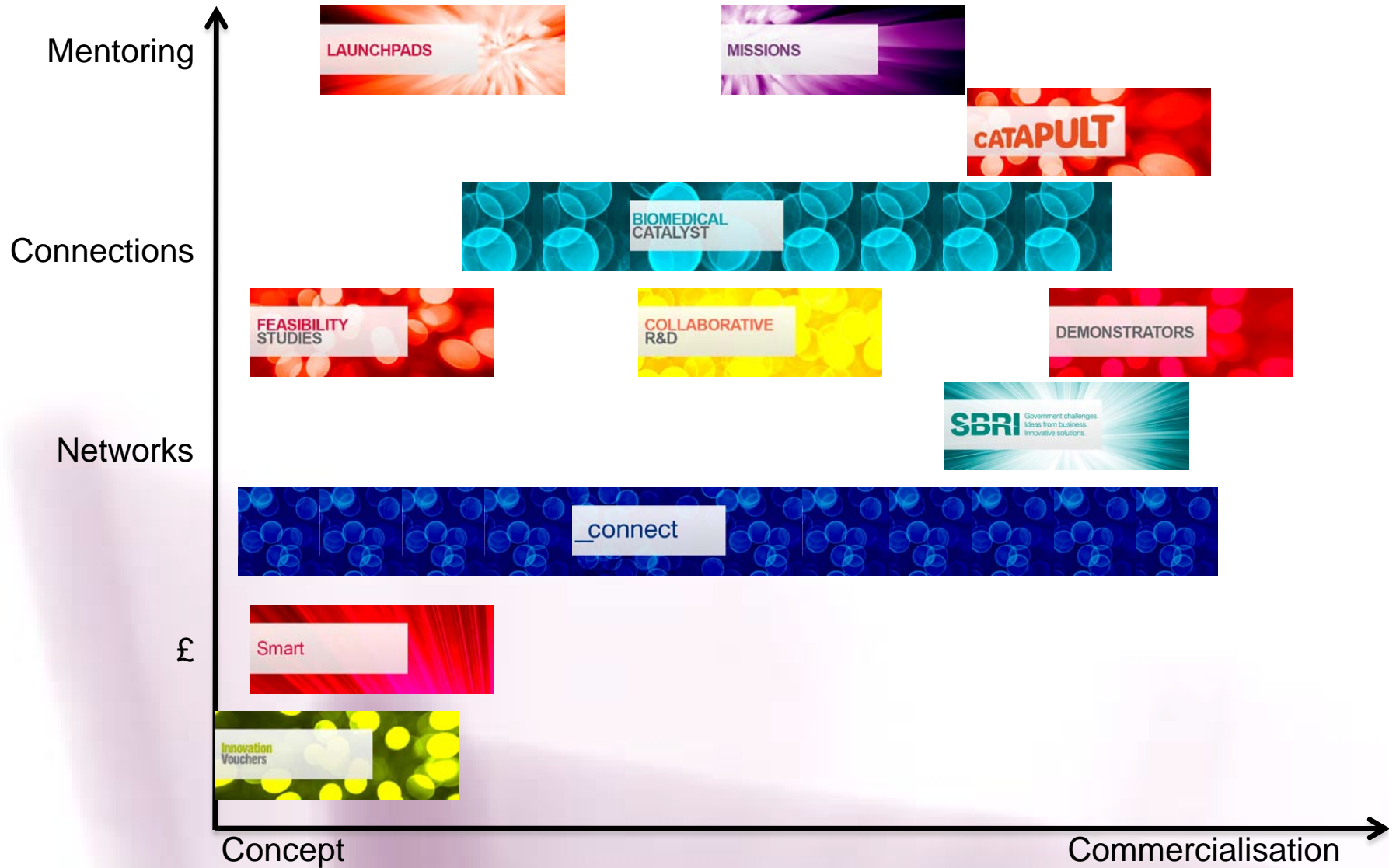
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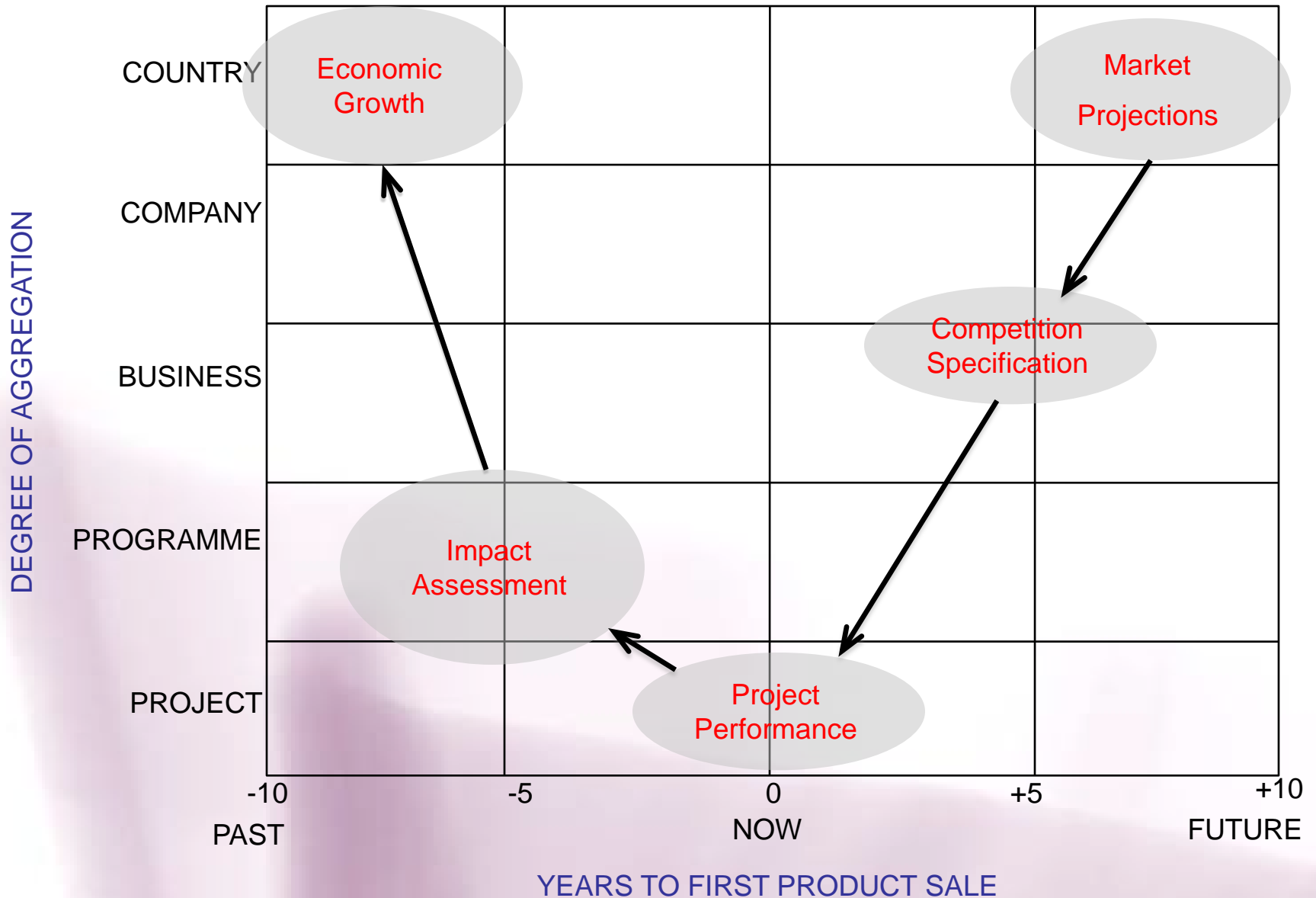


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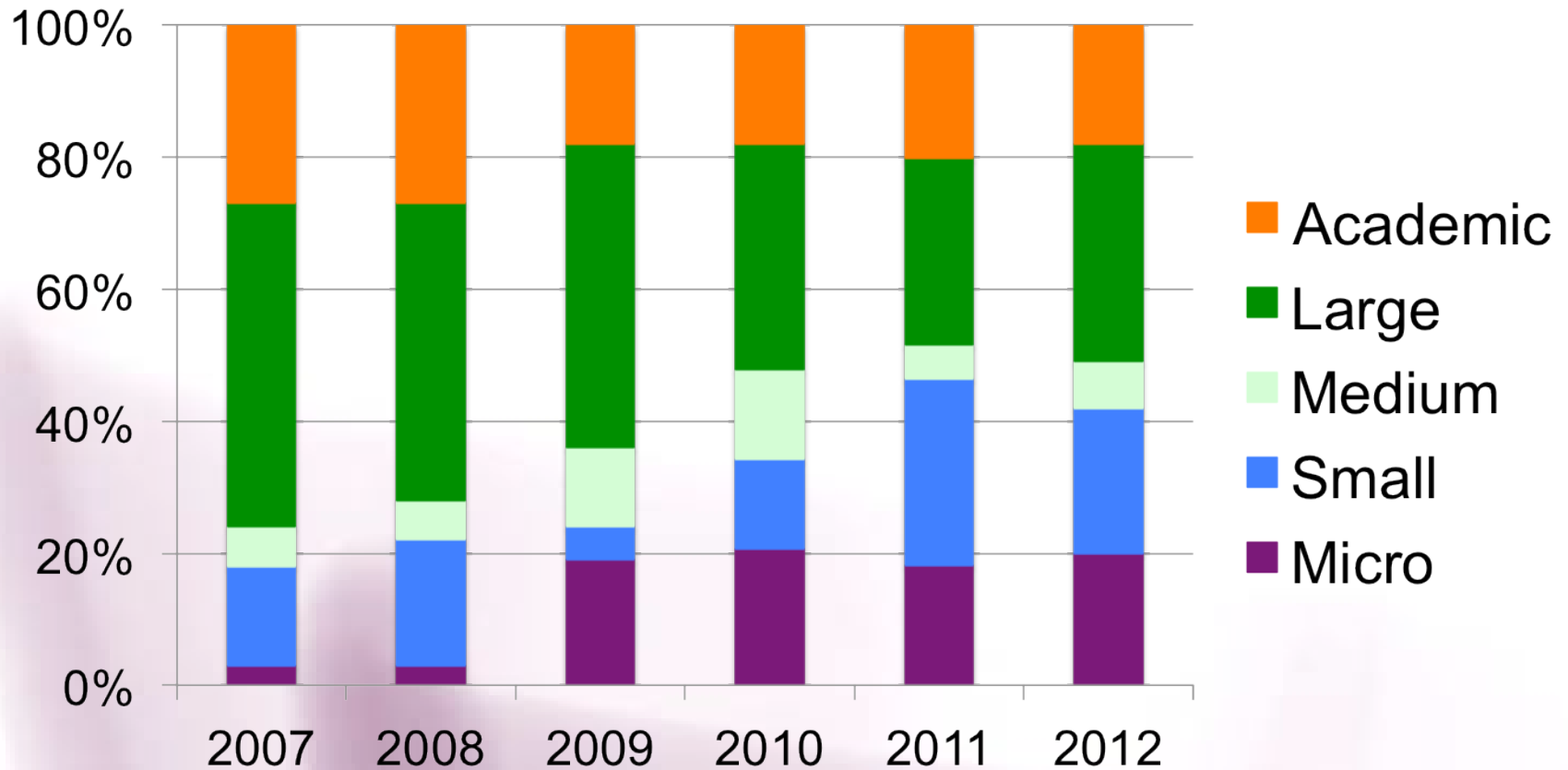
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LAGGING

LEADING



Where the money goes



How do we define a small or medium company?

Small and medium enterprises are defined as those which employ fewer than 250 persons **and** whose annual turnover does not exceed €50 million.



Enterprise category	Headcount: Annual Work Unit (AWU)	Annual turnover	Annual balance sheet total
Medium-sized	< 250	≤ €50 million (in 1996 € 40 million)	≤ €43 million (in 1996 € 27 million)
Small	< 50	≤ €10 million (in 1996 € 7 million)	≤ €10 million (in 1996 € 5 million)
Micro	< 10	≤ €2 million (previously not defined)	≤ €2 million (previously not defined)

What have we learned?

- We don't have enough money to satisfy the needs of all companies
- Our processes are thought by some to be too bureaucratic but we need to be accountable for our use of taxpayers money
- We need to make the process take companies on a developmental journey
- Assessment, even with 5 assessors, tends to be more subjective than we would like
- Feedback on why proposals aren't successful needs to be more co-ordinated and useful
- Not everyone knows we are here to help them

And we're accessible....

<http://www.innovateuk.org>

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