

**Technology Strategy Board**

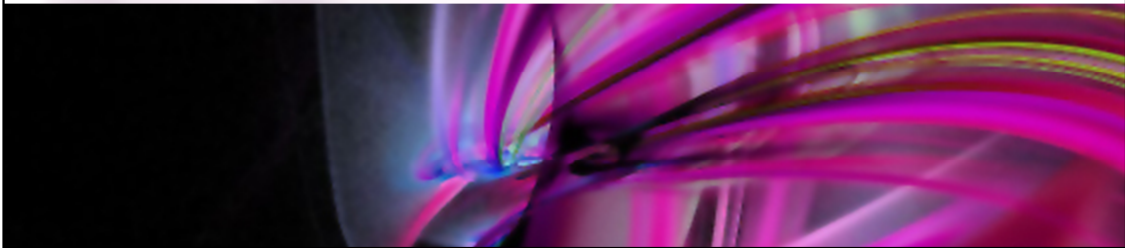
Driving Innovation

# **High Value Manufacturing Strategy**

**Heriot Watt Technical Programme, 2<sup>nd</sup> July 2010**

Robin Wilson

Lead Technologist, High Value Manufacturing



## Manufacturing – Global Value

- Manufacturing accounts for \$4.4 trillion of value-add worldwide
- UK is world's 6<sup>th</sup> largest Manufacturer (GVA)



- Accounts for 15% of UK's GDP, 55% of Exports
- Or 27% GDP if using wider definition to include industrial services, construction, oil and gas.

## The Challenge

- Manufacturing is highly competitive and gravitates to countries of lowest overall cost
- Rapid and radical change to remain competitive in high wage economies such as the UK
- Move away from traditional areas into high value, knowledge intensive goods and services
- Not just “production”, Manufacturing in UK is increasingly becoming *“the provision of lifetime service around a manufactured product”*.

## **Economic Context**

- By the millennium, UK was seen as a “post industrial” economy in which manufacturing would largely be replaced by financial and other service industries.
- Credit crunch 2008 – rude awakening
- Urgent need for “balanced economy”
  - Weakness if over-dependent on finance & services
  - Widening trade gap – not sustainable
  - Realisation: Manufacturing is vital to UK economy

**Technology Strategy Board**

Driving Innovation

**Our Response**

- **Government**
  - “New Industry, New Jobs” (April 2009)
  - Advanced Manufacturing £150m package (July 2009)
  - Additional £33m for Civil Nuclear at AMRC (Dec 09)
  - £16m for National Composites Centre (March 2010)
- **Technology Strategy Board**
  - Implemented our High Value Manufacturing Strategy
  - £24m HVM competition with further £5m (2009)
  - £1m Technology Inspired competition (Oct 09)
  - Key Enabling Technologies competition planned Q3/10

**Technology Strategy Board**

Driving Innovation

**HVM Competition – how the £24m was won**

Sector/SIC Group	Number of projects	TSB funding (£m)	Allocation of TSB funding (%)
Bioscience and Healthcare	13	9.1	38
Special Purpose Machinery	8	4.9	20
Automotive	3	3.4	15
Aerospace	2	2.5	10
Electrical	1	1.1	5
Non Ferrous Metals	1	0.9	4
Construction	2	0.8	3
Agrochemicals	1	0.7	3
Environmental	1	0.6	3
Total	32	24	100

## **Technology Strategy Board**

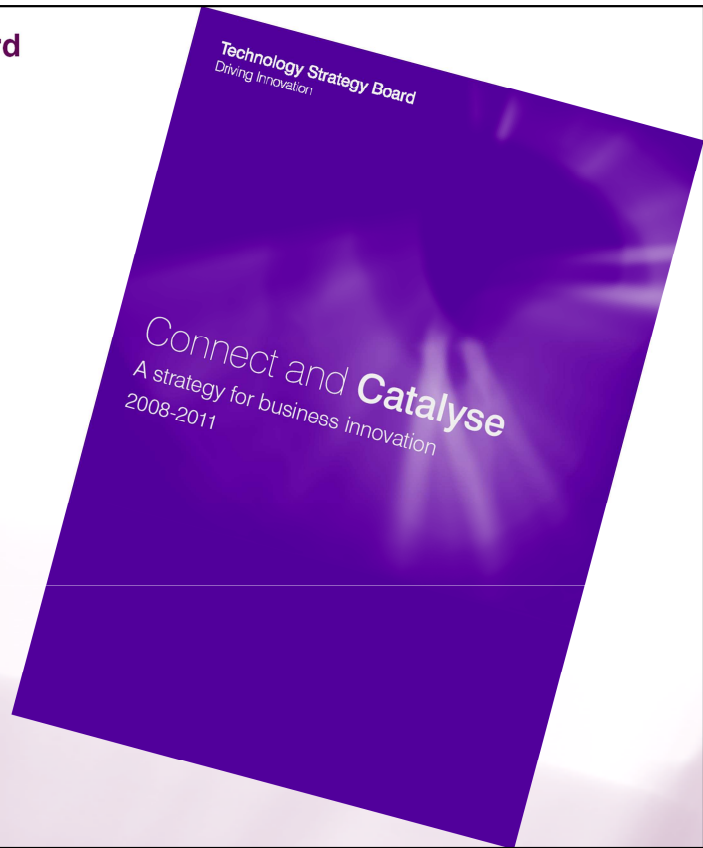
Driving Innovation

### **Who are the Technology Strategy Board**

- We are a national body set up to invest in business innovation
- We come from business (and the public sector)
  - 130 people with over 1500 years of business experience
- We work across business, universities and government
  - and everybody else who can help
- We are responsible for investing £1bn

**Technology Strategy Board**  
Driving Innovation

# How we deliver





**Technology Strategy Board**

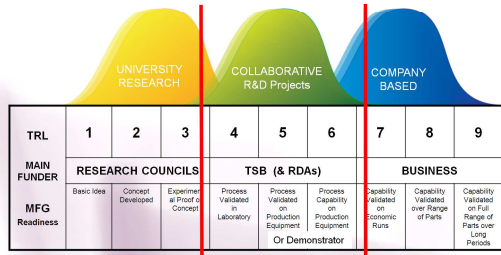
Driving Innovation



*Where is public funding for innovation most effectively applied?*

**Technology Strategy Board**  
Driving Innovation

**Funding Sources vs  
Technology Readiness Level**



← TSB Scope → RDA's = Regional Development Agencies

## Our Investment (Assessment) Criteria

*Model for success: a convincing "yes" to these 4 questions*

Can the UK do it?	Is there a large market opportunity?
Is the idea 'ready'?	Can the Technology Strategy Board make a difference?

**Technology Strategy Board**  
Driving Innovation

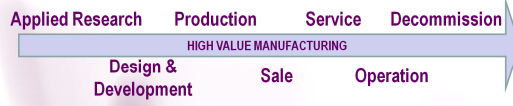
## Manufacturing Strategy

- Working with Industry
- Working with Academia
- Working with Government
- Working together
- Developing a common understanding of challenges and opportunities
- Prioritising investment in key areas
- Publish Strategy, launch CR&D competitions



## Manufacturing Through Life

- Not just production
- Interfaces forwards and backwards



*Increasingly, the emphasis of activities in UK will not just be on production, but will embrace provision of lifetime service, around a manufactured product.*

## The Four 'Pillars' of the HVM Strategy

**Production  
Processes**

**Products**

**Service  
Systems**

**Value  
Systems**

The strategy includes key manufacturing activities that **enhance competitive advantage** in high wage economies;

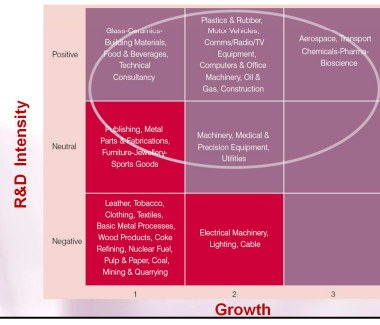
...it recognises that large amounts of value-add and value-capture occur **outside production**;

... and that technology may bring innovation in all areas.

# Technology Strategy Board

Driving Innovation

## Prioritisation .. in areas of high growth + high R&D intensity



### **What can UK Manufacturers do?**

- Understand their supply chain – all the way – and work out who gets the value and who make the decisions
- Understand the “service” component of their customers needs and the associated business “Value Systems”.
- Drive productivity (as always)
- Evaluate new opportunities afforded by novel technology
- Think about new business models



## Website, Competitions, Applications



The Technology Strategy Board provides information in many ways:

By e-mail to members of the weekly newsletter service.

By publishing reports, news stories, press releases, leaflets, brochures and other documents on our website.

By providing information to the public via our website.

By providing information to the public via our website.

By providing information to the public via our website.

By providing information to the public via our website.

By providing information to the public via our website.

Competition	Competition Type	Open	Close	Open
<b>Advanced Logistics Administration</b>	For companies in the advanced logistics sector	Open	2010	2010
<b>European Factory 2010 Call</b>	For manufacturing companies	Open	2010	2010
<b>Fighting Infection Through Innovation</b>	For scientists and researchers	Open	2010	2010
<b>UK 2010 Call</b>	For UK-based businesses	Open	2010	2010
<b>New Approaches to Crop Protection Competition</b>	For crop protection companies	Open	2010	2010
<b>Plastic Electronics Competition</b>	For plastic electronics companies	Open	2010	2010
<b>Plastic Electronics Innovations</b>	For plastic electronics companies	Open	2010	2010
<b>Integrated Delivery Programme Competition 4</b>	For integrated delivery programme companies	Open	2010	2010

**Technology Strategy Board**

... (Detailed text from the competition page) ...

**Technology Strategy Board**

Driving Innovation

**<http://www.innovateuk.org>**

e: robin.wilson@tsb.gov.uk

t: 01793 442938

