

Technology Strategy Board

Driving Innovation

# Supporting Business Innovation

**Myrddin Jones, Lead Technologist, Electronics, Sensors & Photonics**

**UDRC Industry Day - Friday 27th June 2014**



# Content

- **Who we are and what we do**
- **Where do we invest ?**
- **Overview of our innovation programmes**

Technology Strategy Board

Driving Innovation

***“The Technology Strategy Board is the UK’s national innovation agency. Our goal is to accelerate economic growth by stimulating and supporting business-led innovation.”***

Technology Strategy Board

Driving Innovation

# A big agenda

- In six years we have enabled about £3bn of investment in innovation (with partner and business contributions).
- We are already working with more than 4,900 companies of all sizes, 150 research organisations including 110 UK universities.
- Our networks have over 66,000 members
- We typically run around 80 R&D funding competitions per year across our priority themes.

# Investing in Theme Areas

## Sustainability

Energy  
Generation  
& Supply

Built  
Environment

Food  
Supply

Transport

Healthcare

High Value Manufacturing

Digital Services

Advanced  
Materials

ICT

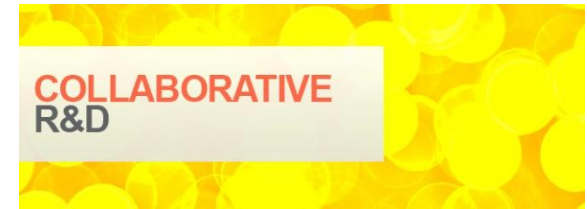
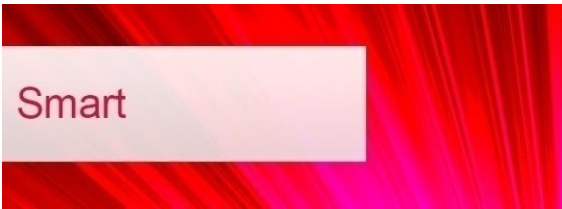
Electronics,  
Sensors &  
Photonics

Biosciences

Development

# Our toolset

Range of 'Tools' with different objectives / characteristics

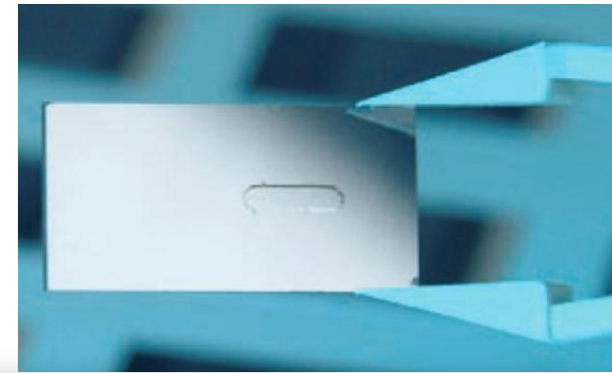


## Collaborative R&D

- Competitions within specific themes
- Supports collaboration between businesses and between businesses and academia
- Open to businesses of any size including Start-ups and Micros
- £25k - £1m grant typical
- Programmes run from few weeks up to 2/3 years
- Intervention rate varies – typically 50% - 60%
- [www.innovateuk.org/competitions.ashx](http://www.innovateuk.org/competitions.ashx)

## Collaborative R&D

# A Case Study



### Project partners

Stratophase, University of  
Southampton, Smart Fibres  
and Davin Optronics

Technology Strategy Board  
investment

£282,500

Total project investment

£565,000

### The Need

With increased globalisation, there's an increased threat from previously obscure diseases such as Ebola and bird flu. Early detection and prevention must be a priority

### The Solution

Consortium developed an optical microchip sensor capable of detecting toxins, viruses and bacteria. The sensor is robust and can be miniaturised so offering the potential for on the spot diagnosis



Technology Strategy Board

Driving Innovation



**SBRI**

Government challenges.  
Ideas from business.  
Innovative solutions.

- Open competitions addressing Public Sector challenges
- Competition widely advertised through TSB channels
- Applications assessed and most promising ones awarded development contracts
- Project risk is managed through a phased process
  - Phase 1 Proof of Feasibility: 2 - 9mths & £20k to £100k
  - Phase 2 Prototype Development: up to 2 years and £1M (depends on challenge)
- 100% funded
- IP rests with the company
- Possibility of long term contracts

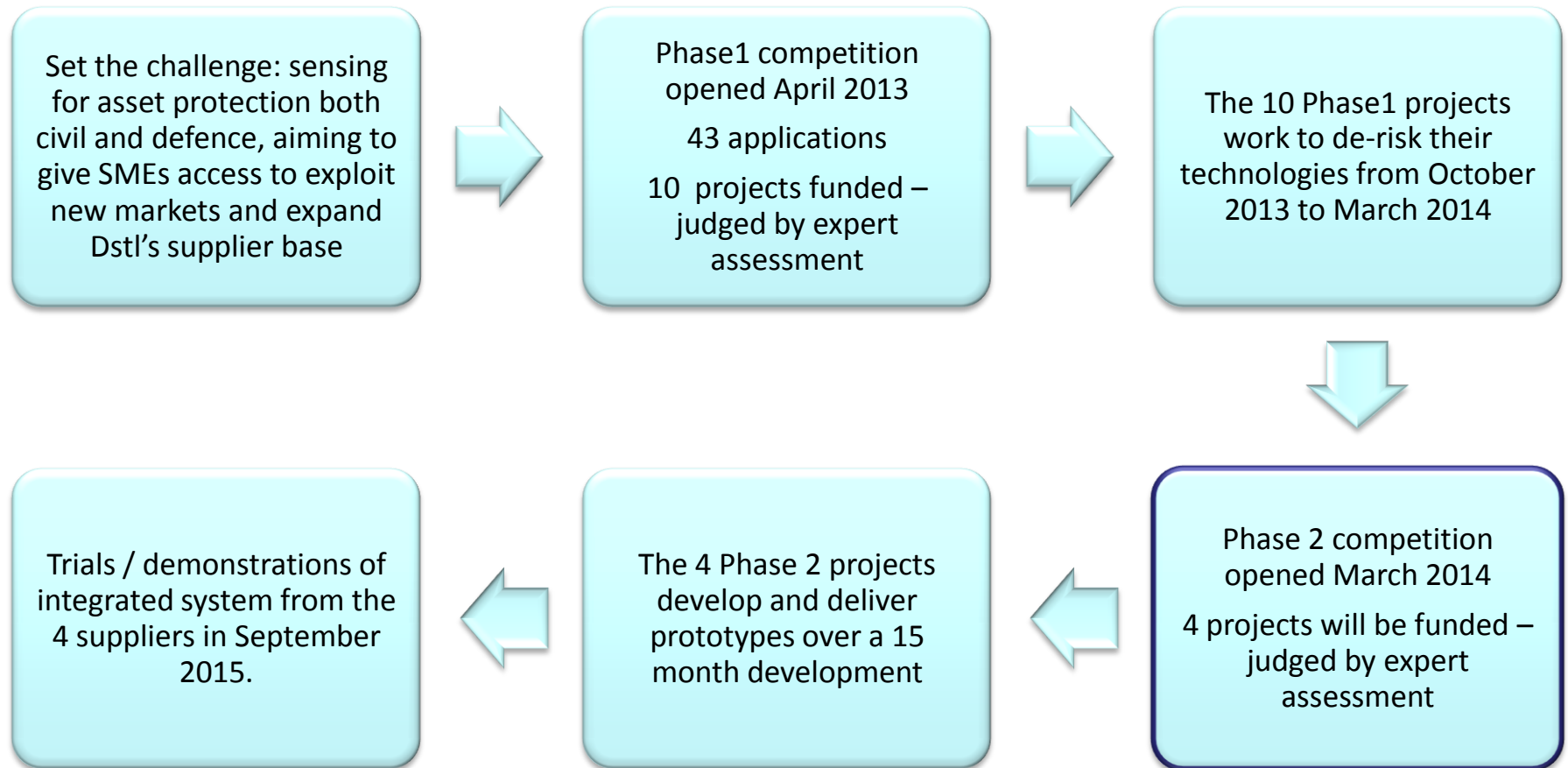
## SAPIENT: Background

- A joint call between the TSB and Dstl to invest up to £3m over 2 phases in the development of innovative sensing for asset protection (defined physical area such as a port, airport or military base).
- This competition was funded through the Small Business Research Initiative (SBRI). Developments are 100% funded and focus on specific identified needs in defence and civil sectors.

## SAPIENT: The challenge

- Sensing for Asset Protection using Integrated Electronic Networked Technology
- Protection of land based high-value assets with defined borders, typically from human incursions into the area.
- The SAPIENT challenge is focused on MOD assets such as military Forward Operating Bases (FOBs), but solutions will also be applicable in civil areas such as dockyards, power stations, airports etc.
- Projects should achieve a Technology Readiness Level (TRL) of 3+ by the end of Phase 1.
- Phase 2 will deliver prototypes at TRL 5+ that can be built into a demonstration system by Dstl.

## SAPIENT: The timeline



# What is KTP?





Project duration between 6 months and 3 years

Associate recruited jointly but employed by knowledge base partner

Associate located wholly or mainly at business premises with Business Supervisor

KB Supervisor spends approx. half a day per week at the business premises



Annual budget ~£60k\*



Includes Associate employment costs, KB supervision, travel, consumables and training



SMEs contribute 33%\*



Large businesses contribute 50%\*



\* *Slightly different if KB Partner does not use 'full economic costing'*



## Caledonian Aerotech Ltd Award winning KTP project for superalloy recyclers

To identify and implement a means of reducing volatile organic compound (VOC) emissions within the existing alloy degreasing process whilst improving the effectiveness of the process; and to develop a new method for cleaning titanium.



**Heriot-Watt University**  
(School of Engineering and Physical Sciences)

**Knowledge Transfer Partnerships**

**KTP BENEFITS**

Knowledge Transfer Partnerships are designed to benefit enterprise involved

- Businesses will acquire new knowledge and expertise
- KTP Associates will gain business-related experience and personal and professional development opportunities
- Universities, colleges or research organisations will bring their expertise to enhance the business achievement of their research and teaching

Knowledge Transfer Partnerships Accelerating business innovation. A Technology Strategy Board programme. <http://www.ktp.ac.uk>

### CALEDONIAN AEROTECH LTD AWARD WINNING KTP PROJECT FOR SUPERALLOY RECYCLERS

**ABOUT THE CASE STUDY**

Caledonian Aerotech Ltd (acquired and previously called Caledon) specialises in the manufacture of turbine engine parts. The company's Heriot-Watt University (HWP) project with Heriot-Watt University, Edinburgh, resulted in quality and improved costs of reducing volatile organic compound (VOC) emissions within the existing alloy degreasing process, whilst improving the effectiveness of the process, and to develop a new method for cleaning titanium.

**ABOUT THE ASSOCIATES**

The Technology Strategy Board is a business-led organisation established by the Government to promote its innovation research, take, and development and exploitation of technology and innovation for the benefit of all business, including economic growth and quality of life.

**FAST FACTS**

- Cost savings in the alloy cleaning process
- Reduced environmental impact of the cleaning process
- New focus on research, development and innovation within the company
- Enabled to enter new areas of the market
- Increased visibility with multi-national customers
- Caledonian Aerotech Ltd are currently involved in a further two KTP projects
- Winner of Award for Best Knowledge Transfer Partnership
- Winner of Award for Engineering Excellence

**The Company**



"The KTP Associate provided the company with a focus for research, development and innovation... we got clarity and projects started to happen. Getting involved with KTP... had the effect of broadening our horizons and I have no doubt it will help us enter new markets."

**High Street, Chairman, Caledonian Aerotech Ltd**

# Networking

## Why join a Knowledge Transfer Network?

- Networking
- Partnering
- Funding opportunities
- Information and news
- Policy and regulation
- <https://connect.innovateuk.org>

Catapult

Cell Therapy  
Catapult

Connected Digital  
Economy Catapult

Future Cities  
Catapult

High Value  
Manufacturing  
Catapult

Offshore  
Renewable Energy  
Catapult

Satellite  
Applications  
Catapult

Transport  
Systems Catapult

# CATAPULT

[Home](#) [About us](#) [Catapult centres](#) [News and events](#) [Work with us - Business & Industry](#) [Careers](#) [Contact us](#)

## Catapults

A new force for innovation and growth.

Read all the latest [Catapult news here](#)



## Welcome to the Catapult Programme

A Catapult is a technology and innovation centre where the very best of the UK's businesses, scientists and engineers can work side by side on research and development, transforming ideas into new products and services to generate economic growth.

Catapults add an important new dimension to complement existing research and development programmes established by the [Technology Strategy Board](#).

## News

04 NOVEMBER 2013

Transport Systems Catapult gets name checked by BBC...

28 OCTOBER 2013

TSC Launch Event

25 OCTOBER 2013

Five Year Delivery Plan published

[More news](#)

## Twitter Feed

 Follow us



**TSB Catapult**  
[@Catapult\\_TSB](#)

RT [@futurecitiescat](#)

More Rio architecture [#catapult](#)

# Choice of Technology Areas



- **Broad Criteria**
  - 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
  - Centres enable UK to attract and anchor knowledge intensive activities of globally mobile companies
  - Closely aligned with, and essential to achieve, national strategic technology objectives



[www.catapult.org.uk](http://www.catapult.org.uk)

- **High Value Manufacturing**
- **Cell Therapy**
- **Offshore Renewable Energy**
- **Satellite Applications**
- **Connected Digital Economy**
- **Future cities**
- **Transport systems & integration**
- **Energy Systems**
- **Precision Medicine**



# Technology Strategy Board

Driving Innovation

[www.innovateuk.org](http://www.innovateuk.org)

