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STFC Support for Innovation

Phillip Tait
External Innovations – STFC

The Impact Agenda

“The demonstrable contribution that excellent research makes to society and the economy”

- RCUK receives ~ £3bn p.a
 - STFC receives ~ £470m p.a.
- STFC’s Royal Charter (2007)

.....“To promote and support the advancement of knowledge and technology (including the **promotion and support of the exploitation of research outcomes**) and to provide trained scientists and engineers, and thereby **to contribute to the economic competitiveness of Our United Kingdom and the quality of life of its people, meeting the needs of users and beneficiaries.**”



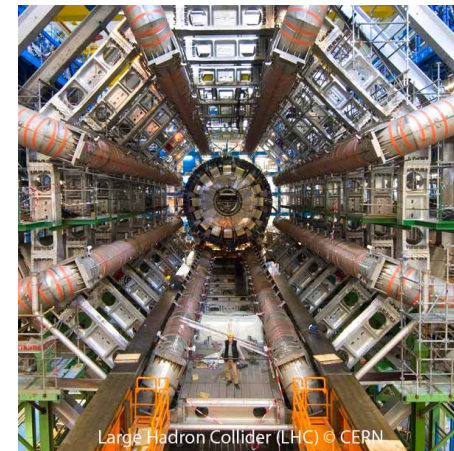
External Innovations Strategy

We aim to work in partnership with the STFC community to maximise the benefits to the UK economy and society from our Science Programme.



Who do we support

- University groups:
 - 50+ UK universities
- International organisations:
 - CERN, ESRF etc
- STFC laboratories:
 - RAL, Daresbury etc



How do we do this

Work with our stakeholders to:

- understand industry challenges
- facilitate the building of partnerships
- develop innovation projects that deliver economic impact
- Support development of skills that support innovation
- Encourage sharing of best practice



External Innovations Team Toolkit

One size does not fit all



- **Responsive:** Follow-on Funding and IPS
- **User-led:** Global Challenge and CLASP
- **Empowering:** Impact Acceleration Account and Innovation Fellows



Responsive Support

Technology Push

- Calls every 4 months with “quick” decisions
- No limit on technology area or proposed market sector of application
- Peer reviewed by referees and assessed by independent Panel – 50% industry
- Follow-on Fund – proof of concept
- IPS – transfer your technology to industry

In 2013 IPS funded 12 new collaborative projects totalling £2.4m – leveraged £1.2M from industrial partners



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Case Study – Follow-on Fund: Food safety

- Astrophysics research at University of Glasgow
- Developed a device which generates germicidal ozone inside sealed containers
- Can prolong shelf-life of food products
- Formed spin out company

£750k seed funding

Food waste estimated at 7m tonnes in UK

Food production line trials soon

Healthcare applications – equipment sterilization



The Follow-on Fund helped us develop the utility of the device and explore its applications. – Dr Hugh Potts, Anacail



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Case Study – IPS: Innovative Detectors

- kromek Ltd worked with ~~University of Glasgow, Oxford and Liverpool on radiation detector technology~~
- Collaboration led to reduced costs and increased volume production
- Company now diversified and supply components & modules for use in:
 - Nuclear detection
 - Security screening
 - Medical imaging

Spin out from
University of
Durham

Employs
100+ people

Acquired 2
businesses

In 2013 IPO
raised £15m

kromek[™]
detect image identify



User-led Support

Market Pull

- **Workshop with Industry, Government, Charities, Innovate UK to define challenges**
- **Collaboration building event**
- **Work with Industry and other academic disciplines**
- **Mentors work with applicants to prepare for presentation to Panel**
- **Peer reviewed then assessed by independent Panel – 50% users**

**Provide solutions to challenges in Energy
Environment, Healthcare and Security**



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Case Study – CLASP: Superior medical imaging

- Space Research University of Leicester
- CLASP supported the development of gamma imaging technology with NHS
- Spun out Gamma Technologies Ltd to commercialise portable high resolution Mini Gamma Camera

Collaboration with Queen's Medical Centre Nottingham

Range of clinical and non-clinical applications

Product in pre-commercial prototype stage



The CLASP grant helped us to develop a plan for the commercialisation of our product, as well as perform vital research.

– John Lees, Technical Director, GTL Ltd



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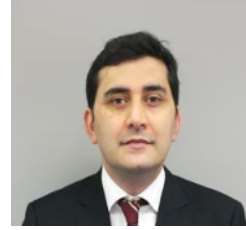
Empowering Support

Providing people and resource for Universities to strategically direct their Innovation activity

- **Decisions made locally and quickly**
- **Support across STFC departments**
- **Activities can address the barriers facing STFC community**
- **Brings together University TTO and academic**



Innovation Fellowships



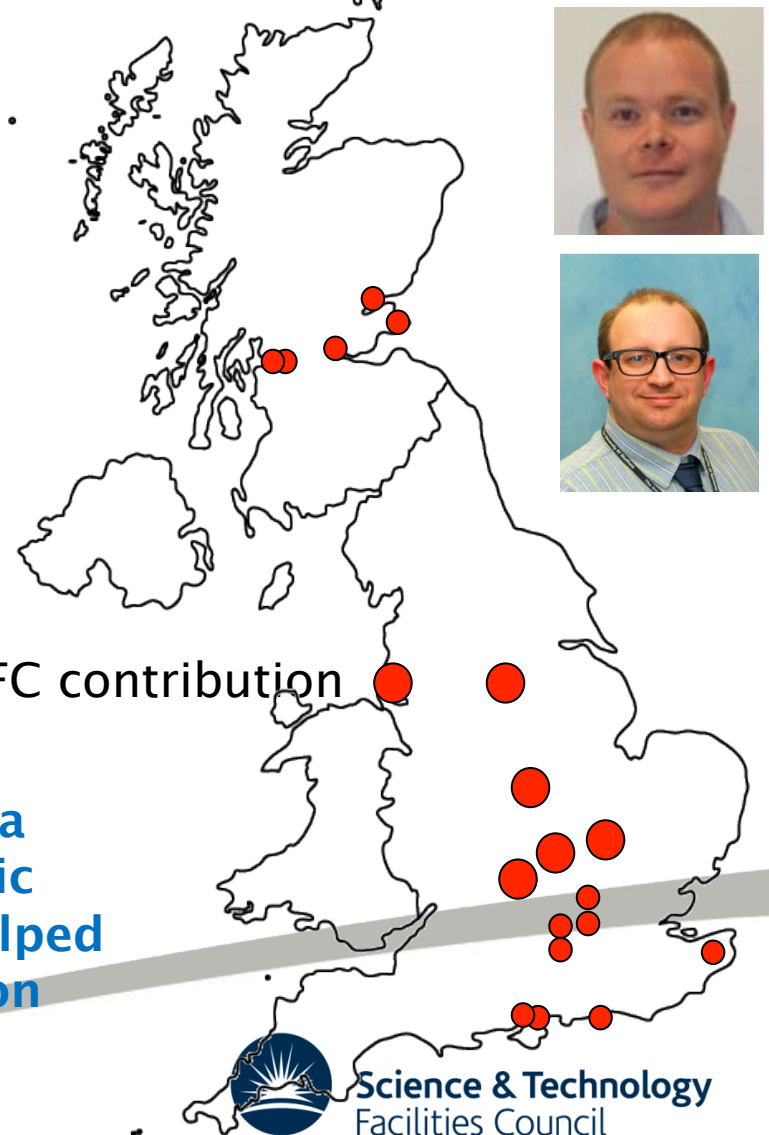
Professional role to exploit STFC funded technologies

Not a research fellowship

- Transferring technologies to Industry
- 8 Fellows covering 20 universities
- STFC fund 40% cost.
- First 3 Fellows brought investment 15x STFC contribution

“The IPS Fellow has been invaluable to us as a company. He assisted in identifying academic expertise that met our precise needs and helped secure the funding to make that collaboration happen”.

Janno van Hemert, Optos plc



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STFC Impact Acceleration Account

Enable Technology Transfer Offices to support commercialisation of STFC science

- £50k for 12 months UK universities – managed by the Enterprise Team
- Activities support STFC-funded research outputs toward Impact
 - Technology showcase to industry events
 - PoC funds
 - Technology audits / market surveys
 - Secondments to / from Industry



IAAs were an excellent opportunity to engage researchers who had not previously translated their research

Vice-Provost's Advisory Group for Research



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Working with our Innovation Partners



PraxisUnico.



Case Study – KTP: Nanosatellites

- Strathclyde University + Associate Engineer + Clyde Space
- Clyde Space developed UK's first CubeSat mission
- CubeSats used to test cutting-edge technologies and conduct space research

£1 million in venture capital

Contract for UK's first CubeSat mission

Staff grown from 5 to 20

Moved up value chain: now supplies complete satellite systems



*The KTP provided us with the knowledge and **experience** we needed to **move up the value chain** by building our own satellites. – Craig Clark, CEO, Clyde Space*



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Case Study – Enterprise Fellowships Enable a scientist to form a Spin Out

- Buys out time, provides business training and spin out mentoring
- Integrates unmanned aerial vehicle (UAV) with lightweight gamma spectrometer
- Provides nuclear industry with real-time information on source, intensity and location of radiation.

PhD student
now
Managing
Director

Deployed in
the prefecture
surrounding
Fukushima

Featured on
the BBC



It has been instrumental in granting me the time and training required to establish a commercial company to take this technology out of the laboratory and into the real world.

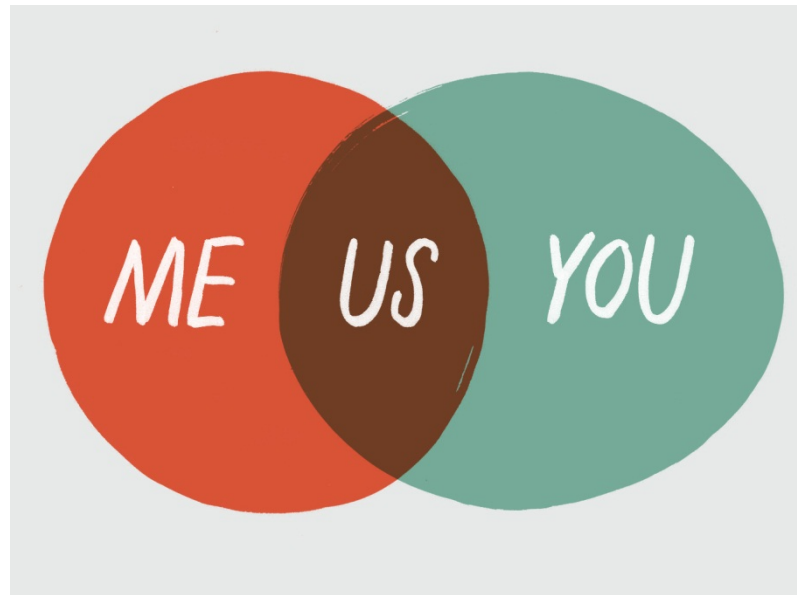
Dr James MacFarlane, Managing Director, ImiTec,



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Building Collaborations

Supporting our community to explore new opportunities and find the right partners

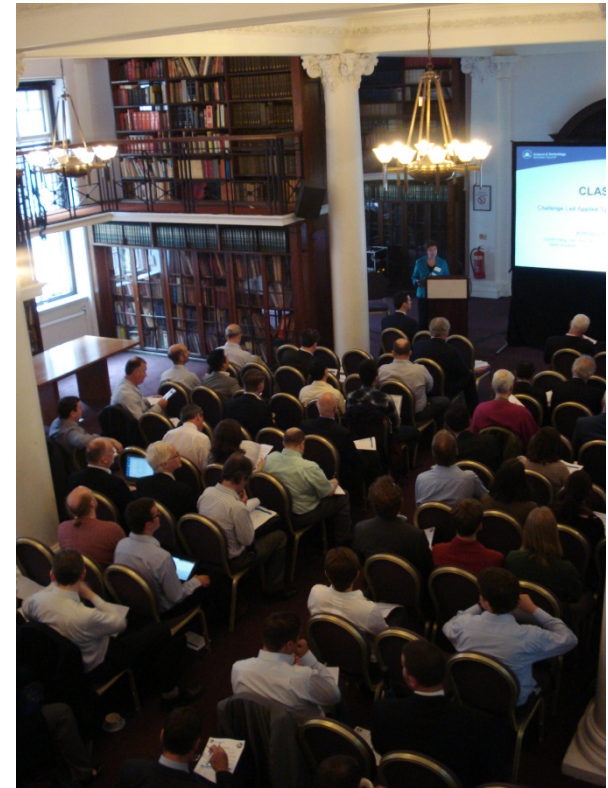


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STFC Innovations Club

Promotes opportunities for Knowledge Exchange

- Programme of workshops and events for academics, business and knowledge exchange professionals
- Aimed at business and academia to learn about technology developments and encourage collaboration, while promoting funding



Events 2014

Cherenkov Telescope Array Knowledge Exchange Event

CLASP Healthcare Collaboration Event

Industrial Applications of Astrophysics/Astronomy – NAM2014

Meet the Buyer – CERN Experiments



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Find Your Collaborator



RCUK and TSB – Gateway to Research

- All grants given by RCUK and Innovate UK since 2007
- Designed for companies to find collaborators and new ideas
- Research grants and their outputs



Summary

- **Listen to our community and users**
- **Use a varied toolkit – be innovative ourselves**
- **Build capacity**
- **Work across STFC – SIL, Campuses, Business Development, Impact Reporting**



Thank You

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