

SPM2017

Knowledge Transfer Network

Nigel Rix

Head of Enabling Technology

web
spm.mesap.it

#spm2017
@mesapcluster

6th, 7th July 2017
Team-up for innovation

Progetto co-finanziato sul bando I1b12_cluster



REGIONE
PIEMONTE





Knowledge Transfer Network

Connecting people to accelerate innovation

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Innovate UK
Knowledge Transfer Network

ktn-uk.org @KTNUK

Knowledge Transfer Networks

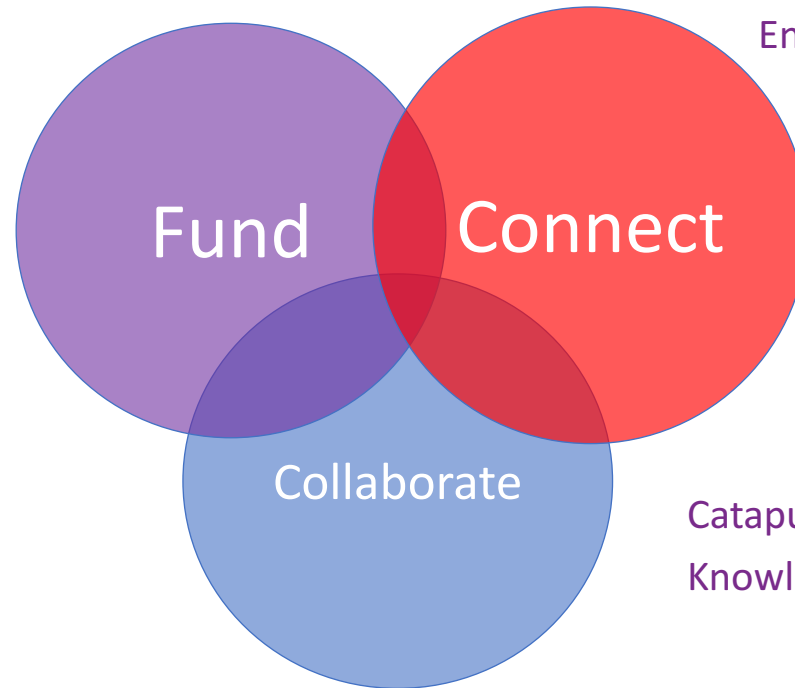
Part of the UK Support for Industry

Focus on Innovation

Funded by Innovate UK
- the UK Innovation Agency

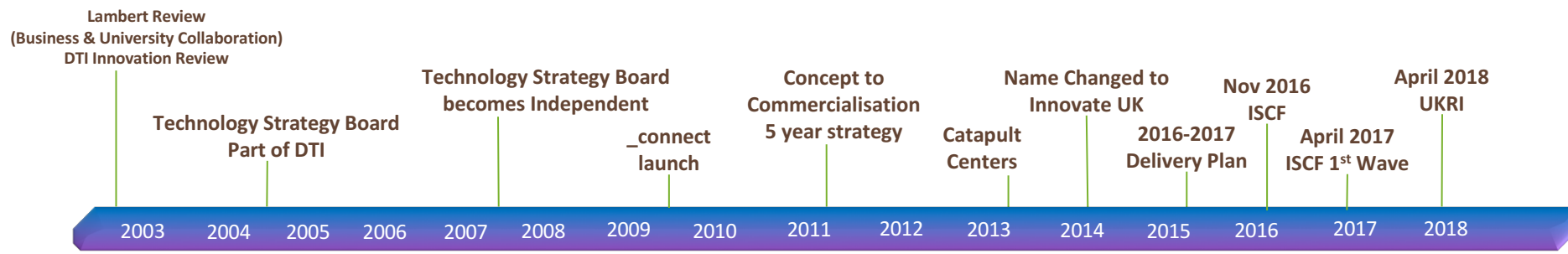
Innovate UK – A History

Collaborative R&D (CRD)
Catalysts
Launchpads
Innovation Vouchers
SBRI
Horizon 2020
Newton Fund



Knowledge Transfer Network (KTN)
Enterprise Europe Network (EEN)

Catapults
Knowledge Transfer Partnership (KTP)

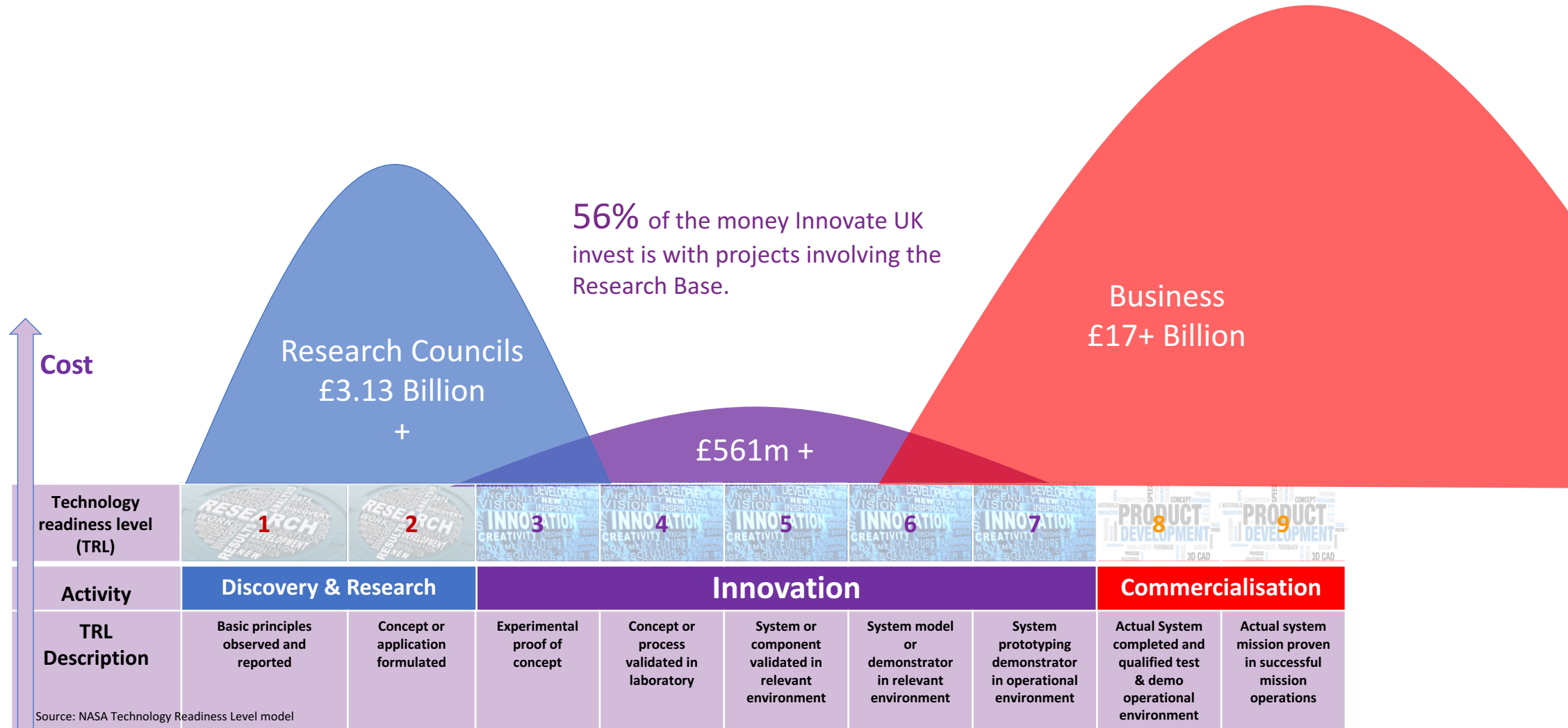


Since 2007 - £1.8 Billion Invested + £1.8 Billion matched from Partners

UK Research, Innovation and Development Funding

Innovate UK

“We fund risky technologies - We don’t fund risky projects”



Sector based approach to Industry support



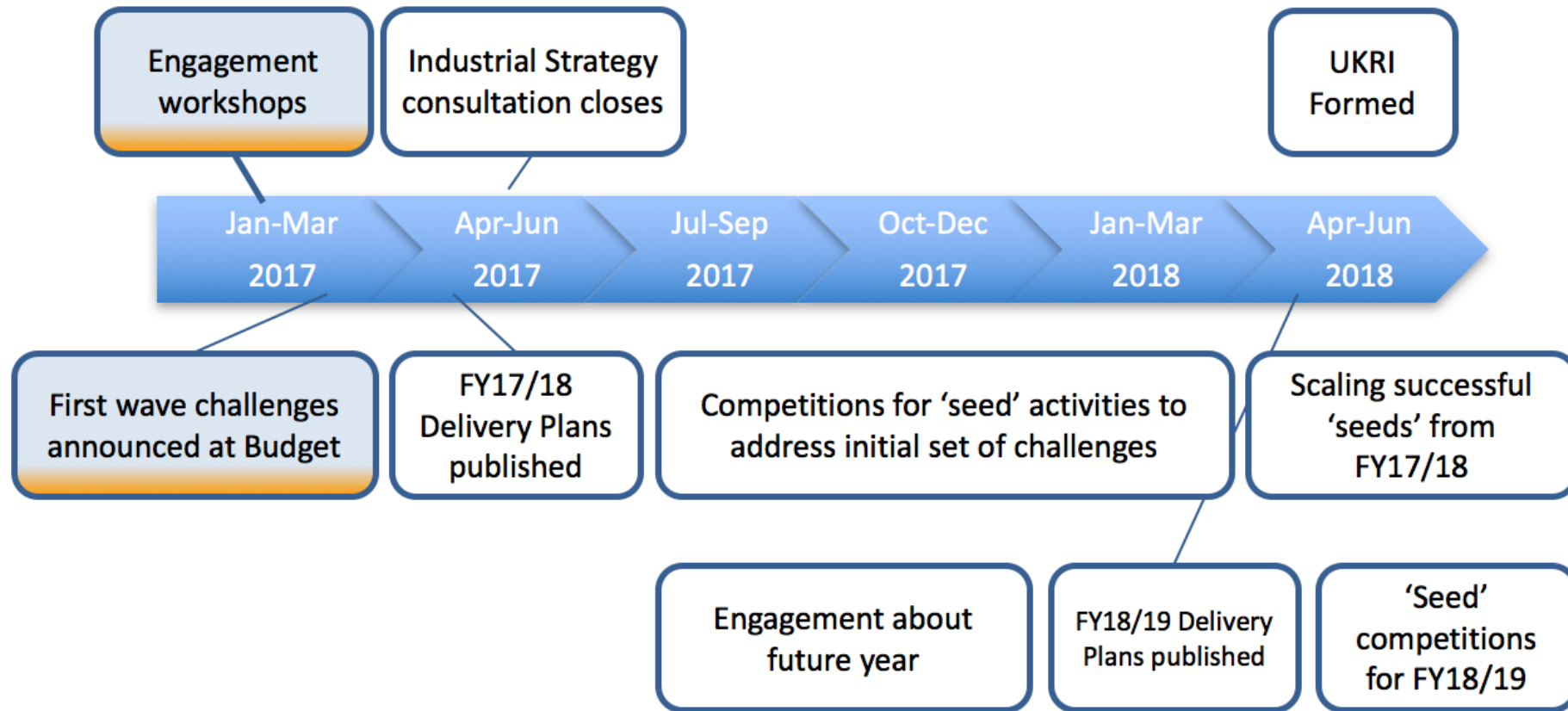
Investing in science, research and innovation

*We must become a more innovative economy
and do more to commercialise our world leading science base
to drive growth across the UK.*

Industrial Strategy Challenge Fund

- Industry-led and powered by multi-disciplinary research and business: academic collaboration.
- Develop UK industries that are fit for the future, driving progress in technologies where the UK can become a world-leader in research and commercialisation

Next steps for ISCF...



Innovate UK

ISCF - Challenge Areas

Bioscience & Biotechnology	Increase UK self-reliance in food, energy and materials production.
Leading Edge Healthcare & Medicine	Improve patient outcomes through cutting-edge, personalised therapies and new antimicrobials and establish the UK as a world leader in the development and commercialisation of cell and gene therapies.
Manufacturing & Materials of the Future	Ensure that the UK leads the world in the sustainable manufacturing and delivery of the next generation of products and components.
New Energy Technologies	Become the global lead in solving the energy challenge of supplying clean, affordable energy securely to ever more-demanding societies around the world.
Quantum Technologies	To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using next generation quantum technologies in areas such a sub-surface imaging, GPS-free navigation, advanced sensing and communications.
Robotics and Artificial Intelligence (RAI)	To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using RAI technologies in areas such as hazardous environments, autonomous transport, health & social care and advanced decision making with AI.
Space and Satellite Technologies	To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using satellite-based technologies in areas such communications, navigation and earth observation.
Transformative Digital Technologies	To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using digital technologies such as data, AI/ML, cyber security, immersive, HPC, modelling and 5G.
Integrated & Sustainable Cities	Establish the world's best smart city demonstrator, introducing 5G technologies and applications, attracting global mobile companies to the UK.
Technologies for the Creative Industries	To create UK economic wealth, and an economy that works for everyone, by overcoming challenges to anchor and grow the UK creative sector and its contribution to wealth generation and society.

Innovate UK



Knowledge Transfer Network

Innovate UK
Knowledge Transfer Network

ktn-uk.org @KTNUK

Who we are

As Innovate UK's network partner, KTN combines in-depth expertise in all sectors with the ability to cross boundaries.

Connecting with KTN can lead to potential partners, horizon-expanding events, and innovation insights relevant to your needs.

We help business to grow the economy and improve people's lives by capturing maximum value from innovative ideas, scientific research and creativity.

Knowledge Transfer Network



- Operate UK wide
- Seek to ensure value is created from every great idea by support companies seeking funding for Collaborative R&D
- Manage the UK Innovation Network
 - Connecting the **Unusual** suspects
- Cover all technologies and market sectors

Knowledge Transfer Networks

KTNs were established 12 years ago

Initially they focussed on a single industry

They have now been integrated into a single company

Support innovation across all sectors

KTN sectors/themes - breadth and depth

creative & digital advanced materials
design energy construction
robotics artificial intelligence
complex systems manufacturing
health infrastructure agri-food
data & trust transport bio-economy
Electronics Photonics Sensors ICT

We seek innovation within and between sectors and technologies

KTN USPs

- *Breadth and depth across sectors and technologies*
- *Understanding of markets and route to market*
- *National remit:*
 - *convening and inputting industry needs to government*
 - *Knowledge of innovation infrastructures*

- 125 staff
- 60,000 members
- Free to join

Tools and capabilities

- Network events and workshops
- Newsletters & Reports
- Website – www.ktn-uk.org
- Advice on Access to Funding
- Support for Innovate UK competitions



Energy Harvesting Special Interest Group

Innovate UK
Knowledge Transfer Network

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Energy Harvesting - previous SIG

- KTN ran an Energy Harvesting Group between 2011 and 2014, its focus was to accelerate UK innovation in the sector and encourage the development of technology solutions
- 2 funding competitions ran, funding 17 projects
- Focus on Energy Harvesting Technologies etc. Several workshops held and reports generated

Energy Harvesting SIG

- Areas of Interest

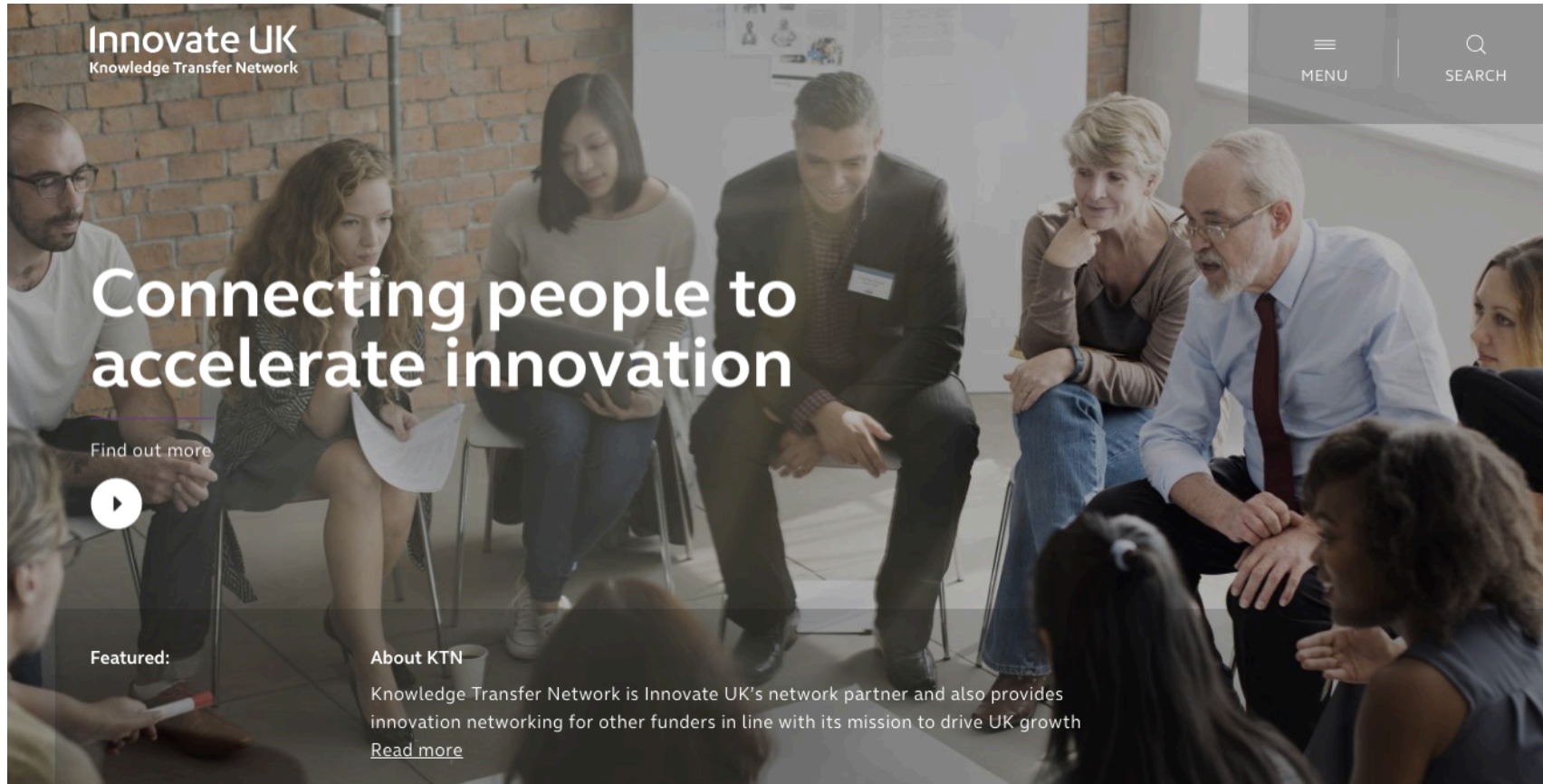
- **IoT** – the deployment of IoT based systems are still in their infancy but the provision of a power source is one of the critical areas of weakness.
As the technology platforms mature, potential volume - 30Trillion devices?
- **Sensor Networks** – across all industries sensor networks are increasingly deployed. These require more power than IoT nodes again, EH is critical to thadoption.
- **Home Automation** –subsector of IoT and Sensor Networks ins Home Automation. This is an expanding market for sensors and actuators that, in general, have to be self-powered.
- **Non-contact charging** –increased interest in the ability to recharge batteries without having to connect to a power source from EV to Mobile Phones. Proposals have been made for sections of roads to designated charging lanes.

Case Study – ARM and Iceotope

- **ARM** designs and licenses fast, low-cost, power-efficient RISC processors
- **Iceotope** have liquid cooling technologies for High Performance Computing (HPC)
- KTN introduced them to each other at knowledge dissemination event
- Great timing to fill a technology gap for a H2020 submission, led to an award of €13m
- Looking ahead to future opportunities for collaboration developing key HPC technology



Website ...



Agri-food + Biotechnology + Built Environment + Chemistry + Defence and Security + Design + Digital & Creative +
Electronics sensors & photonics + Energy + Health + ICT + Industrial Maths + Innovation + Manufacturing + Materials +
Space + Sustainability & Circular Economy + Transport +

Latest Funding Opportunities

[VIEW MORE](#)

Infrastructure systems round 3

UK businesses can apply for a share of up to £15 million to develop innovative solutions to challenges in infrastructure systems.

Opens: 10.07.17

Closes:

ICT Space Design Health Energy Transport Materials ...

Newton Bhabha UK-India Industrial Waste Challenge 2017

UK organisations can apply for a share of £8 million to work with Indian partners on biotechnology solutions for industrial waste challenges in India.

Opens: 05.06.17

Closes: 11.10.17

Chemistry Biotechnology Synthetic Biology ...

Thu, 6 Jul

Regional Food and Drink SME Support Workshop

Where: Weston-super-Mare, BS24 8EE

When: 08:30

Agri-food

Thu, 6 Jul

Infrastructure Systems Seminar - Northern Ireland

Where: Portstewart, BT55 7HU

When: 09:30

Energy

Transport

Built Environment

...

Thu, 6 Jul

Digital Business Drop-In - July 2017

Where: London, NW1 2RA

When: 09:30

ICT

Rail

Nano

Space

Design

Energy

Health

Aviation

...

Mon, 10 Jul

The Future of Mobile Sat Nav

Where: London, SW1H 9NS

When: 10:00

Agri-food

Transport

Defence and Security

...

Tue, 11 Jul

Formulating The Future - KTN Biopharmaceutical Formulation Group meeting

Where: Manchester, M1 7DN

When: 09:30

Health

Biotechnology

Industrial Biotechnology

Tue, 11 Jul

Infrastructure Systems Competition Round 3 Briefing & Brokerage Event

Where: London, WC1B 3UB

When: 10:00

Energy

Transport

Urban Living

Built Environment

...

Wed, 12 Jul

Energy Harvesting Sensors in Manufacturing

Where: Loughborough, LE11 3TU

When: 09:30

Wed, 12 Jul

UK-India Newton Fund Industrial Waste Challenge 2017: Academic to Business Partnering Workshop

Where: York, YO26 4XJ

Thu, 13 Jul

Infrastructure Systems Competition Round 3 Brokerage Event - Leeds

Where: Leeds, LS1 4AW

Special Interest Groups (SIGs)

Special Interest Groups (SIGs) connect and catalyse people and activity to drive innovation.

Our current roster of SIGs includes:

Additive Manufacturing

Compound Semiconductor Applications

Energy Harvesting

Graphene and other 2D Materials

Immersive Experience

Quantum Technologies

Robotics and Artificial Intelligence

Sustainable Aviation Fuel

Synthetic Biology

Uncertainty Quantification and Management

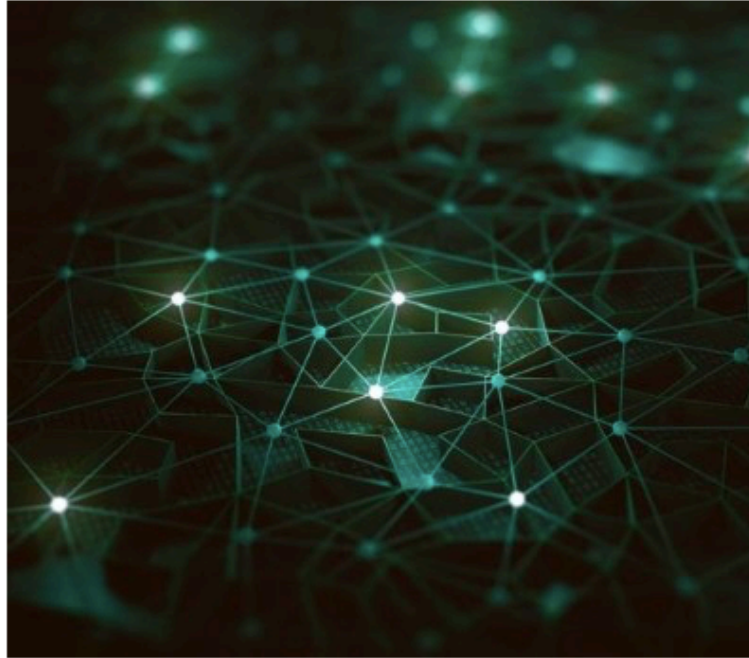
EU Programmes

Participation in European projects

KTN participates in European projects where they support KTN purpose and strategy. Active projects span a broad range of funding schemes including FP7, Horizon 2020, Life and ERDF – an overview of KTN EU projects is below. Click on a project below to visit its website:

- BIOOX – Developing a validated technology platform for the application of oxygen dependent enzymes in synthesis and transformation of alcohols
- CIRC-03-SCREEN – Synergic Circular Economy across European Regions
- CRM Recovery – Critical Raw Material Closed Loop Recovery
- EuroPho21 – Implementing the European Photonics21 PPP strategy. More information can be found on the European Photonics Platform: Photonics 21.
- InSSight – In-depth support for innovation and exploitation in Smart Systems Integration
- MEnS – Meeting of Energy Professional Skills
- nEUROSTRESSPEP – Novel biocontrol agents for insect pests from neuroendocrinology
- NOVACAM – NOVel cheap and Abundant Materials for catalytic biomass conversion
- OCEANERA-NET – The objective of OCEANERA-NET is to coordinate funding programmes between European countries and regions to support research and innovation in the ocean energy sector
- REBus – Pioneering resource efficient business models (REBMs) for a circular economy
- RespiceSME – Regional, National and European Support for Photonics Innovation Clusters enhancing SMEs Innovative Potential
- SC5-15A SCREEN – Solutions for CRITICAL Raw materials – a European Expert Network
- StopandGo – Sustainable Technology for Older People – Get Organised

Welcome to our new Emerging & Enabling Technologies newsletter, featuring events, from technology areas which are newly emerging from scientific efficiency in existing industries. These include sectors such as; Elect Quantum Technologies and Forensic Science amongst others.



Paper on "Power Economics of Computing" released

KTN have released a paper on "Power Economics of Computing" which compute platform and characterises their contribution to global energy believed to have sufficient market drivers to encourage ongoing improvement.

[Read more](#)

Innovation workshop for commercialisation of QT in Finance: Report Available

KTN has run a series of workshops to identify markets and users for new capabilities emerging from the quantum programme, and to inform users of the new opportunities resulting from this. A report from the workshop held on finance is available.

[Read more](#)

Be part of Scotland's business innovation and growth summit

Venturefest Scotland connects business owners, entrepreneurs, investors and innovators and provides a platform for growing companies to find the tools, advice, support and contacts they need to take their businesses to the next level. They also have a great programme of feeder events taking place over the next few months including [Partnerships That Drive Innovation](#) on 31 May.

[Read more](#)

STOPandGO meets IoT

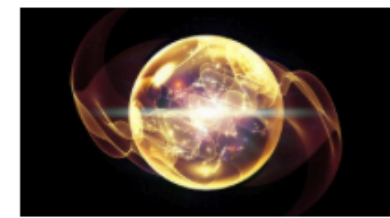
Liverpool City Council is looking to build on its 'Help to stay at Home' digital service innovation by capturing ambient data from an Internet of Things (IoT) network.

[Read more](#)

Challenging the Status Quo on Healthy Ageing

This event will unpack and discuss how care for an ageing population might benefit from more effective use of data, and the technical, design, and policy innovations required for the development of future communities.

[Read more](#)



A woman with blonde hair, wearing a blue sleeveless top and a necklace, is smiling and talking to two other people in a meeting. The background is slightly blurred, showing a window and some office equipment. The text is overlaid on a semi-transparent grey box.

Connecting people
to accelerate innovation
The Future. Faster

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