

Industrial Strategy Challenge Fund

Mat Wasley



Innovate UK – the UK's innovation agency

Innovate UK drives **productivity and growth** by supporting businesses to realise the potential of new technologies, develop ideas and **make them a commercial success**.

To **stay competitive as an advanced economy**, we need to do things that others cannot do, or to do things in different and better ways.



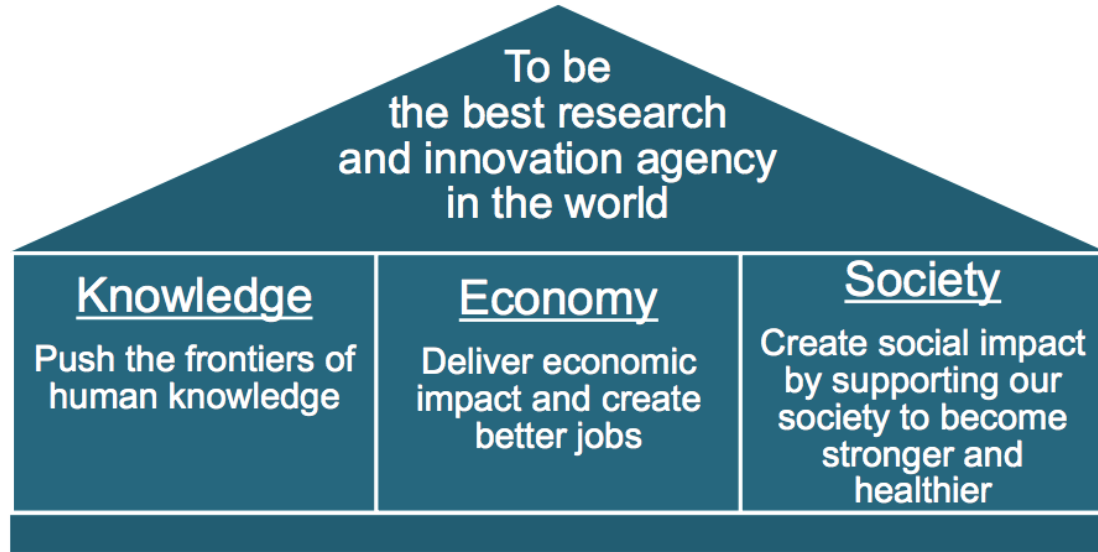
Innovate UK Budget 2017/18



Approx £0.5bn budget for sector/open competitions



The vision for UK Research and Innovation



UK Research
and Innovation

ISCF Presentation – please note



The following slides are a subset of those given by Mike Biddle, Innovate UK Programme Director – Industrial Strategy Challenge Fund (@Mike_Biddle) - on 28th November 2017

Industrial Strategy Grand Challenges



AI and Data
Economy



Healthy
ageing



Clean
growth



Future of
mobility

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Industrial Strategy Challenge Fund



- Builds on the UK's world-class research base and delivers the science that business needs to **transform existing industries** and **create new ones**
- **Accelerates commercial exploitation** of the most exciting technologies the UK has to offer the world to ensure that scientific investment truly **delivers economic impact, jobs and growth right across the country**
- Programmes delivered by the fund will be **industry-led** and powered by **multi-disciplinary research and business-academic collaboration**
- Delivered by **Innovate UK and Research Councils UK**, and eventually **UK Research and Innovation**, the single voice for the UK's research and innovation landscape

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First wave of challenges

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First Wave of Challenges (1 of 2)



£181M to develop first-of-a-kind technologies for the manufacture of medicines to accelerate patient access to new drugs and treatments

£93m to develop AI and Robotic systems that can be deployed in extreme environments such as occur in off-shore energy, nuclear energy, space and deep mining



£246m to develop world leading batteries, designed and manufactured in the UK, to fully exploit the industrial opportunity of vehicle electrification

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First Wave of Challenges (2 of 2)



£38M to develop the AI and control systems need to drive vehicles autonomously through complex environments



£26M to develop the next generation of affordable light-weight composite materials for use in aerospace applications

£99M to develop next generation launch technologies and manufacturing and testing capabilities that will allow the UK to construct satellites and deliver payloads into orbit



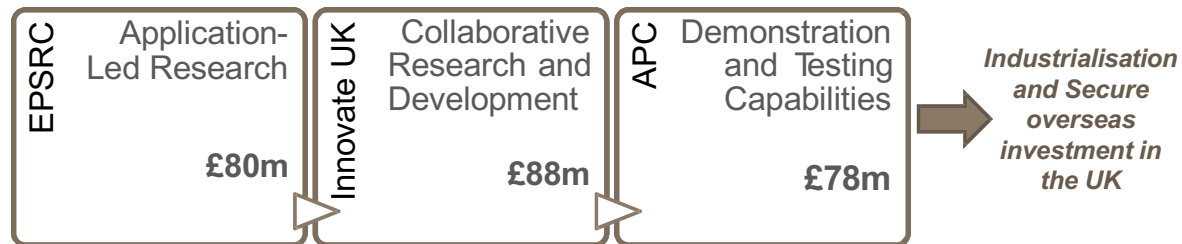
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Example: Faraday Challenge



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Latest challenges
[Stop Press]
[£725m funding just announced!]

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The next wave of the Challenge Fund



Transforming construction



Data to early diagnosis & precision medicine



Transforming food production



Next generation services



Energy revolution



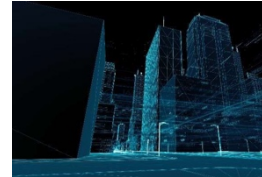
Healthy ageing



Audience of the future



Quantum technology



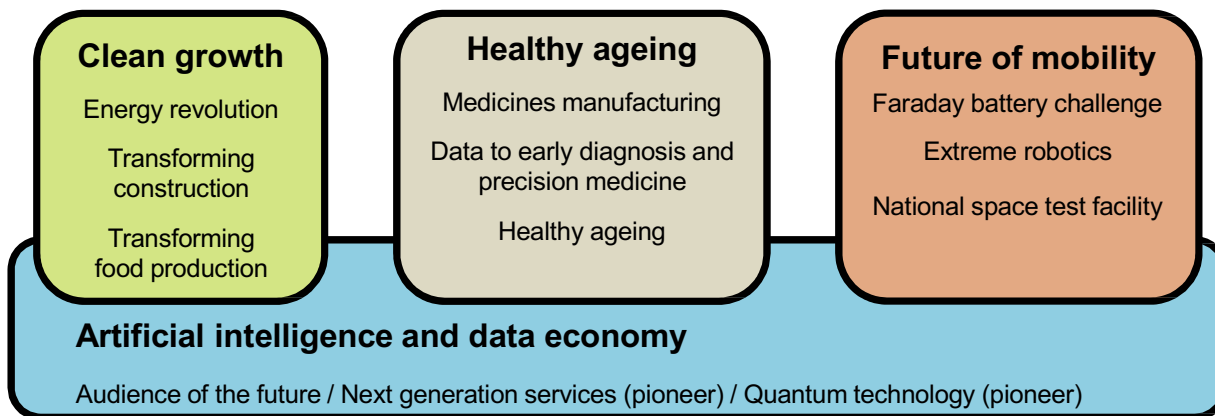
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How the ISCF challenges fit with the Industrial Strategy Grand Challenges



Transforming food production: from farm to fork (up to £90m)

The challenge is that our food needs to be much more efficient and sustainable. By using precision technologies we can make that a reality: transform food production while reducing emissions, pollution, waste, and soil erosion. By putting the UK at the forefront of this global revolution in farming, we will delivering benefits to farmers, the environment and consumers while driving growth, jobs and exports.



Pioneer funding for Quantum (up to £20m) –

A new set of products from medical devices to sensors and safer communication systems may be possible using the emerging physical science known as quantum technology. The potential is huge but still largely in the lab environment. Pioneer funding will bring new disruptive companies together with existing businesses to understand how this emerging technology can be turned into products that will underpin industry in the future.

Next Generation Services (up to £20m)

Pioneer funding will help service industries to identify how application of these technologies can transform their operations. This will help to set UK service industries at the forefront of developing and using innovations



Audience of the future (up to £33m)

The challenge is to bring creative companies, researchers and technologists together to create striking new experiences that are accessible to the general public. This can create the next generation products, services and experiences that will capture the world's attention and position the UK as the global leader in immersive technologies



Prospering from the energy revolution (up to £102m)

For the majority of our energy to be clean and affordable, we need much more intelligent systems. Smart systems can link energy supply, storage and use, and join up power, heating and transport – to dramatically increase efficiency. By developing these world-leading systems in the UK, we can cut bills while creating high value jobs for the future.



Transforming construction (up to £170m)

The challenge is to transform construction so that we can create affordable places to live and work that are, safer, healthier and use less energy.

By taking a lead in the UK, we can increase our ability to export. Global demand for efficient buildings is rising rapidly, driven by the pressures of urbanisation, affordability, and the need to cut emissions





Data to early diagnosis and precision medicine –

The challenge is to combine the wealth of data created by UK researchers with real world evidence from our health service. That will allow industry to create new products and services that will diagnose diseases earlier and help clinicians choose the best treatment for individual patients. This will save lives and set the UK at the forefront of a growing global market in diagnostics worth \$217bn in 2016.



Healthy Ageing (up to £98m)

The challenge is to develop new products and services that offer choice, meet their aspirations and through better, more effective care, support an independent lifestyle as they age. By working together, the government and industry can address the challenges of ageing whilst capturing a growing global market.



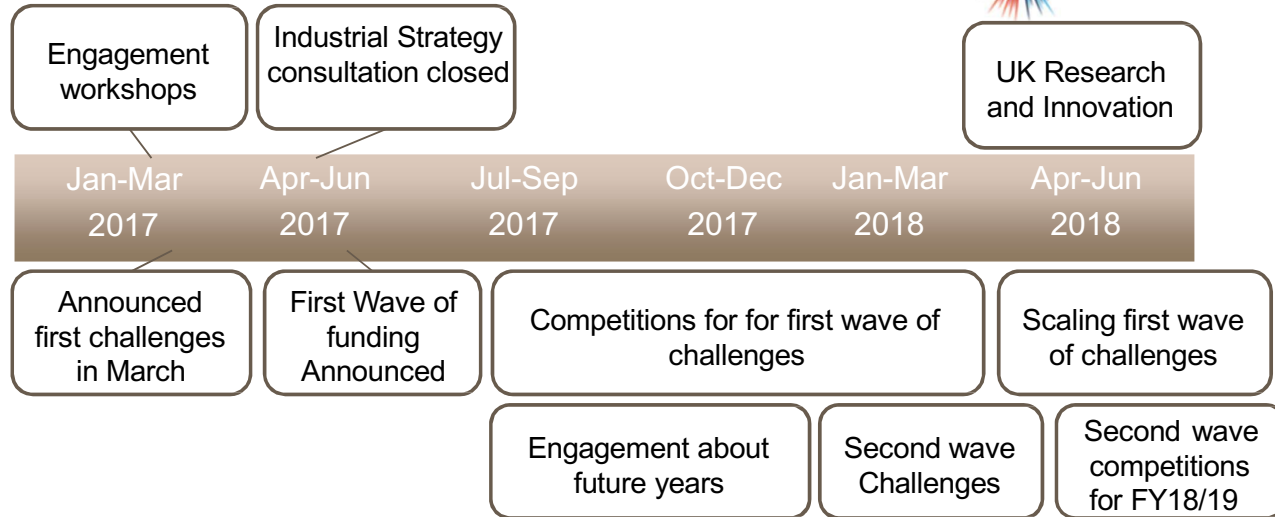
The future

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What is a challenge?



- It is a very specific, quantified industrial challenge and will unlock benefit elsewhere.
- An example of a clear articulated challenge could be:

To deliver a 30% increase in agricultural productivity, double growth and exports in the advanced agriculture technology sector by 2025 and significantly reduce environmental impacts.

- This is focused on a clear goal. Success should be obvious when achieved and could be delivered through progress in a range of technologies (e.g. quantum computing). The challenge has an easily explainable real world impact and a future market

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What is a challenge?



- A bad example of a challenge would be:

To fund SMEs to work with universities to increase the transfer of technical expertise in agricultural sciences to business around the UK

- This is not specific about the outcome and instead focusses on knowledge transfer in a specific technology. The impact of the challenge would not be obvious to a 'person on the street' and there is no relation to the specific market this challenge would open up

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Making the case for future challenges

- A compelling, focused challenge articulated in a way that anyone will understand and see the benefit of solving
- Not 'business as usual' or already funded through other means
- Business-led, improving productivity and economic benefit across the UK
- Not just a bid for more money – clear milestones to success by 2021/2022
- Think: “Not what ISCF can do for you, but what you can do to help ISCF.”



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

