

UK Research and Innovation

Vision for UK Research and Innovation

Sir Mark Walport

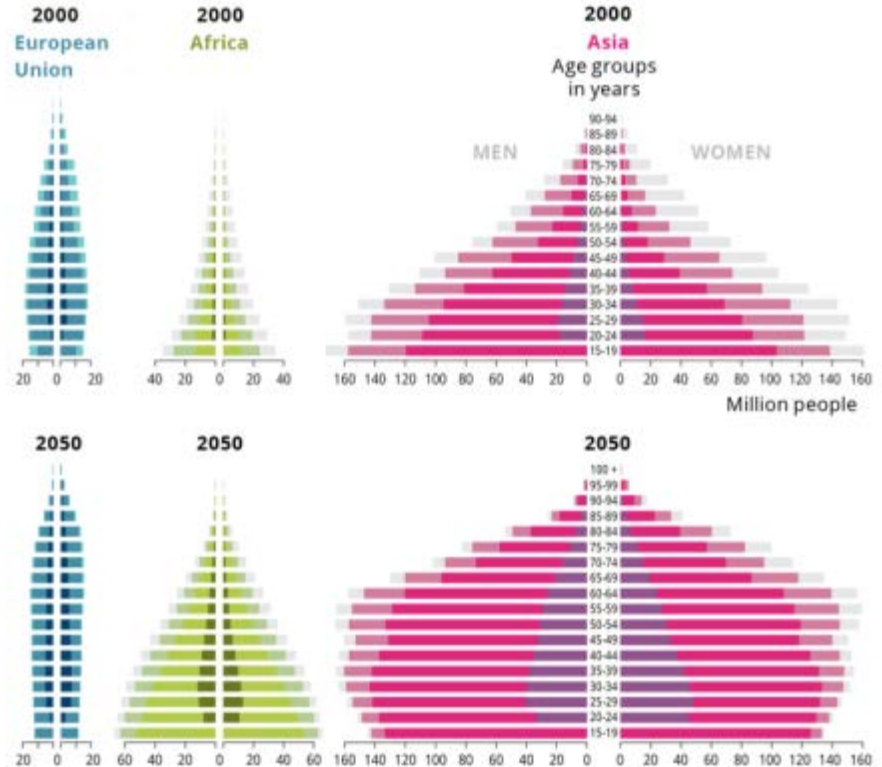
UK Research and Innovation

4 July 2017

The world is changing

- Population growth
- Changing demographics
- Migration
- Anthropocene

Grand challenges



The world of science is changing

- New tools
- Big data
- Increasing interdisciplinarity
- International landscape

New solutions

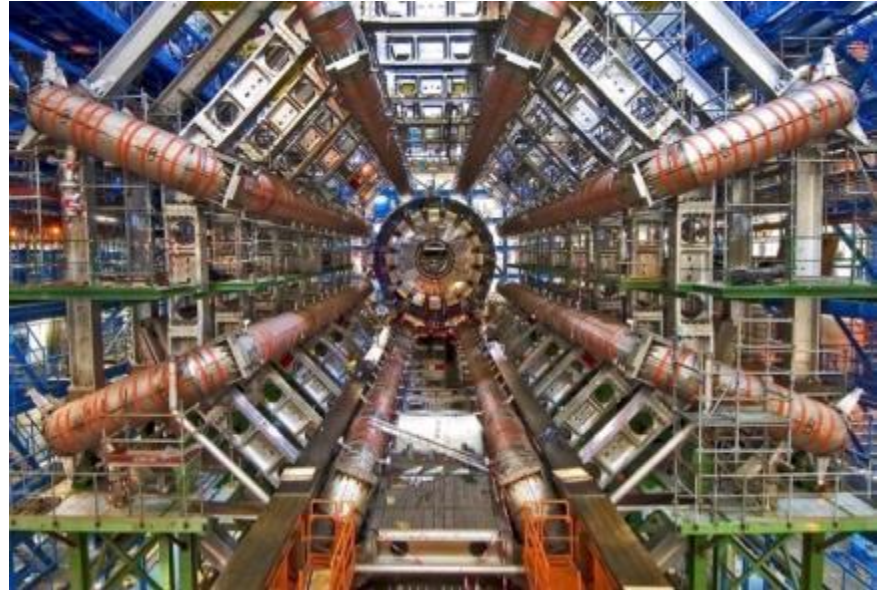


Image: CERN

The world of business is changing

- Fourth industrial revolution
 - Fusion of physical, digital and biological
 - Data driven eg precision agriculture
 - Blurring of manufacture and services
 - Circular economy

Industrial strategy



Image: Blatchford

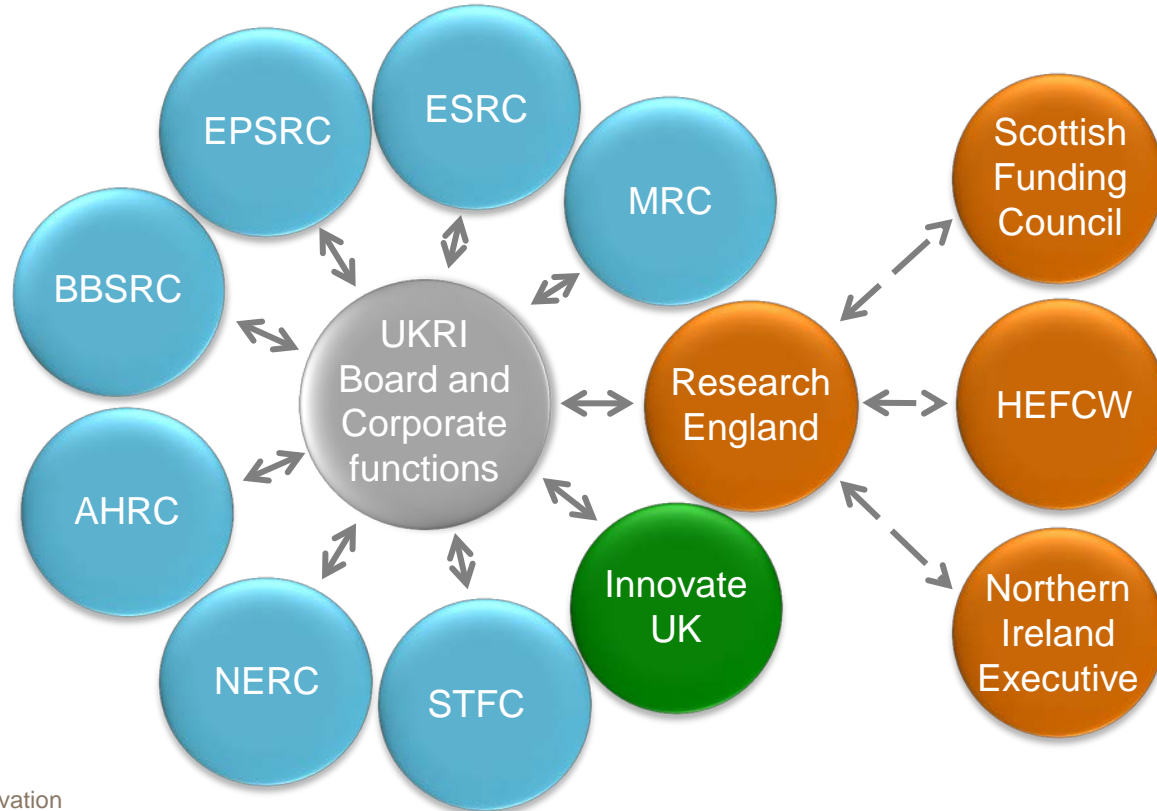
Society is changing

- Trust in the establishment and experts
- Role of social media
- Globalisation
- “Science meets values”

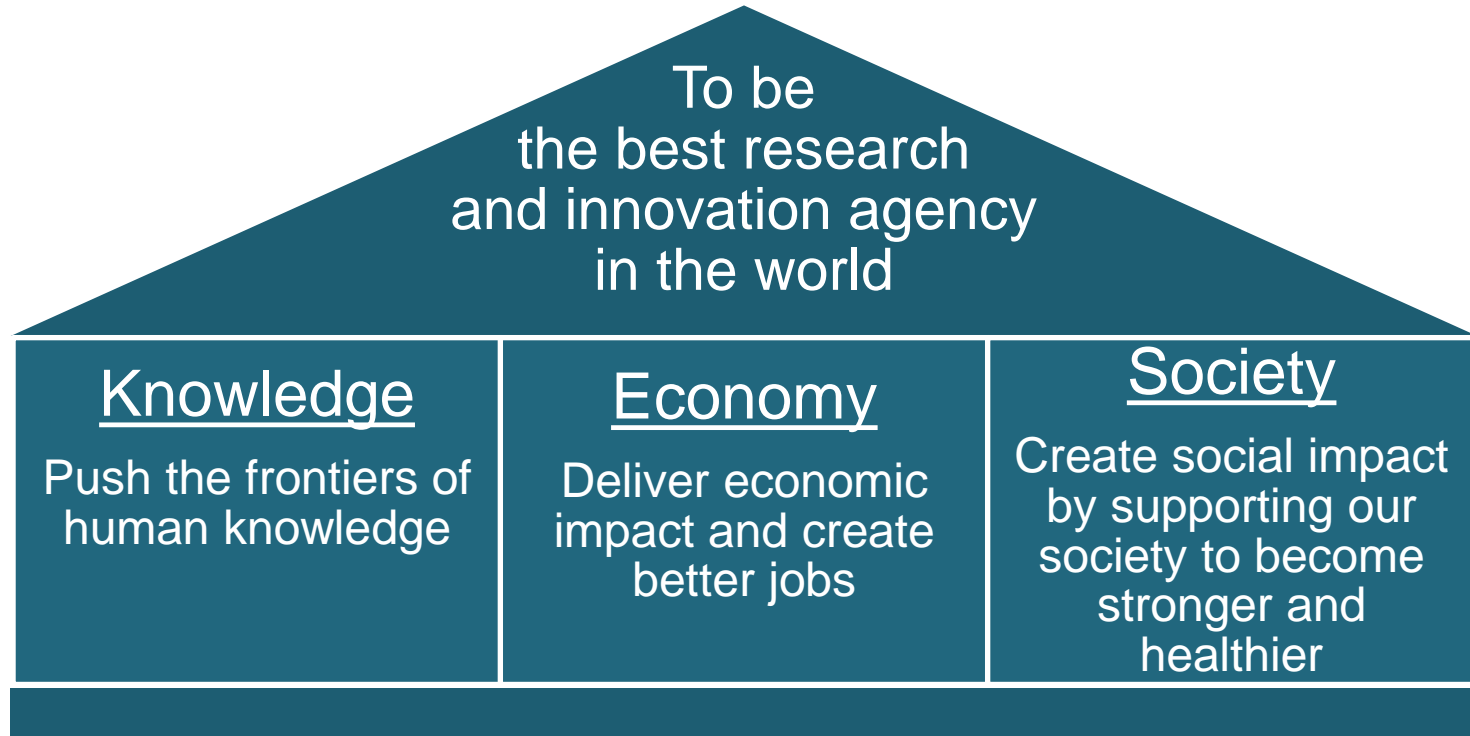
Public engagement



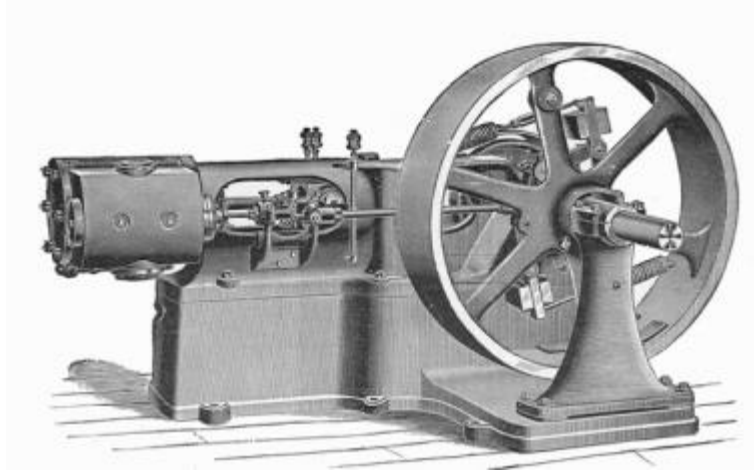
What is UK Research and Innovation?



The vision for UK Research and Innovation



From Steam to STEAM



Building on existing strengths

- Research Councils and Innovate UK
- Dual support and Research England
- Haldane Principle
- Excellence and rigour
- Global outlook



Image: Library of Congress

Ingredients for success

- Tackling important questions – fundamental and applied
- Brightest minds
- Diversity
- Infrastructure roadmap
- Collaboration
- Engagement and partnership
- Rigorous evaluation



Opportunities

- Increased funding:
 - £4.7 billion additional funding to 2021
 - Strong commitment to science and research
- Industrial Strategy Challenge Fund
- Newton Fund
- Global Challenges Research Fund



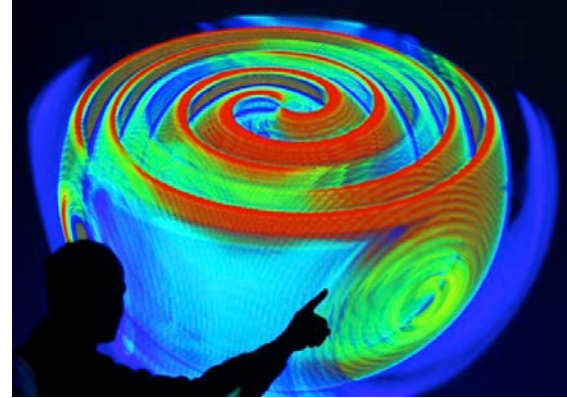
Tackling important problems

- Fundamental questions
- Needs of society – working with government
- Advancing the UK economy
- Research and innovation as a key element of UK's place in the world



Asking fundamental questions

- Host defence mechanisms
- Structure of the cell
- Gravitational waves
- Materials science
- Poverty measurement
- Hokusai



Needs of society

- Hydrology and meteorology
- Air quality
- Infectious diseases
- Ageing
- Security
- Economy



Advancing the UK economy

Industrial Strategy Challenge Fund

- First wave of challenges includes:
 - Batteries
 - Pharmaceutical advanced manufacturing technologies
 - Robotics in hazardous environments
- Second wave announced later this year



The UK's place in the world

Global Challenges Research Fund

- Focus areas:
 - Equitable access to sustainable development
 - Sustainable economies and societies
 - Human rights, good governance and social justice

Global research: e.g. ALMA



Conduct of Research

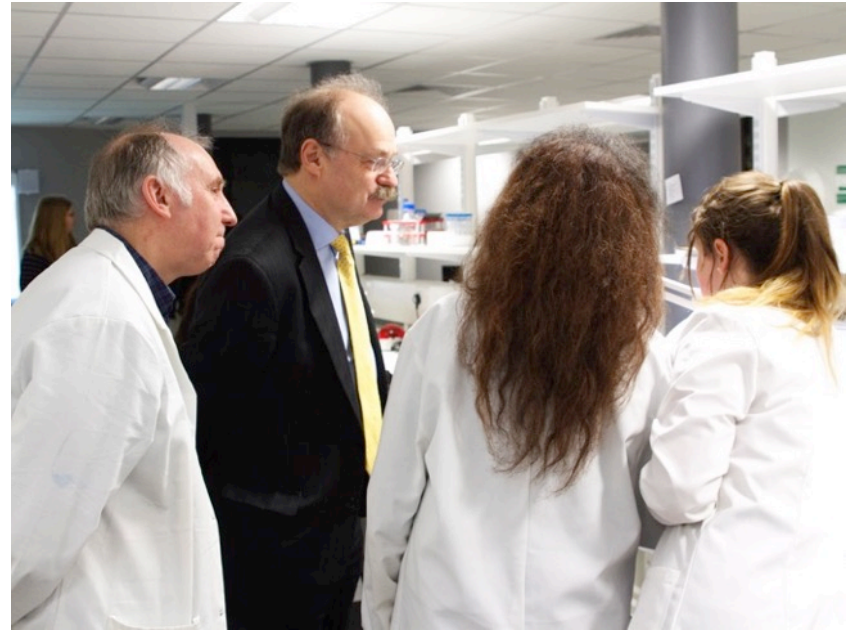
Issues

- Reproducibility
- Openness
- Communication of research and innovation
- Careers
 - Diversity
 - Right incentives

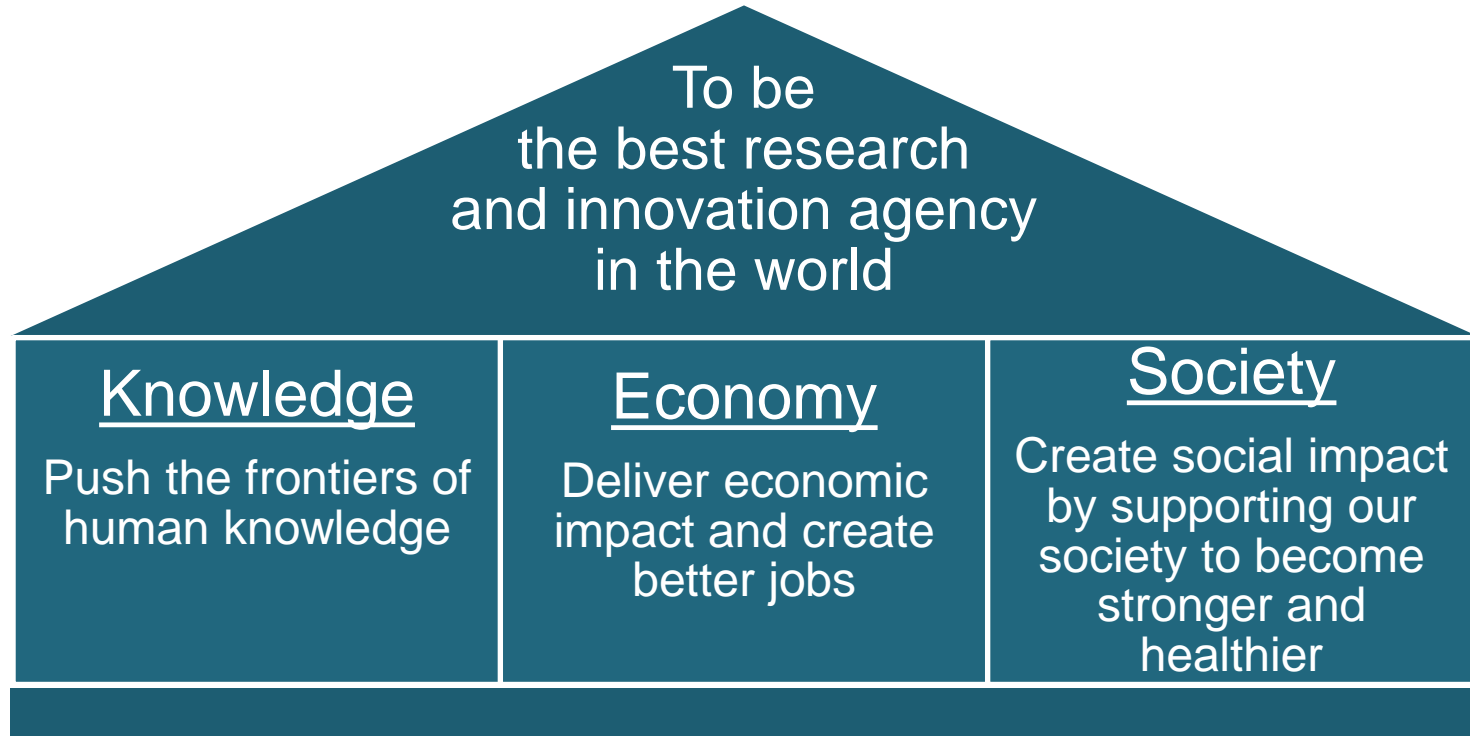


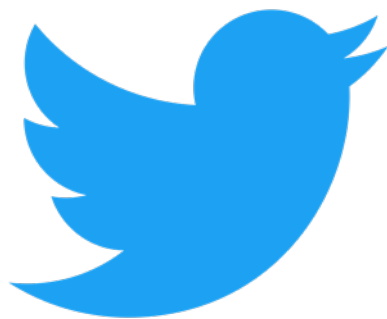
How are we going to get there?

- Communication
- “Getting out and about”
- Understanding the landscape – national and global
- Developing a strategic vision
- Drawing on expert advice
- Attracting and keeping the best people



The vision for UK Research and Innovation





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Website coming soon