#### **UK Research** and Innovation









Sir Mark Walport **CEO UKRI** 11<sup>th</sup> February 2019

#### **UKRI** Foundations

- Dainton report 1971 framework for Government R&D
- Sir Paul Nurse review 2015 –
- Called on govt. to "support the Research Councils to collectively make up more than the sum of their parts"
- Funding should "improve agility to respond to new initiatives and when necessary promote reallocation of resource"
- UKRI created in response

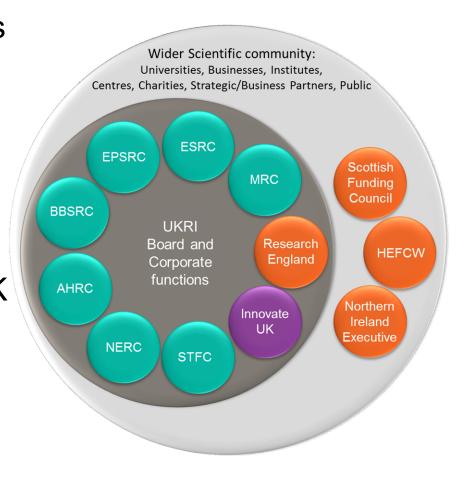
Ensuring a successful UK research endeavour

A Review of the UK Research Councils by Paul Nurse

#### **UK Research & Innovation**

UK Research and Innovation is the new funding organisation for research and innovation in the UK.

Brings together the 7 UK research councils, Innovate UK and a new organisation, Research England, working closely with its partner organisations across the UK.



#### The numbers

- More than £7 billion in combined budget per year
- 3,900 research and business grants issued every year
- 2,400 business-led collaborative projects and over 200 Knowledge Transfer Partnerships
- 151 UK universities receiving research funding
- 38 institutes, laboratories, units, campuses and innovation catapults

## Our objectives

Delivering UKRI's vision and target of 2.4%

Deliver economic impact and social prosperity

Enriched, healthier, more resilient and sustainable society

Push frontiers of human knowledge and understanding

Best environment for research and innovation

**Global Britain** 

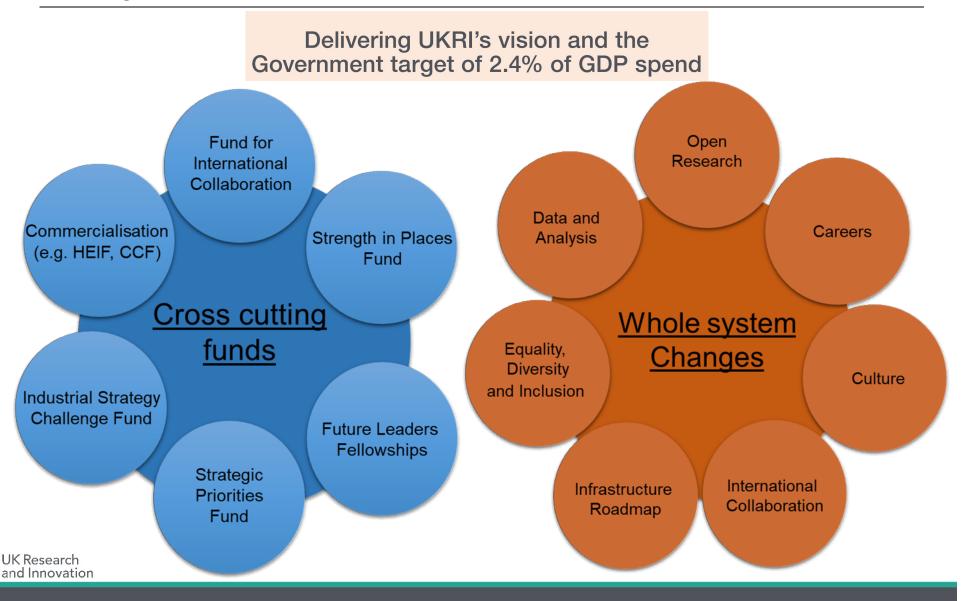
Leading talent

Trusted and diverse system

Infrastructure

UKRI as an outstanding organisation (corporate plan)

### Early Priorities for UKRI

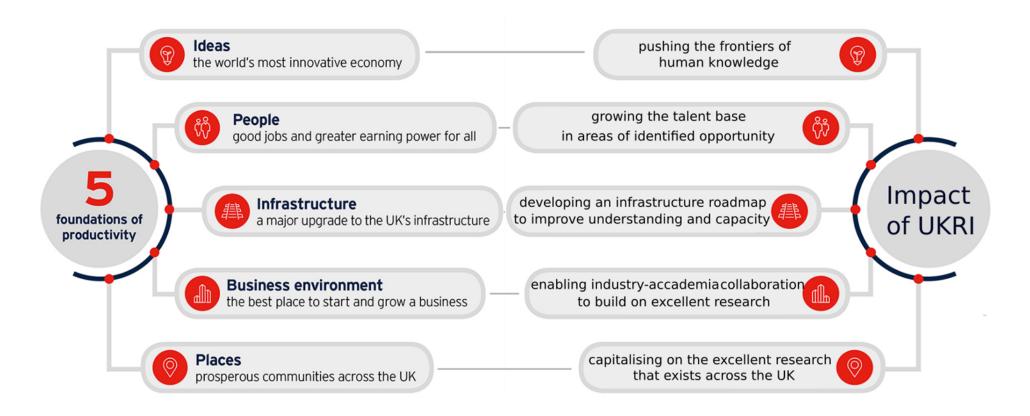


### **UK Industrial Strategy**

- Published 2017
- Long-term plan to boost productivity & earning power throughout the UK
- Strategic partnerships between govt. and industry, e.g. on sector-specific issues
- Make the UK the best possible place for researchers & innovators
- Drive partnerships between best minds & businesses
- Drive investment in R&D so that public, private & voluntary sectors will
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# Foundations to the Industrial Strategy



### ISCF and the Grand Challenges

How the ISCF challenges fit with the Industrial Strategy Grand Challenges



#### Clean growth

**Energy revolution** 

Transforming construction

Transforming food production

Driving the Electric Future

#### **Ageing Society**

Medicines manufacturing

Data to early diagnosis and precision medicine

Healthy ageing

Leading-edge healthcare

#### **Future of mobility**

Faraday battery challenge

Robotics for a safer world

National space test facility

Manufacturing and future materials

#### Artificial intelligence and data economy

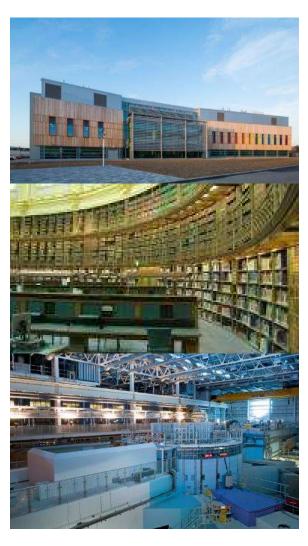
Audience of the future / Robotics / Next generation services (pioneer) / Quantum technology (pioneer) / Commercialising Quantum Technology / Manufacturing Made Smarter

#### International Collaboration

- Global Challenges Research Fund
- Newton Fund
- £110m Fund for International Collaborations
- Within UKRI, international strategy and policies (including GCRF and Newton Fund) are managed centrally



### Infrastructure Roadmap

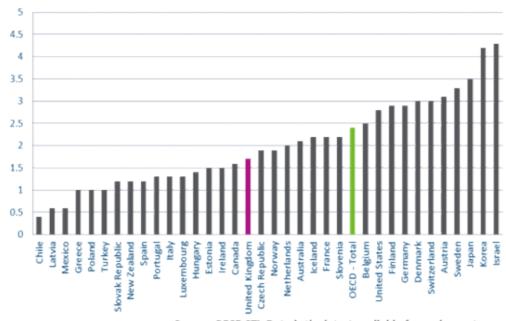


- Identify future R&I infrastructure capability priorities
- Identify opportunities for increasing inter-connectivity
- Support development of UKRI's overall long-term investment plan
- Promote UK capabilities as a global leader in research and innovation
- Set out the trajectory and major steps needed to reach the long term vision

# Working towards 2.4%

- 10 year vision with universities playing central role
  - 2.4% of GDP investment in R&D by 2027
  - Reaching 3% in the longer term
  - Additional £7bn by 2021/22

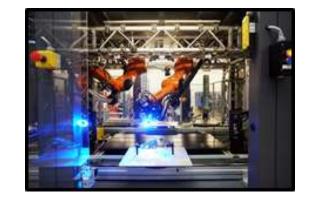
#### Gross Expenditure on R&D as a percentage of GDP



Source: OECD STI. Data is the latest available for each country.

### UKRI – FAPESP Partnership

 Since April 2012, the research councils have funded 260 grants involving researchers based in Brazil, with a total value of just over £136million.



- FAPESP also a key partner through the Newton Fund, co-funding a range of activities, including a staff exchange between UKRI and FAPESP staff.
- Through the GCRF 24 projects with Brazil as a focus have been funded.



### Newton Fund activities with FAPESP

- UK Brazil Healthy Urban Living & the Social Science of the Food-Water-Energy Nexus (2015)
- MRC-Newton-Wellcome Zika Rapid response (2016)
- NERC FAPESP Understanding and Sustaining Brazilian Biome Resources Call (2016)
- NERC FAPESP Sustainable Gas Futures (2016)
- BBSRC FAPESP Joint Pump Priming Awards for AMR and Insect Pest Resistance in Livestock and Agriculture (2017)
- MRC CONFAP Health Systems Research in Brazil Workshop and Research Networks Call (2017)
- RCUK/UKRI staff exchange programme (2017)
- NERC Latin American biodiversity Programme Ecosystem services for sustainable development (2018)

#### UK Research and Innovation

# Case Study: Informing a rapid response to Brazil's Zika epidemic

- Collaboration between Fundação Oswaldo Cruz Recife (Fiocruz) and the MRC-University of Glasgow Centre for Virus Research
- Informed policy and provided a basic understanding of the virus
- Among the first to push for recognition of the link between Zika and microcephaly in babies
- Trained staff at the Ministry of Health to use a new diagnostic method.
- Helped affected individuals particularly poorer ones – receive low-cost and rapid diagnostics.
- Findings have enabled other research projects, including one looking into the creation of a vaccine.



#### Project leads:

 Rafael França (FunFundação Oswaldo Cruz – Recife); Alain Kohl (University of Glasgow)

#### Delivery partners:

 Medical Research Council (MRC) and São Paulo Research Foundation (FAPESP)

#### **Total Budget:**

£221,947 (UK team), £110,291 (Brazil team)





# UKRI - FAPESP MoU: 10 years on

- Signed in 2009, and renewed in 2015 for a further five years.
- Provides for a Lead Agency agreement between UKRI and FAPESP
- Strengthens existing research links and removes barriers to international research collaboration.
- Since the start of the agreement, UKRI has supported 32 grants, totalling over £16m.
- From 2019, EPSRC's Standard Grants programme will also be open to applications using the UKRI-FAPESP Lead Agency agreement.





#### UK Research and Innovation

# Case Study: Perpetration of intimate partner violence (IPV) by males in substance abuse treatment

- Funded by ESRC and FAPESP through Lead Agency Agreement.
- Examined and compared prevalence and construction of IPV by males in substance abuse treatment in London and São Paolo
- Also reviewed current policies, protocols and treatment pathways
- Informed development of a cross-cultural capacity framework
- Local Learning Alliance networks were established in London and São Paulo to develop cross-sector solutions to this complex problem
- Reduce cost of IPV (£15 billion), assist approaches to IPV, and break intergeneration cycle of violence



#### Project leads:

 Gail Gilchrist (King's College); Ana Flávia Pires Lucas d'Oliveira (University of São Paulo)

#### Delivery partners:

 Economic and Social Research Council (ESRC) and São Paulo Research Foundation (FAPESP)

#### Total budget:

• £284,891 (UK team) and £60,000 (Brazil team)

## UKRI – FAPESP: moving forwards

- Continue to collaboration through range of current mechanisms, as well as harness new opportunities (e.g. Fund for International Collaboration)
- Develop new mutually beneficial activities through continuation of the Newton Fund
- Provide joint leadership through multilateral initiatives (e.g. Global Research Council)





### UK Research and Innovation

# Thank you





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