Department for Business, Innovation & Skills

Foreign & Commonwealth Office

UK Science and Innovation Landscape and Strategy

Elizabeth Hogben
Head of Science and Innovation,
British Embassy Tokyo

January 2015

The UK Science and Innovation Landscape

Government Departments

HM Treasury,
Department for Business, Innovation and Skills,
Government Office for Science,
Department for Education,
Foreign and Commonwealth Office,
Department for International Development,
Department for Health,
Department for Transport,
MoD, Defra, DECC ….

Business

Charities/NGO

Public Funding bodies

HIGHER EDUCATION FUNDING COUNCIL FOR ENGLAND hefce

RESEARCH COUNCILS UK

Innovate UK
Technology Strategy Board

National Academies and Learned Societies, including:

THE ROYAL SOCIETY

BRITISH ACADEMY
for the humanities and social sciences

ROYAL ACADEMY OF ENGINEERING

The Academy of Medical Sciences

Institutes engaged in Education, Research, Innovation

>150 UK Universities
>100 UK Science Parks
Public sector research institutes, hospitals,
Voluntary sector research organisations
Private sector research centres

Universities UK

Association of Colleges

UKSPA
BUILDING · TECHNOLOGY · BUSINESS

Current performance: a mixed picture

Element	Relative performance	Comments
Money	Medium / Low	• Public sector support for both R&D and innovation low (but data imperfect) • Private sector R&D investment low even after adjusting for industrial structure • Relatively high private investment in innovation does not outweigh low R&D
Talent	Medium / Low	• Long-standing issues in basic numeracy and literacy, STEM and especially engineering disciplines, and management skills
Knowledge assets	Medium / High	• Extraordinary productivity of science system as measured by highly quoted articles and field-weighted impact • Relatively poor performance on patents not a good indicator of value added
Structures and incentives	Medium / High	• Excellence driven competitive system praised by other nations • Questions about whether science portfolio and incentives balanced enough
Broader environment	Medium / High	• Overall business environment positive in comparison to non-US comparators • Issues around ability of business population to fully exploit science and innovation
Innovation outputs	Medium (mixed)	• Export performance and general competitiveness relatively high • Low levels of innovation active SMEs and questions about innovativeness (and productivity) of sectors less exposed to global competition

Tera Allas, Insights from international benchmarking of the UK science and innovation system (2014)

Excellence: UK Science and Innovation strengths

1 % of global population:

4 of top 10 universities,
29 of top 200 universities

3.2 % R&D spending

4 % researchers

6 % journal articles

9.5 % downloads

12 % citations

15.9 % most cited articles

2.4% global patents

Over 80 Nobel Prizes in science

20% UK workforce in science-based work in research/related industries (Science Council 2013)

£8.8bn foreign investment in R&D in the UK (2011) (ONS 2012)

World class research facilities 3rd in Global Innovation Index (top G20 country) (WIPO 2013)

48% of UK published research articles have at least one international co-author (2012)

World class research facilities: Diamond Synchrotron, ISIS, Rutherford Appleton Lab, Sanger Institute, Francis Crick and Alan Turing Institutes…

Vision: the UK is the best place in the world to do science and grow an innovative business

The Science and Innovation Strategy

- Nurturing New Scientific Talent
- Investing in scientific infrastructure
- Supporting research
- Catalysing Innovation
- Participating in global science and innovation