



37th Conference of Rectors and Presidents of European Universities of Technology, University of Strathclyde



**Science and Innovation in Practice
Friday 14th September 2018
Iain Gray, Cranfield University**

... Remember Summer Olympics 2012





... Will Hutton ... “Olympics: the key to our success can rebuild Britain's economy”

British sport embraced a new framework of sustained public investment and organised purpose, developing a new ecosystem to support individual sports with superb coaching at its heart.

So what to do economically?

.... reproduce sector by sector the kind of ecosystem that sport has developed. There needs to be specialist knowledge, commitment, long-term finance and coaching for business and a new web of intermediate institutions that can do for companies in life sciences, robotics and new materials what the RYA, British Gymnastics and British Cycling have done for sportsmen and women eg the fledgling network of "catapults"

... And making choices



- Iconic London 2012 diving board
- Sailing
- Composites bicycles



... Not just about sport – science and technology



Formula one wind tunnels: Triathlon, cycling

Wireless in water: Swimming

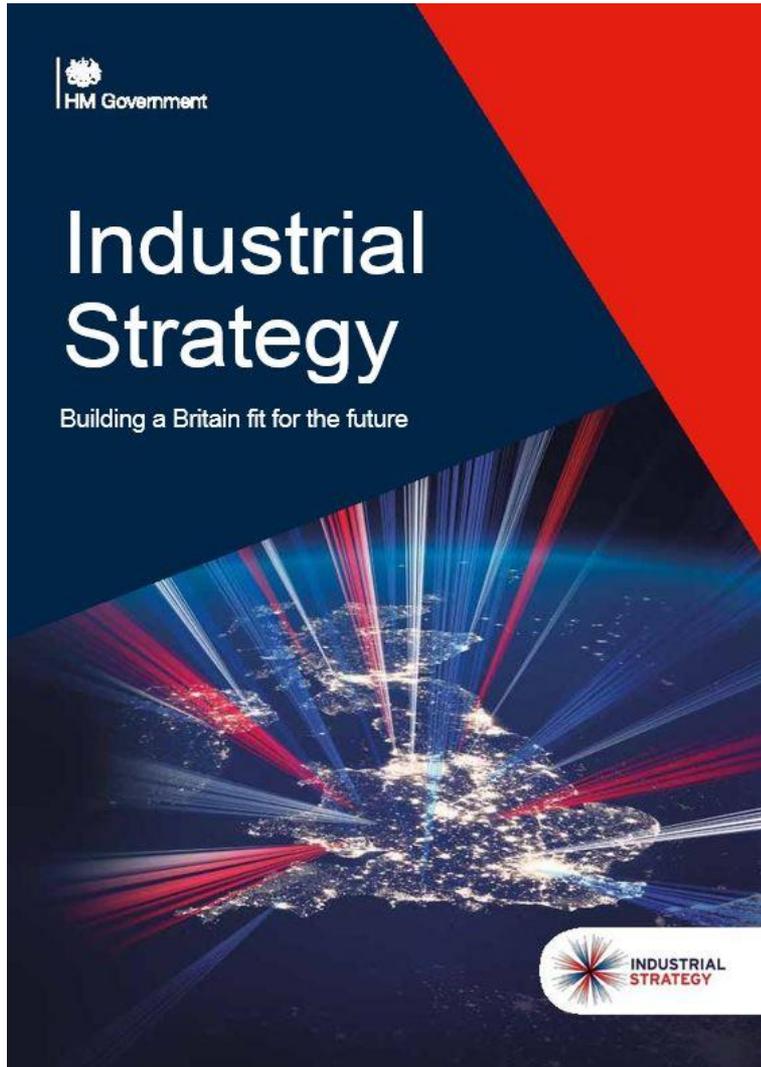
Waterproof nano-coating: Sailing





UK Government

Industrial Strategy



Creating the conditions where successful businesses can emerge and grow

Develop the skills needed to do high-skilled jobs of the future

Putting Science and Innovation into practise



Industrial Strategy – The Challenges

1. Putting the UK at the forefront of the artificial intelligence and data revolution
2. Maximising the advantages for UK industry from the global shift to clean growth
3. Being a world leader in the future of mobility
4. Harnessing the power of innovation to help meet the needs of an ageing society.



Industrial Strategy Future of Mobility

Electrification and automation of road vehicles,

Modernisation of rail services to deliver higher capacity, speed and connectivity

Development of autonomous aerial and marine transport.

New business models, such as ride-hailing services, ride sharing and

'mobility as a service'

The government wants to see fully self-driving cars on the UK roads by 2021



Innovate UK – Electric Car Programme



Electric Car Ownership

UK electric car ownership has increased rapidly since 2010



Source: Department for Transport (2017) Vehicles statistics. *Electric car includes plug-in hybrids, 100% electric, range extended electric and fuel cell electric cars



Cranfield University MUEAVI Test Facility





Cranfield University-Siemens Autonomy

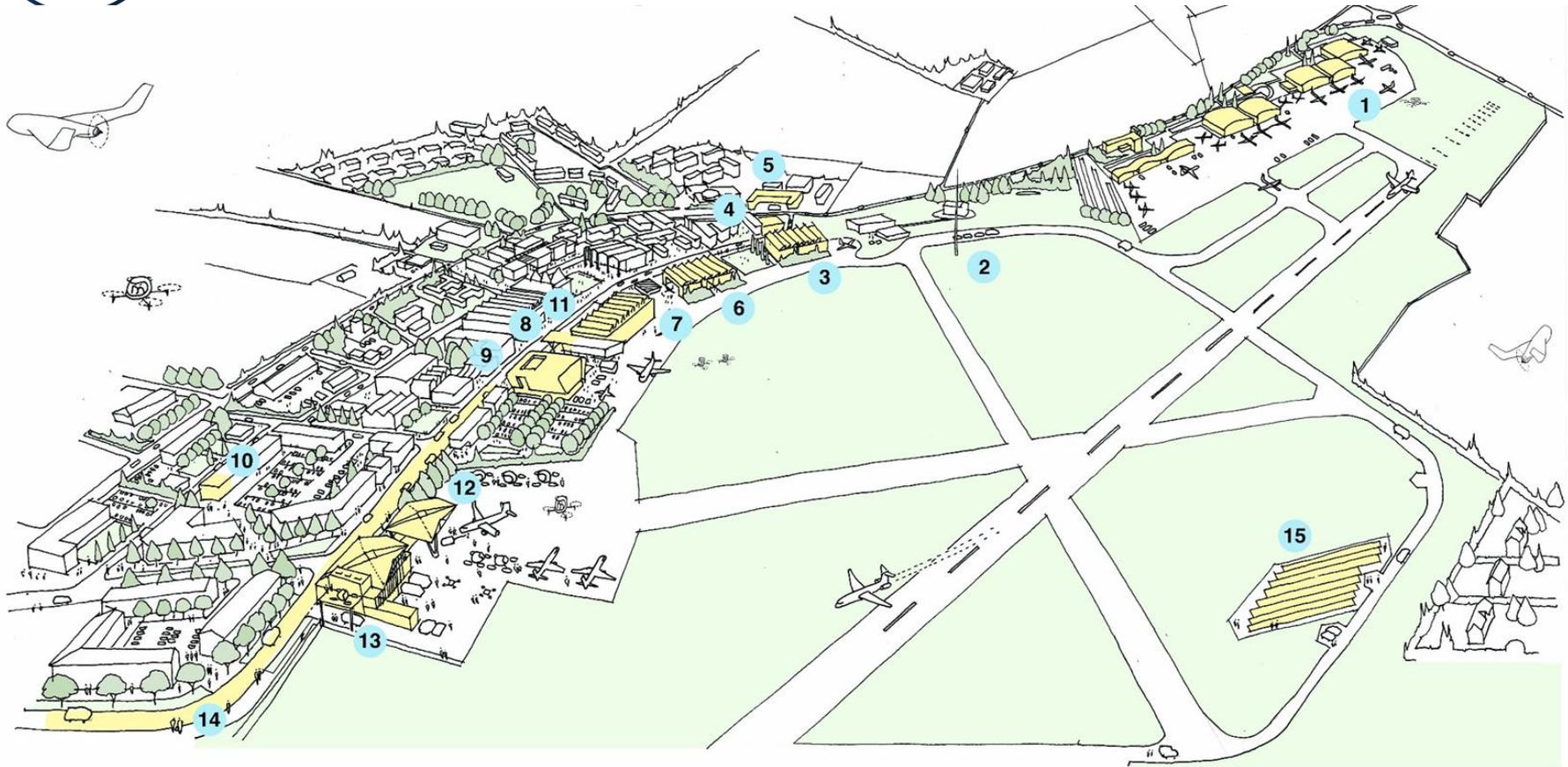


What does the future look like?

- We are on the cusp of a 3rd Revolution in Aerospace
- Electrification, Autonomy, Artificial Intelligence
- No one organisation can do everything – we have to find new ways of working across business and academia



Cranfield Global Research Airport



1 Air Park

2 Digital Tower

3 Cranfield Airport

4 Airborn Atmospheric Measurements

5 Cranfield Management Development Centre

6 Cranfield Aerospace Solutions Ltd

7 Cranfield Aeronautics

8 Intelligent Mobility Engineering Centre

9 Aerospace Integration Research Centre

10 Remote Air Traffic Control Centre

11 AvTech Centre

12 National Flying Laboratory Centre

13 Digital Aviation Research Technology Centre

14 Multi-User Environment for Autonomous Vehicle Innovation Road

15 Solar Array



Future Urban Air Mobility - Volante





Innovation Strategy Scotland

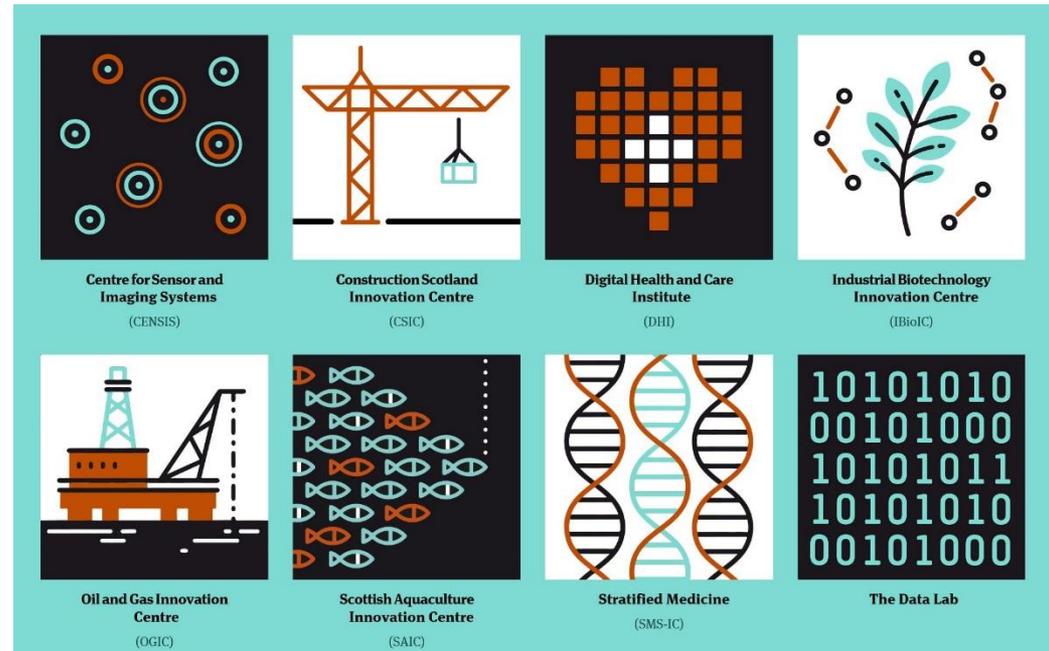
Economic Strategy for Scotland

Investing in our people and our infrastructure in a sustainable way;

Fostering a culture of **innovation** and research and development;

Promoting **inclusive growth** and creating opportunity through a fair and inclusive jobs market and regional cohesion; and,

Promoting Scotland on the **international** stage to boost our trade and investment, influence and networks.





RSE Enterprise fellowship



£130m private and public funding

Growing Successful Entrepreneurs

#EFRSE2018

240 graduates and researchers

166 new businesses

36 UK Academic institutions





Pascal Lamy High Level Group LAB-FAB-APP





Putting Science and Innovation into Practise Collaboration is essential



Learn from the success of London 2012
Collaboration across business – academia –
government is essential to win the innovation race