



# Building on UK Excellence: *Bioscience for the bioeconomy*



# Three major strategic priorities

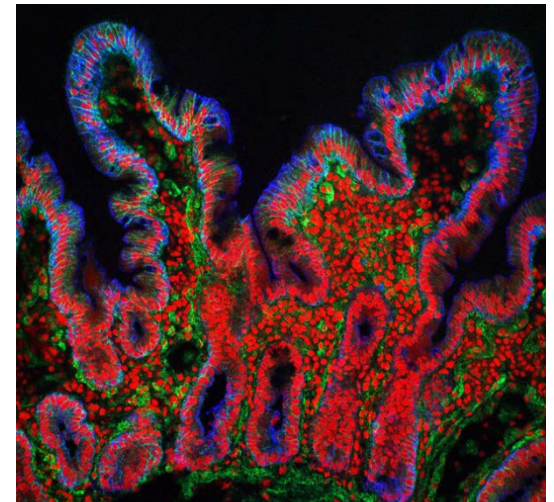
## Agriculture and food security



## Industrial biotechnology and bioenergy



## Bioscience for health

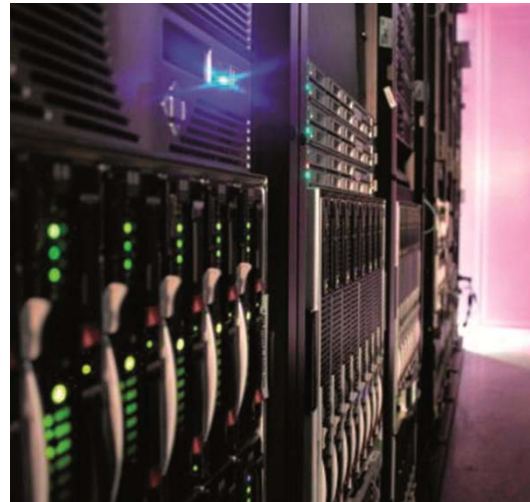


# Three crucial enabling themes

## Enabling Innovation



## Exploiting new ways of working

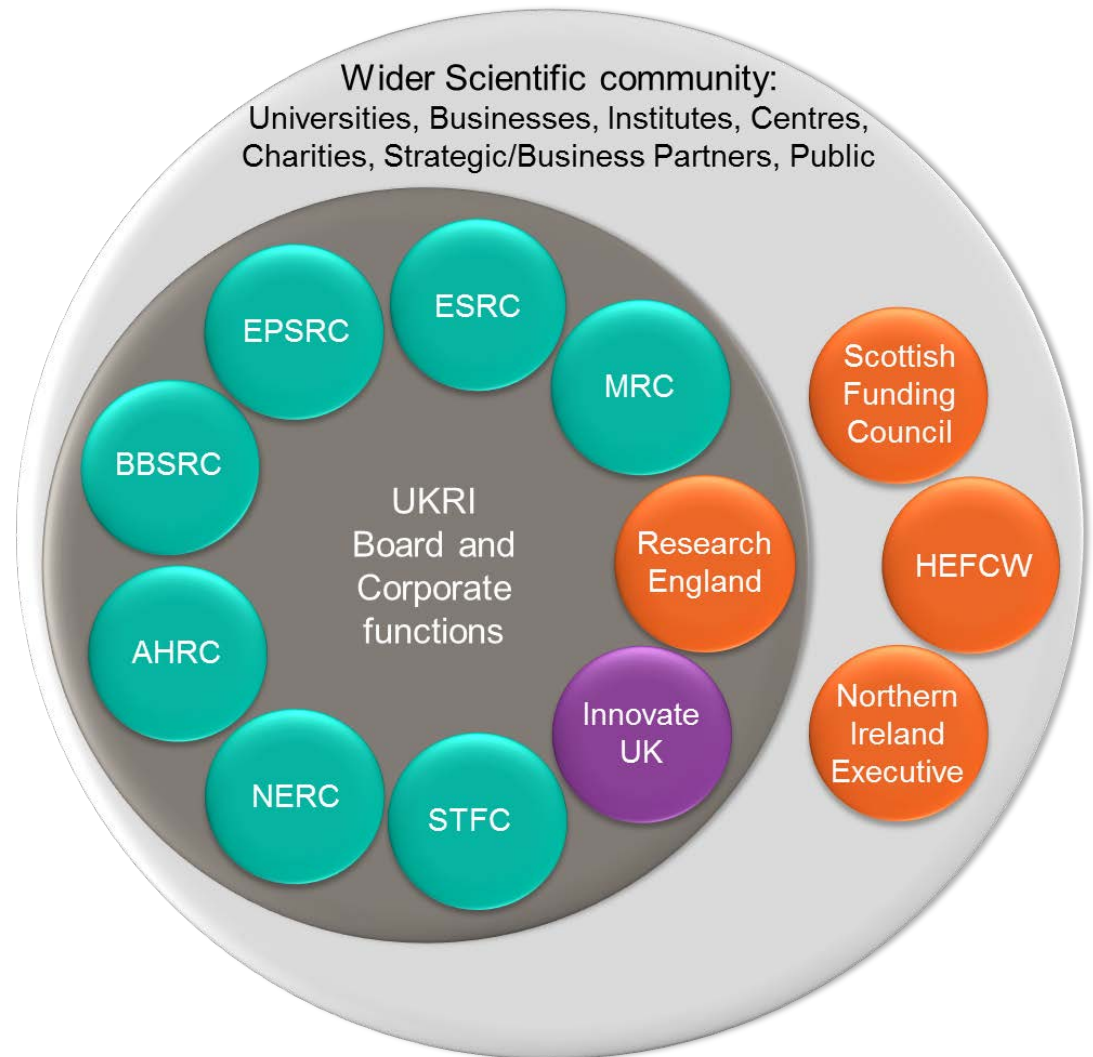


## Partnerships



# What is UK Research and Innovation?

UK Research and Innovation, launching in April 2018, will be the new funding organisation for research and innovation in the UK. It brings together the seven UK research councils, Innovate UK and a new organisation, Research England, working closely with its partner organisations in the devolved administrations.





# The numbers

---

- **More than £6.5 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** universities receiving research funding
- **38** institutes, laboratories, units, campuses and innovation catapults

# Our objectives

---

Our first objective is to invest every pound of taxpayers' money wisely in a way that maximises impact for citizens, in the UK and across the world.

This will have three elements:



# Our objectives

---



Be the unified voice for continued strengthening of the UK research and innovation system, nationally and internationally



Lead on the development and delivery of a coherent national research and innovation strategy which maximises the advancement of knowledge, and economic and societal impact, based on more and better evidence and data



Ensure better prioritisation of resources, especially for the best interdisciplinary and cross-cutting research, as well as longer term investment in research infrastructure








Maximise the impact of Innovate UK in supporting business-led innovation



Promote stronger commercialisation, business and policy links and wider societal engagement with publicly funded research

# Our objectives

---

-  Nurture and improve the talent pipeline for research and innovation
-  Champion equality, diversity and inclusion across the research and innovation sector, and support a healthy and high-integrity culture
-  Deliver a simpler, well-functioning research and innovation ecosystem which is easier to use and helps build collaborative partnerships between end-users, including universities, researchers, charities, communities, businesses, NGOs and international organisations
-  Be a great place to work, which inspires, engages and learns from its people
-  Deliver a step-change in administrative efficiency, including through combining corporate functions



# Regional innovation and growth

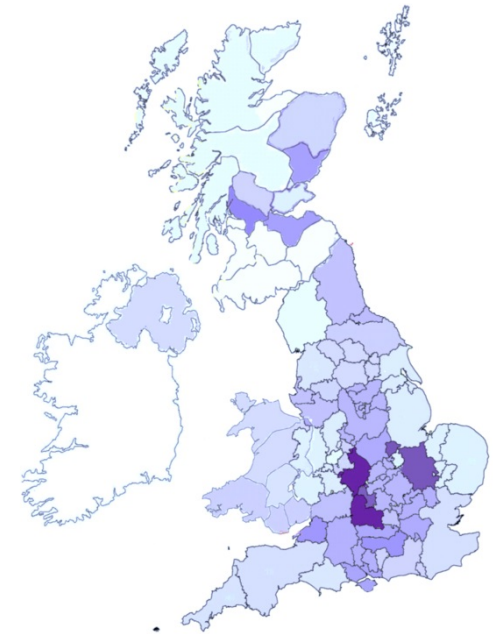
---

Economic benefits from university R&D are strongest at the local or regional level

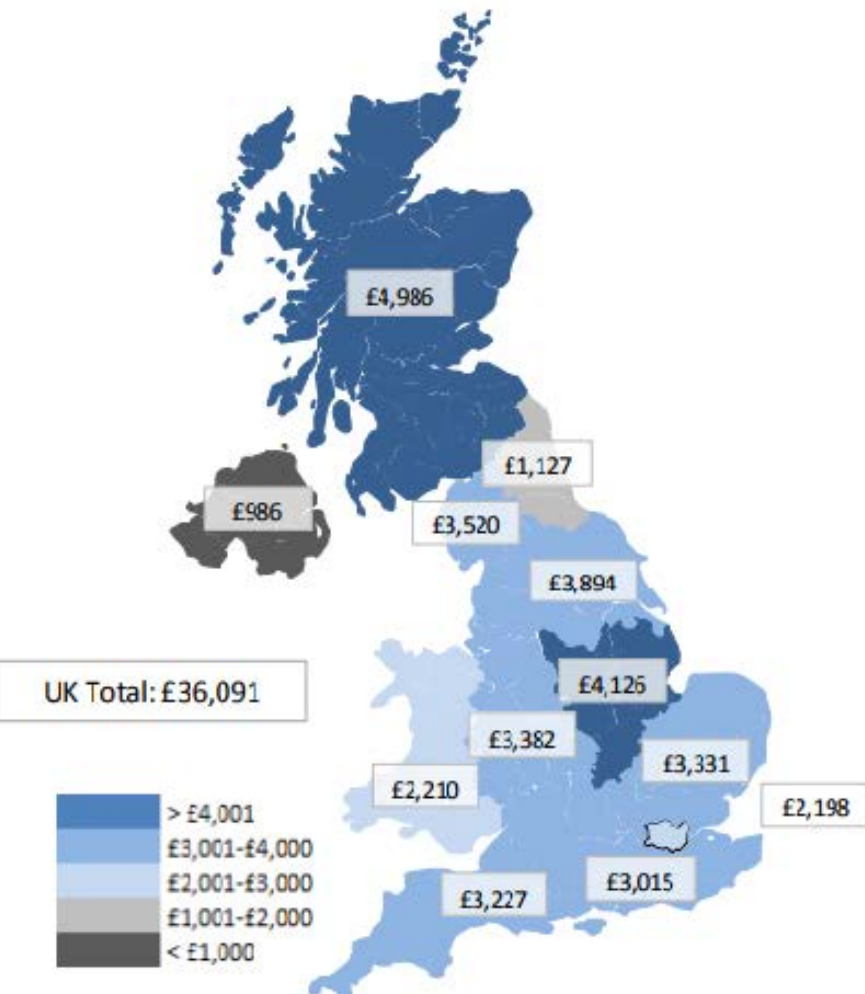
Local spill-over effects from R&D investment are largest where local firms and universities operate closely, geographically and technologically

UK Research and Innovation will deliver a new £115m Strength in Places Fund to:

- Support regional growth by identifying and supporting areas of emerging R&D strength that are driving clusters of innovative or disruptive businesses
- Grow the capacity of existing research excellence and high quality innovation in identified areas

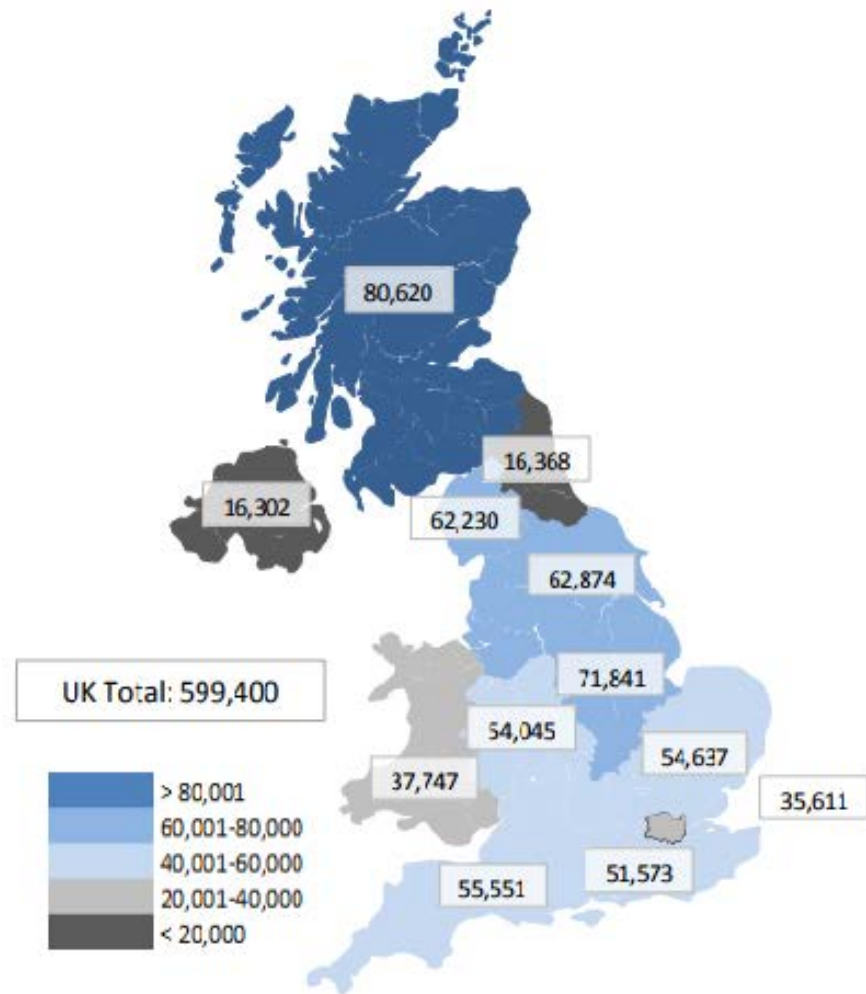


# UK Bioeconomy....



**Gross value added from direct activities by the bioeconomy in in the United Kingdom, 2012 (£ million)**

Source: Capital Economics and the Office for National Statistics (2012)

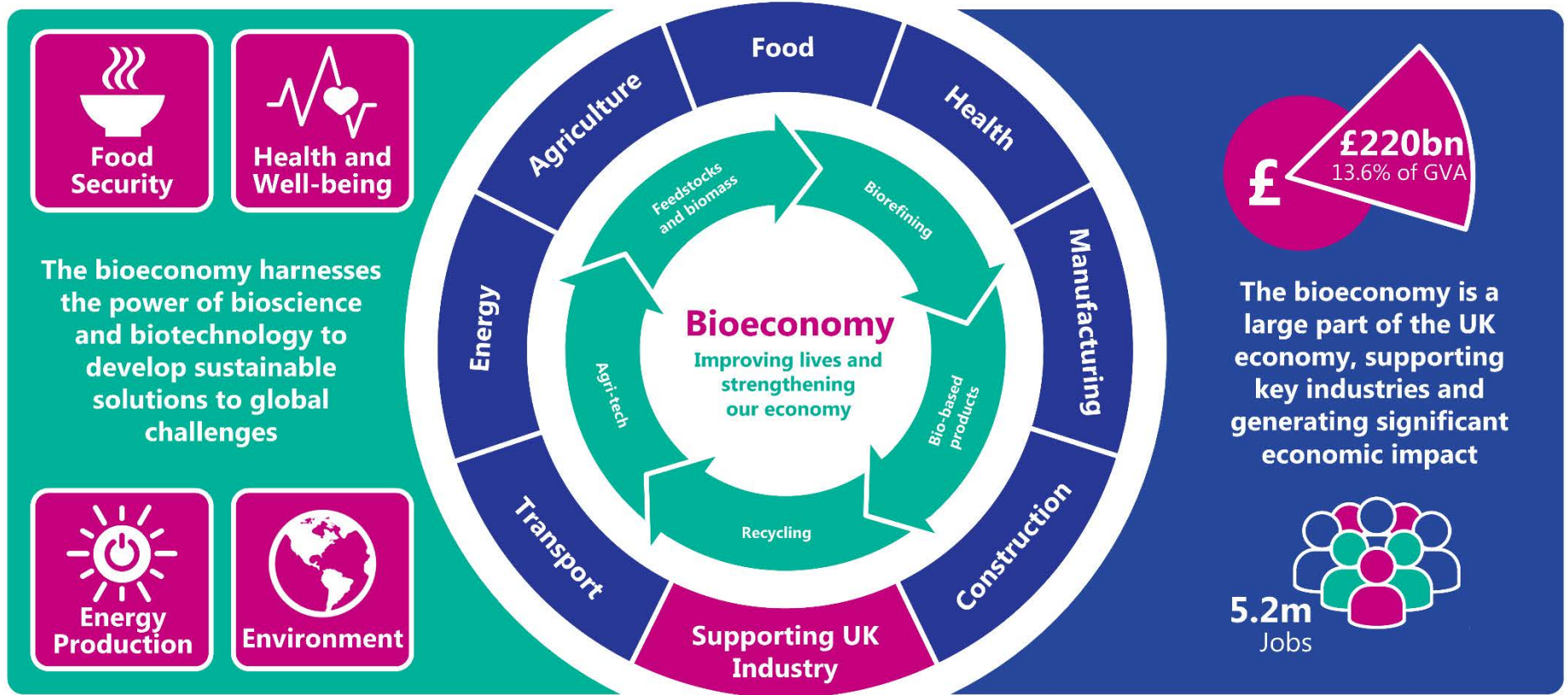


**Employment supported by direct activities by the bioeconomy in in the United Kingdom, 2012 (persons)**

Source: Capital Economics and the Office for National Statistics (2012)

Capital Economics Ltd. The British bioeconomy: An assessment of the impact of the bioeconomy on the United Kingdom economy. June 2015. See also: Capital Economics Ltd, TBR & E4Tech. Evidencing the Bioeconomy: An assessment of evidence on the contribution of, and growth opportunities in, the bioeconomy in the United Kingdom. September 2016.

# Bioscience for the bioeconomy



# BBSRC working with business



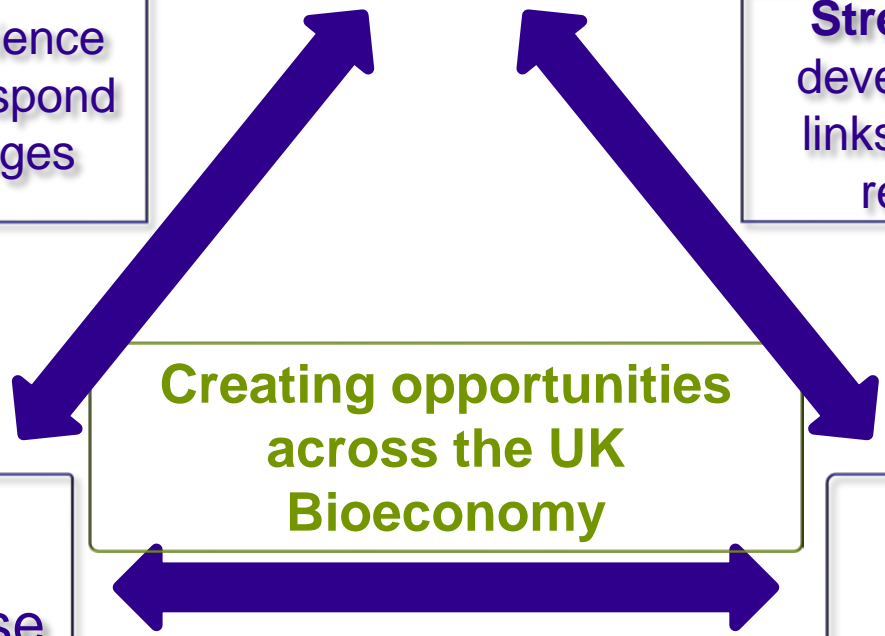
**Enabling** the bioscience research base to respond to industry challenges

**Strengthening** and developing BBSRC's links with bioscience research users

**Creating opportunities across the UK Bioeconomy**

Bioscience Research Base

Business



# ***UK Bioeconomy: Making the UK a global biotech partner of choice***

- ❖ **Create** new forms of low carbon, green energy and high-value industrial chemicals, reducing dependence of fossil fuels.
- ❖ **Produce** smarter, cheaper materials such as renewable plastics and composites for everyday items as part of a more circular, low-carbon economy.
- ❖ **Provide** healthy, more nutritious food for all.
- ❖ **Increase** the productivity, sustainability and resilience of our agriculture.
- ❖ **Manufacture** medicines of the future and help make existing ones more efficient.

***.....why now?***



# £300m Synthetic Biology for Growth Investment Programme

Synt

gramme

£50M capital investment  
2012 Autumn Statement

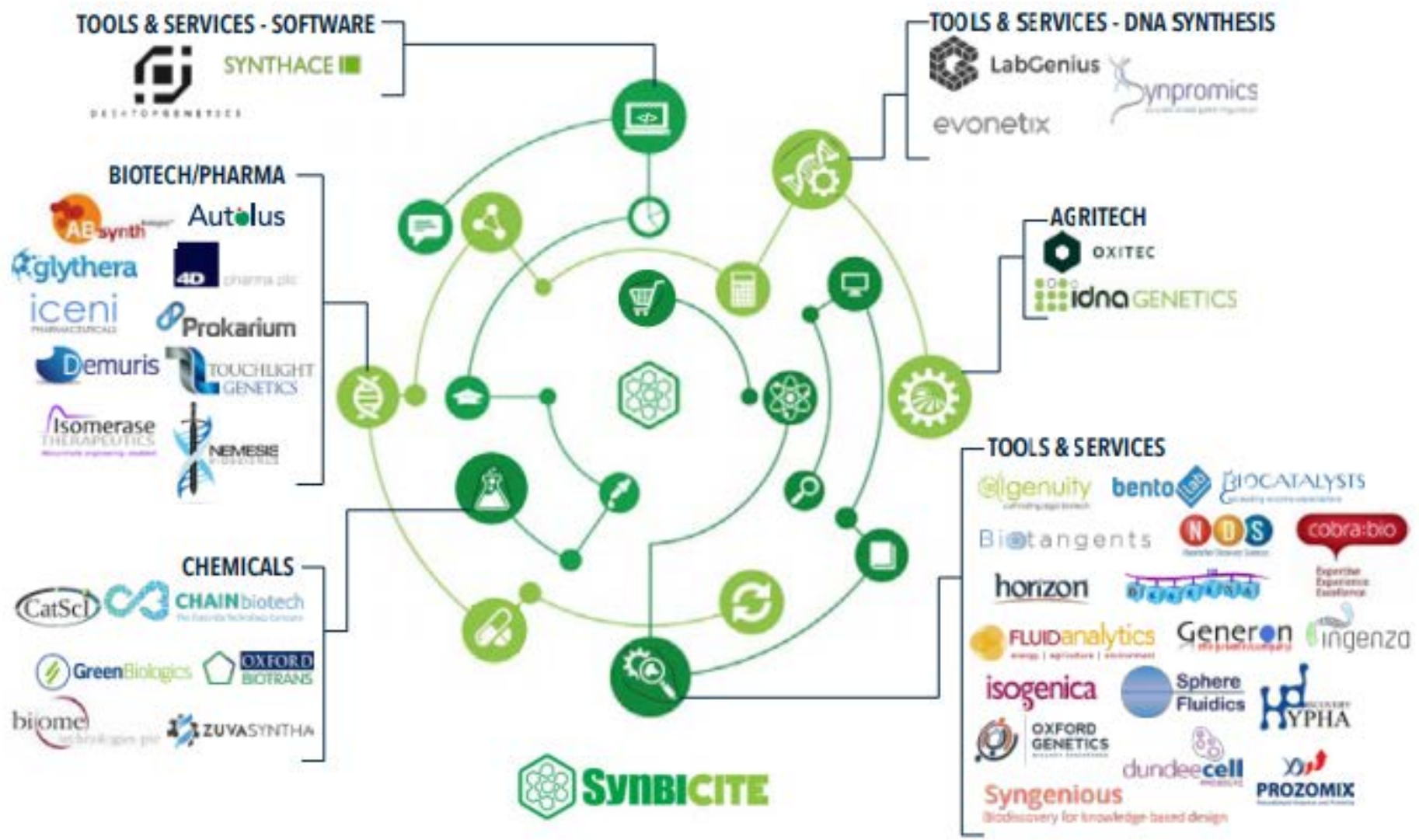
resource investment  
Research Councils





# An emerging industry....

## UK SYNTHETIC BIOLOGY START-UPS 2000-2016

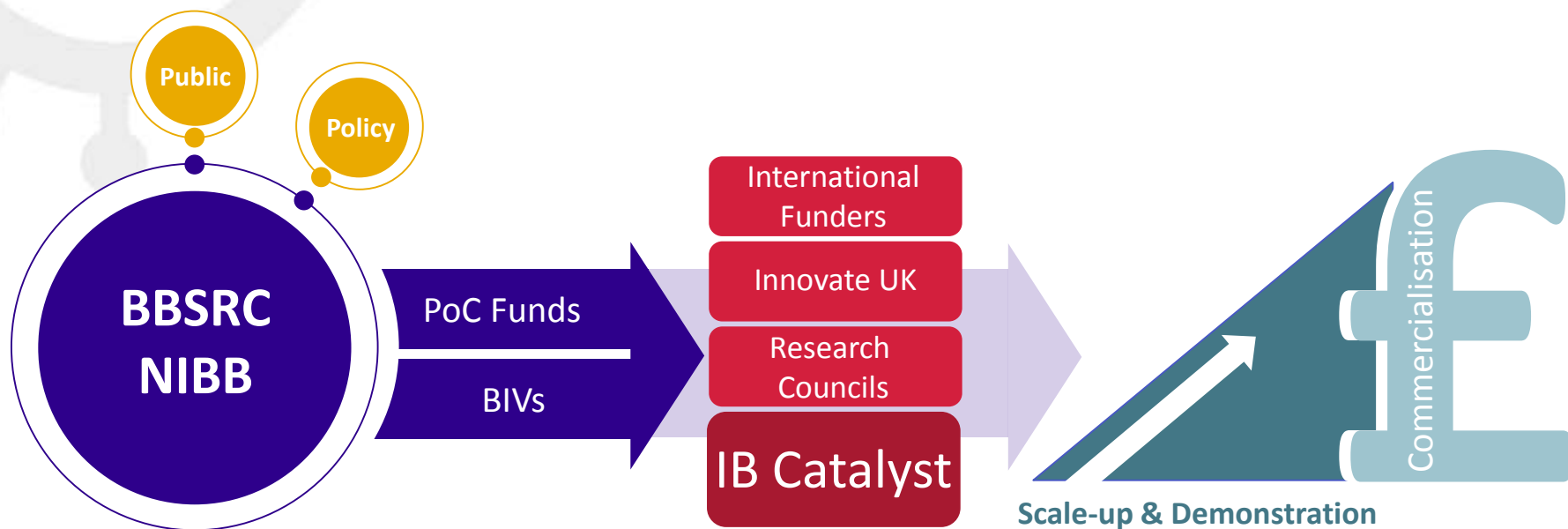


# BBSRC Vision and Strategy – Industrial Biotechnology

## VISION:

UK bioscience research delivering new products and processes for manufacturing in the Bioeconomy, driving economic growth in the UK and worldwide.

## STRATEGY:



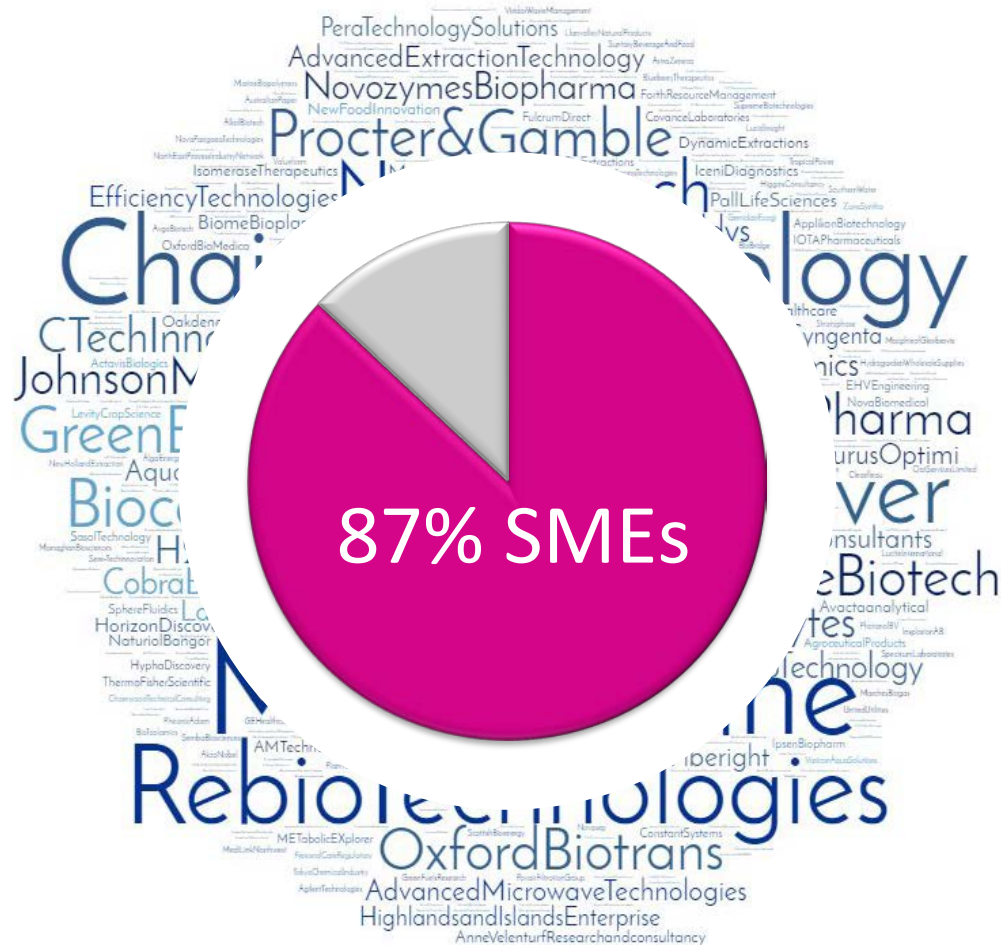
**13 BBSRC Networks in Industrial Biotechnology & Bioenergy**  
**£18M** funding for 2014-19



**IB Catalyst**  
5 year funding programme  
BBSRC, EPSRC, Innovate UK  
**£76M** funding for 2014-16

# BBSRC NIBB – UK Industrial Membership

(n=1,518)



Companies scaled by number of memberships held

(Based on data collection up to **October 2016**)

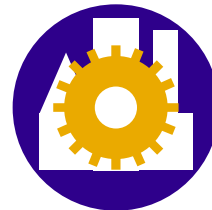
# Building on UK Excellence – Industrial Biotechnology

## 4 x IB community engagement with BBSRC

Based on data collection up to **October 2016**



**2600 UK academics @ 140 UK institutions**  
+ worldwide memberships



**750 UK companies**  
Established supply & value chains  
[micro-SMEs to multinational]



**115 UK community-led meetings**

## Significant investments addressing industry challenges



**£8M** invested in pump-priming projects **30%** industrial contributions

**£76M** invested in IB Catalyst + **£16M** industrial contributions

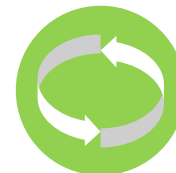
## Supported multiple industrial sectors



Nutri-ceuticals,  
pharmaceuticals &  
biopharmaceuticals

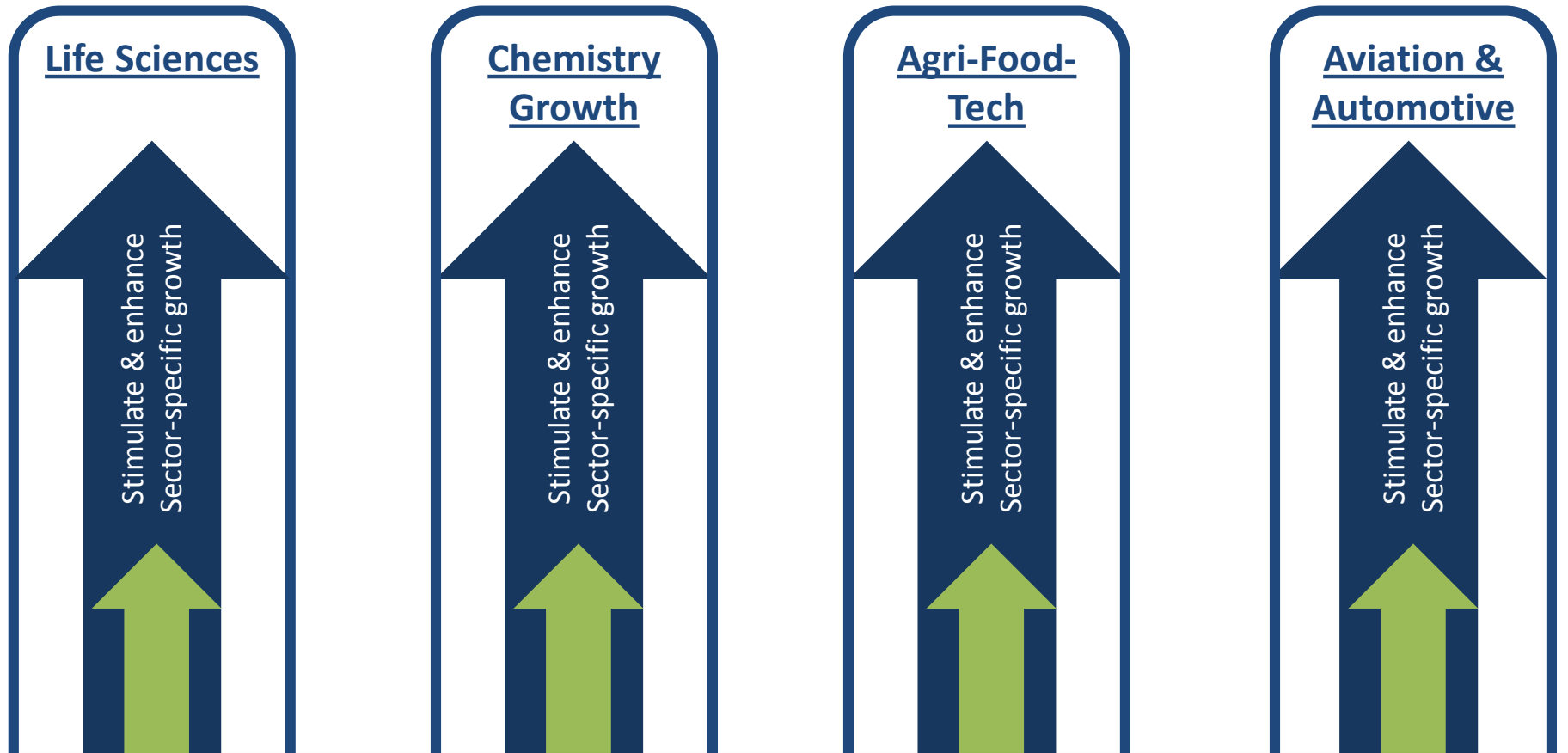


Sustainable  
chemicals  
manufacture



Recycling & the  
circular bioeconomy

# Growing the UK Bioeconomy – *the power of biology*

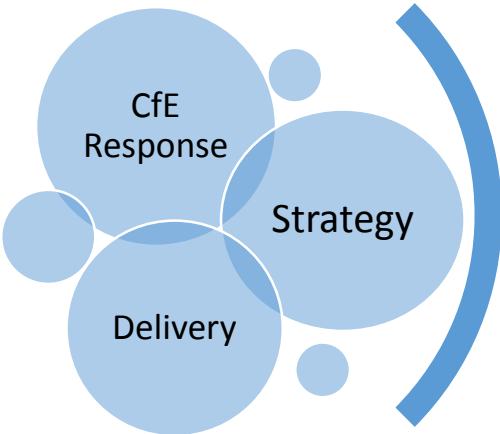


## **Synthetic Biology & Industrial Biotechnology: A Platform for Growth**

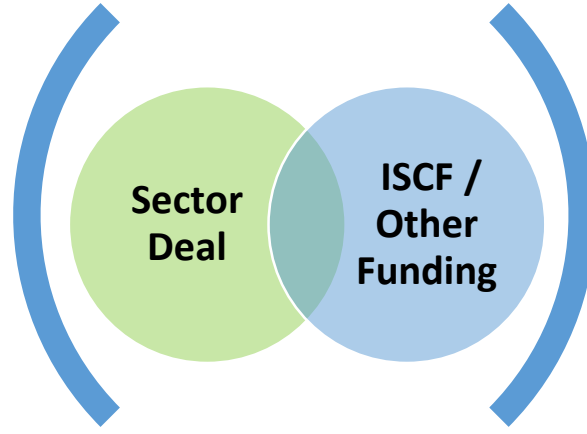
*Harnessing the UK's world-leading research to transform the way we develop, manufacture, apply and export bio-based solutions within the UK and globally.*

**Building our  
Industrial Strategy**

Further engagement across public and private sector



**A Clear Way Forward**



**Current Opportunities**



**Ambitious Growth**

A bioeconomy strategy that works for all parts of the UK

People

Places

Businesses

Innovation

Infrastructure