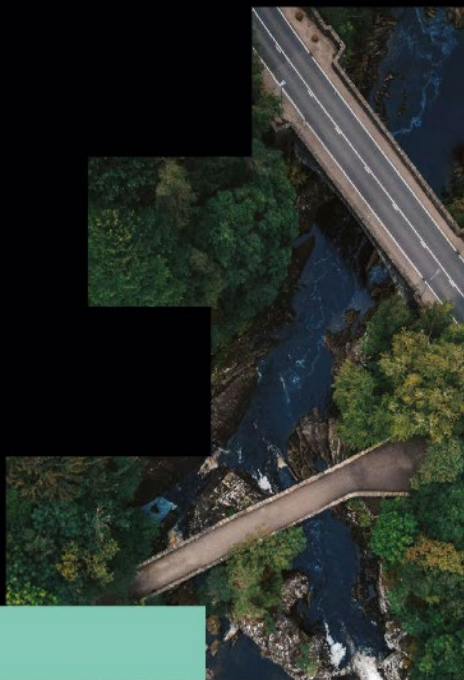


What is University research for?



Build Back Better

our plan for growth



 HM Treasury



HM Government

UK Research and Development Roadmap

July 2020



Department for
Business, Energy
& Industrial Strategy

UK Innovation Strategy

Leading the future by creating it

July 2021

Secretary of State's Foreword



The Rt Hon Kwasi Kwarteng MP, Secretary of State at the Department of Business, Energy and Industrial Strategy

The UK, along with the rest of the world, has faced exceptional challenges over the past 18 months. Our society, our economy, and our livelihoods have all been affected. In recovering from the pandemic, we must build on this country's innovative foundations to create a robust and agile economy that works for everyone and is fit for future generations. Investment in innovation will be critical to achieving this, and to building a greener, healthier and more prosperous future for the UK.

Innovation is central to the largest challenges the world faces, from climate change and the ageing society to global pandemics. The UK must be in the vanguard of the response to these challenges. Now we have left the EU, we can move quickly to respond to these challenges, and other global opportunities, to cement the UK's position as a world-leader in science, research and innovation. Furthermore, by supporting innovation in places, sectors, and businesses across the UK, we can level up the economy and create high-value new jobs and trading opportunities as we build back better.

The UK can look back on a proud history of changing the world through innovation. From the industrial revolution to the vaccine development of the past year, the impact on our everyday lives is undeniable. We want to rekindle this flame in all UK citizens, helping them to seize the opportunities that the innovation economy will bring.

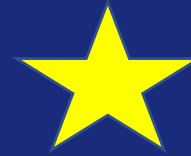
The next decade will be one that features significant change. With the climate emergency and our net zero target – as well as the pace of technological innovation – the 2020s are a pivotal moment for the UK's future prosperity. That is why Government has published "Build Back



“Greener, healthier, more prosperous, UK.”



“Now we have left the EU.”



“The UK can look back on a proud history of changing the world through innovation.”

“But most importantly of all this Strategy sends a message to businesses: make innovation central to everything you do and tell us what further steps we can take to help you to do so.”

Unleashing Business- We Will
Fuel Business that want to
Innovate

People- We Will Make the UK the
most Exciting Place for Innovation
Talent

Institutions and Places-
*We will ensure our research,
development and innovation
institutions serve the needs of
businesses and places across the
UK.*

Pillar 4: Missions & Technologies –
We will stimulate innovation to
tackle major challenges faced by
the UK and the world and drive
capability in key technologies.

WHY?

“This Strategy focuses on how we support private sector innovation by making the most of the UK’s research, development and innovation system.”

Left the EU

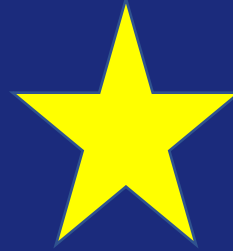
Disruption because of COVID

Global Competition

Transformational Industrial Change

WHY NOW?

To Come: Net Zero Strategy, the Digital Strategy, the National Cyber Strategy, and the National Space Strategy.



Business Innovation Forum- Chaired Dr Hayaatun Sillem

Ok, so what?

UK Innovation Strategy: Leading the future by creating it

Figure 2: UK Productivity and total labour compensation, 2000-2019

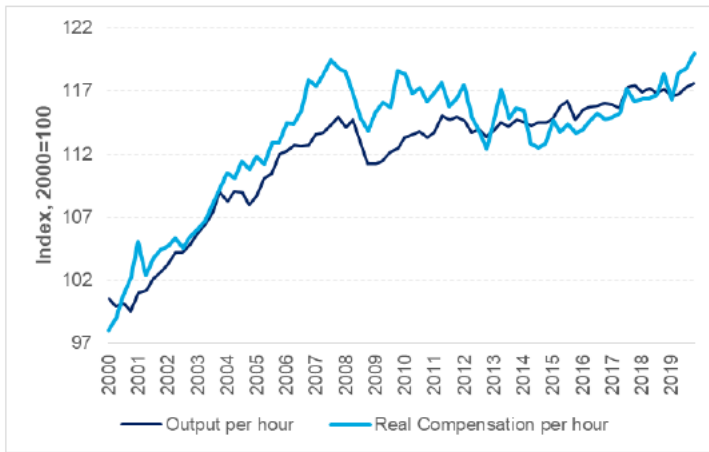
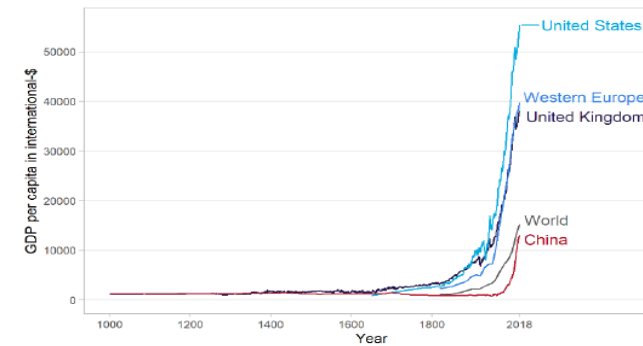


Figure 1: GDP per capita, 1000 to 2019

GDP per capita adjusted for price changes over time (inflation) and price differences between countries – it is measured in international \$ in 2011 prices.



Source: Maddison project Database 2020 (Bold and van Zanden 2020)

Growth itself has been falling for several decades, from 4% per year in the 1950s and 1960s to 2% in the 2010s. In the UK, our productivity has fallen behind comparator countries, and is now around a fifth lower than Germany, France, and the US.

Great, how?




Lessons from COVID-19 and National Science and Technology Council

Continual consultation and stripping back of regulatory system post EU, breaking up monopolies, policy framework on data and the economy, UKRI Commercialisation Funding Framework, independent review of research funding DR Adam Tickell


Access to finance through skills, DC pension reform, capital reviews, tax incentives, and public loans

Infrastructure- Transport, digital, data, energy, and utility “Cyber Physical Infrastructure,” and “National AI Strategy.”



VISAS, Skills and Jobs

Landscape: Paul Nurse, ARPA, Levelling up WP, Spatial R&D Tool, Innovation Missions and Innovation Technologies (SIPF W2)



Oh, this sounds too easy?

The seven technology families of UK strength and opportunity:

Advanced Materials and Manufacturing

AI, Digital and Advanced Computing

Bioinformatics and Genomics

Engineering Biology

Electronics, Photonics and Quantum

Energy and Environment Technologies

Robotics and Smart Machines

