The Rt Hon Rishi Sunak MP HM Treasury 1 Horse Guards Road London SW1A 2HQ United Kingdom

12 October 2021

Dear Chancellor,

We welcome this Government's ambition to ensure the UK is a 'science and technology superpower', by placing investment in research and innovation at the heart of the Plan for Growth and the Integrated Review. Delivering on this vision is now crucial. This Spending Review presents an opportunity to invest in research and innovation to build strong and innovative public services, level-up across the UK, lead the transition to Net Zero, advance Global Britain and deliver the Plan for Growth.

We urge you to use this Spending Review to deliver the commitment made in the 2020 Budget to increase public investment in research and development (R&D) to £22bn by 2024/25 and signal, at home and abroad, that the UK is serious about becoming a science and technology superpower.

Setting out steps to £22bn by 2024/25 will fuel economic growth and boost productivity, enabling researchers and innovators to continue driving the high-skill sectors and cutting-edge technologies that will help shape the UK's future. **Crucially, certainty around public funding will help leverage the private investment needed to achieve the Government's ambition** of raising total UK investment in R&D to 2.4% by 2027, and 3% in the longer term. For example:

- Each pound of public investment in R&D crowds in roughly two pounds of private investment.ⁱ
- The leveraging effect of public investment in R&D is most substantial within the first year, while the majority of private investment is crowded in by the fifth year.ⁱⁱ
- Recent analysis shows that if Government were to delay the £22bn target by three years it
 would lose leveraged private investment of over £11bn by 2027/28 and miss the target of
 2.4% of GDP invested in R&D by 2027.ⁱⁱⁱ

As you noted in the Plan for Growth "[innovation] drives economic growth and creates jobs" iv, resting on the UK's world-leading research base. However, the UK is not keeping pace with other leading scientific nations when it comes to investment in R&D. The UK's target to invest 2.4% of GDP is a race to below the OECD average, which now sits at 2.5%^v, while many individual countries boast much higher levels of investment than the UK, including France (2.2%), China (2.2%), the US (3%) and Germany (3.2%) – **see Table 1**^{vi}.

The last 18 months have shown the immense value of UK research and innovation to the nation's health and wealth. Across universities, industry, medical research charities and the NHS, researchers and innovators have accelerated our understanding of COVID-19 and our ability to tackle it, as well as its impacts on our lives. From diagnostics, treatments and vaccines to the way we manage built environments and safeguard our mental health, UK research and innovation has saved and improved the lives of millions, while making it possible for society and the economy to reopen.

The recent success of UK research and innovation has been a lesson in long-term investment, as years of previous funding were shown to have created the conditions for quick and effective delivery of benefits to the public.

To continue realising the benefits of research and innovation for all in the years to come, and build our resilience against future crises, it is crucial that Government invests strategically now. **Government must use this Spending Review to set out how public investment in R&D will rise through genuine new investment to £22bn by 2024/25**.

Yours sincerely,

Association of British Pharmaceutical Industries (ABPI) Academy of Medical Sciences Alzheimer's Research UK Association of Medical Research Charities (AMRC) BioIndustry Association (BIA) The British Academy British Heart Foundation (BHF) Cancer Research UK Campaign for Science and Engineering (CaSE) The Francis Crick Institute The Institute for Cancer Research (ICR) MSD National Centre for Universities and Business Royal Academy of Engineering **Royal Society** Royal Society of Chemistry Russell Group Universities UK Versus Arthritis Wellcome UK engineering organisations: Chartered Institutions of Highways and Transportation CIHT The Chartered Institute for IT (BCS)

The Chartered Institute for Tr (bCS) The Chartered Institute of Plumbing and Heating Engineering (CIPHE) Engineering UK The Institution of Engineering and Technology (IET) Institution of Gas Engineering and Technology (IET) Institute of Healthcare Engineering and Estate Management (IHEEM) Institute of Healthcare Engineering in Medicine (IPEM) The Institute of Measurement and Control (InstMC) Institute of Lighting Professionals (ILP) The Nuclear Institute Society of Operations Engineers (SOE) TWI

Cc:

Secretary of State for Business Energy and Industrial Strategy, The Rt Hon Kwasi Kwarteng MP Minister for Science, Research and Innovation, George Freeman MP





























THE ROYAL SOCIETY











Logos continued









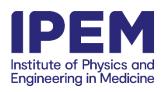


















Country	2017 Investment in R&D (% of GDP)	2019 Investment in R&D (% of GDP) (green = increase since 2017; black = no change since 2017; red = decrease since 2017)
Israel	4.69	4.93
Korea	4.29	4.64
Japan	3.17	3.20
Germany	3.05	3.19
United States	2.85	3.07
OECD average	2.35	2.48
France	2.20	2.20
United Kingdom	1.68	1.76
Canada	1.69	1.59

Table 1: GDP invested in R&D by leading scientific nations, 2017 to 2019^{vii}

- ¹ The relationship between public and private R&D funding (publishing.service.gov.uk)
 ¹¹ The relationship between public and private R&D funding (publishing.service.gov.uk)
 ¹¹¹ CaSE | Delaying R&D target would cost UK billions in private investment (sciencecampaign.org.uk)
 ¹¹² Build Back Better: our plan for growth (HTML) GOV.UK (www.gov.uk)
 ¹¹³ Research and development (R&D) Gross domestic spending on R&D OECD Data
 ¹¹⁴ Main Science and Technology Indicators OECD
 ¹¹⁷ Main Science and Technology Indicators OECD