

From the President  
Professor Sir Jim McDonald FEng FRSE

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Lord Narendra Patel  
House of Lords  
London  
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8 April 2021

Dear Lord Patel,

### **Current issues facing R&D funding**

I am writing to you as President of the Royal Academy of Engineering in relation to the work the Science and Technology Committee is undertaking on the current issues facing R&D funding.

We believe the government is rightly committed to making the UK internationally competitive, encouraging business investment, capitalising on our research excellence, developing talent and ensuring that international innovators working across universities, start-ups, and businesses can readily bring their skills and expertise to the UK. World-leading scientific research coupled with engineering innovation is the lifeblood of economic success in the modern world, and international cooperation is essential for the success of Global Britain.

The government has strongly articulated its ambitions for UK research and innovation in the Integrated Review, the Plan for Growth and the ongoing work on the R&D Roadmap, including by committing to increasing economy-wide investment in R&D to 2.4% of GDP by 2027, as well as increasing the overall government budget for research and development to £22 billion.

### **Funding for UK's association to Horizon Europe**

The government's success in ensuring UK association to Horizon Europe, the EU's flagship research and innovation funding programme, is strongly welcomed by our community. We have a long history of mutual successes and established relationships with our European partners that have been underpinned by EU research and innovation programmes. EU research and innovation programmes have greatly aided innovative UK businesses, from the competitive and prestigious schemes that support high-potential SMEs to large-scale international collaborations.

We strongly welcome the government's announcement on 1 April 2021 of an extra £250 million pounds to cover the costs of Horizon Europe association, along with wider use of flexibility in other BEIS funds. We also welcome the associated commitment that despite the upfront payments for Horizon Europe and reduction in funding through ODA, overall public funds for UK scientists and innovators in 2021/22 will increase compared to 2020/21. We look forward to seeing full details of the allocation of Research and Innovation funding for 2021/22 and hope that it will enable sustained momentum in all parts of the UK research and innovation funding system.

### **Cuts to Official Development Assistance**

International cooperation is essential for the success of Global Britain. While economic circumstances are challenging, it was very disappointing that research and innovation programmes suffered so severely when International Development expenditure was reduced from 0.7% to 0.5% of UK GNI, despite appeals from across the charity and research sectors.

The Academy's own ODA funded programmes, supporting engineers across low and middle income countries addressing development challenges, have suffered a 73% funding cut and no new activities will be permitted in 2021/22 with government funding. This will impact heavily on the strong relationships we have built up with research and innovation partners around the world.

UK-funded research and innovation has contributed to significant global advances. For example through the Africa Prize for Engineering Innovation we have supported over 70 African engineering entrepreneurs with solutions to local challenges to commercialise their innovations and take their businesses to scale. Awardees range from this year's winner, Charlotte N'Guessan from Ghana, who has developed a tool to verify identity remotely using facial recognition, which combats identity fraud and helps groups access financial services, to Neo Hutiri's Pelebox smart locker system, which eases pressure on health clinics by safely and securely dispensing chronic medication to regular patients. Through the Academy's Leaders in Innovation Fellowship entrepreneurship bootcamps, which we run with national innovation agencies in 17 emerging economies, we have helped build capacity for engineering entrepreneurship focussed on social and development challenges, and built up the reputation of the UK as a global technology entrepreneurship hub. Among the 700 innovators we have supported are Barbarita Lara from Chile, whose app allows mobile communication during an emergency when phone and radio networks are down, and who was recently selected as one of MIT's 35 innovators under 35. You can find further details on the role of R&D in supporting ODA objectives in the attached annex.

The loss of such activities has the potential to directly harm the UK's global position on research and innovation. We realise that the economic outlook necessitates difficult decisions. However, we are concerned that this reduction in funding will compromise the ability of the UK to act as a leader in addressing global challenges, particularly at a time when COVID-19 has demonstrated the critical need for global collaboration. We hope that even whilst ODA funding remains reduced, the government will find creative ways for showing and reinforcing the UK's leadership on key research and innovation agendas, such as response to the pandemic and Net Zero.

### **Long term planning for R&D funding**

We hope that in the forthcoming spending review, the government will be able to set out a clear long-term plan for government R&D funding, allowing the community and associated private investment to work with the government to maximise the benefits of the rising investment. As you are well aware, the nature of research and innovation investment decisions mean that confidence for the long-term combined with agility to respond to new demands is highly beneficial.

We hope you find this information useful to the work of your committee.

Best wishes,

