Dear Sir/Madam,

The IET’s response to the Inquiry on the role of technology, research and innovation in the COVID-19 recovery.

The Institution of Engineering and Technology (IET) is Europe’s largest professional engineering and technology organisation with 168,000 members drawn from industry, academia and the public sector. The members represent a wide range of expertise, from technical experts to business leaders, encompassing a wealth of professional experience and knowledge. Our primary aims are:

- to provide a global knowledge network, promoting the exchange of ideas between business, academia, governments and professional bodies, and enhancing the positive role of science, engineering and technology
- to address challenges that face society in the future.

We would be happy to discuss our response in more detail and provide examples and evidence from our extensive networks of engineering employers and academic partners. Please feel free to contact us to arrange this.

Recommendations:

- Government should use the Advanced Research Project Agency (ARPA) as a tool to boost innovation within the UK.
- Procurement using purchasing contracts, rather than one off grants, can support innovators in the medium and long term.
- Technology and innovation are key to long term improvements in productivity, but we need to change the way we innovation is funded and supported to allow new pathways to new ideas to open.
- Current business disruption grants are welcomed but are too short-term and should be reviewed to allow longer term support.

Questions

1. What role can technology, research and innovation play in supporting the UK’s economic recovery from COVID-19 and how can it best be supported in this?

Before the outbreak of COVID-19, the government had made significant investments to boost innovation, including the Industrial Strategy Challenge Fund and Future Fellowships scheme. The IET especially welcome the £800m fund (known as ARPA) for promoting cutting edge innovation and technology. Alongside these investments there is also a major opportunity for the Government to support industry by using procurement to increase innovation and help small businesses scale up into medium-sized businesses.
The best way to support innovators – which are often SMEs – is not just to provide a one-off grant, but to instead award purchasing contracts. The government should not necessarily award contracts to the cheapest providers, but to companies who can provide the most overall full lifecycle value in terms of innovative solutions. In many cases these can often be SME technology companies. We know that buying for the best overall benefit to the government - and the country - requires strong technical expertise within Government departments. There is now, more than ever, a greater role for engineers in advising the government on procurement.

For SMEs, long and complex bidding processes, with high initial costs, restrict smaller companies and potentially innovative practices. A quicker and open initial process, which only requires full rigour at the point of final down selection, would help to make the procurement process faster and more accessible and ultimately more likely to succeed.

We have an opportunity, as we leave the EU, to change regulation (and State Aid Rules) to make procurement easier and ensure that UK businesses are on a level playing field with the rest of the world, not just those within the EU. We call for a joined-up approach between State Aid Rules and the purchasing ability of Government to significantly boost innovation.

2. Does the current or post-COVID situation lead to any particular opportunities or challenges for economic growth driven by technology, research and innovation?

Technology and innovation will be key to long term improvements in productivity, but unless we change the way innovation is funded and supported, we will potentially leave too many people and places behind. Innovation must be funded in a risk aware manner, with the expectation that not all projects will succeed in the long-term, allowing the opening of pathways to new ideas. The Government should lead the way for an environmentally aware, more inclusive economic recovery by supporting innovation.

Innovative technologies also have the advantage of being able to level-up society, particularly in those groups and regions who have been more heavily impacted through COVID-19.

3. How have research and innovation in UK universities, businesses and other settings been affected by the COVID-19 pandemic, and how might they be affected by any lasting changes post-COVID?

Although there has been an understandable focus on COVID-19 research, we must not neglect longer term research. ARPA would be an excellent tool to prepare for future, as well as further investment in innovation in a post-COVID environment.

4. How effective have measures adopted by the Government to support research and innovation, such as the support packages for innovative firms and university researchers, and the ‘Ministerial University Research and Knowledge Exchange Sustainability Taskforce’, been?
Early Stage Grant Funding has been positive in its design and implementation. However, the short timescales on funding make innovation more difficult. This seems to be dictated by policy, rather than need. 3 to 6 months is far too short a time frame to deliver significant research impact. Rapid response funding should enable longer term support to allow for more high-impact research outcomes from the most innovative solutions.

5. In the context of the Government’s ‘Research and Development Roadmap’, what shorter-term measures can best support UK research and innovation in recovering from the disruption of the COVID-19 pandemic and adapting to the post-COVID environment?

The Government has the potential to support UK research and innovation in recovering from the disruption of the COVID-19 in both the short and long term. Government should encourage different ways of working so everyone has equal opportunity to contribute in their fields.

Greater flexibility in online meetings, for example, has allowed increased participation and thus has provided more collaboration within industry. Digital inclusion is a more efficient way to work which is not limited by geography. Digital inclusion has allowed the IET to collaborate on events on thought leadership from Canada, Nigeria, Colombia and other countries across the world. Short term incentives need to be open minded to different approaches.