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Submission to the interim evaluation of Horizon 2020

The Royal Society is the UK's national academy of science. It is a self-governing Fellowship of many of the world's most distinguished scientists working in academia, charities, industry and public service. Its fundamental purpose is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity. The Society draws on the expertise of its Fellowship to provide independent and authoritative advice to decision makers. It is included in the Transparency Register, ID number 041898210470-66.

The Society does not directly receive support from Horizon 2020, but many of the Fellows and grant recipients of the Society do so. This submission seeks to reflect the importance of Horizon 2020 to the scientific enterprise as a whole in the form of a short testimonial, and highlights research relevant to this evaluation. It does not seek to comment on the operation of Horizon 2020.

Science is inherently and increasingly international. Researchers collaborate with each other, motivated by wishing to work with the very best people and facilities in the world, and by curiosity, seeking new knowledge to advance their field or to tackle specific problems. An increasing proportion of UK research is published with partners across the world¹.

With the advent of the EU, EU Member States have chosen to jointly invest in the scientific endeavour. This has enabled ambitious projects such as the creation of the European Research Council that has established a very strong international reputation and attracts researchers from around the world. The EU has a proud tradition of supporting excellence in discovery and applied research and that research makes a considerable long-term contribution to sustainable economic growth. Horizon 2020, the biggest EU Research and Innovation programme to date, continues this tradition.

It is important to recognise that it is not only the scale of funding through Horizon 2020 that is significant, but also the intrinsically collaborative nature of these programmes, including attracting non-EU countries to participate. From a UK perspective, an increasing proportion of UK research is published with partners across the world, and EU partners are involved in an increasing share of this work. Many global challenges can only be tackled by researchers in many countries working together in large-scale collaborations. Initiatives such as Horizon 2020 that encourage and facilitate researchers, scientific knowledge and technology to circulate are hugely valuable in hastening scientific progress, pooling resources to tackle challenges such as climate change and global pandemics, and create an environment where innovators and entrepreneurs can thrive. Its investment in excellence has enabled the European Research Council to act as a beacon that not only supports the best EU scientists but also attracts the best researchers from the rest of the world.

There is also some evidence that suggests that EU research funding is associated with increased impact. In 2016, the Society commissioned an analysis by Thomson Reuter of the impact of UK-based researchers' papers. Reviewing publication data between 2005 and 2014, this found that for both papers published by UK-only authors and UK-EU co-authored papers, those acknowledging any type of

¹ Adams J 2013 The fourth age of research. *Nature*, 497, 557-560.

EU funding have more impact than the average paper, and where that funding came from the European Research Council (ERC) in particular, papers have the highest impact of all².

The Society has commissioned research to better understand how EU research funding supports research in the UK, which may provide insights into its synergy, complementarity and/or overlap with other funding programmes and the impact were access to Horizon 2020 and its possible successor be discontinued. We will share findings with the Commission when they are available.

For further information please contact Becky Purvis, Head of Public Affairs on becky.purvis@royalsociety.org

² Royal Society (2016) *UK research and the European Union: The role of the EU in international collaboration and researcher mobility*