

[Tuesday 16 February 2021]

Announcement of a Memorandum of Understanding between the National Quantum Computing Centre and the Quantum Computing and Simulation Hub

The leadership teams of the National Quantum Computing Centre (NQCC) and the Quantum Computing and Simulation Hub (QCS Hub), led by the University of Oxford, today announce the signing of a memorandum of understanding. This MOU strengthens their shared vision, recognizing the profound impacts quantum computing is expected to have in advancing knowledge and scientific discovery, and for realizing economic and societal benefits.

The NQCC and Hub are part of the UK's National Quantum Technologies Programme, an integrated research and technology programme with a 10-year vision for making the UK a 'quantum ready' economy. Between 2014 and 2024 £1Bn of public and private investment will be committed to this endeavour.

Quantum computers are expected to deliver a step-change in computing power, with the ability to perform certain tasks that are practically impossible for today's digital computers. As a result they are a key part of the national programme, and the UK is supporting both a national centre and a research hub focussing in this area.

Harnessing the power of quantum computing and simulation will catalyse the development of new technologies, for instance helping to speed up the discovery of new materials and medicines, designing new batteries for electric vehicles, and optimizing traffic flows for better (and greener) use of transport networks. Quantum computers could ultimately help to provide deep insights into how the universe works.

Under the MOU, the NQCC and QCS Hub pledge to work together to advance the field of quantum computing for the benefit of the UK and unlock the advantages for wider society. The organizations will endeavour to pursue joint research, and build the future workforce, by promoting the mobility of researchers, working on collaborative projects, supporting training schemes and sharing access to their facilities.

"This signing of this MOU marks an important step in our shared goal of making the UK a quantum ready economy" explains Professor Dominic O'Brien, Director of the Quantum Computing and Simulation Hub. "We are looking forward to working closely with the NQCC to accelerate the development of this disruptive technology."

NQCC Director, Dr Michael Cuthbert said: "I am delighted we have established a shared vision under this MOU with the QCS Hub. Quantum computing will be an important technology in the coming years. Ensuring the NQCC and QCS Hub can speak and act with shared purpose gives confidence to the community and sets a further example of collaboration across our National Quantum Technologies Programme. I am particularly pleased we will have shared focus on skills, training and mobility, workforce development is important for our own organisations and vital for the growth of our industry partners across the sector."

Notes to editors:

The National Quantum Computing Centre (NQCC) is a new research institution, launched in September 2020, which is dedicated to accelerating the development of quantum computing by addressing the challenges of scalability. The NQCC represents a £93 million investment through UK Research and Innovation, and is being delivered jointly by the research councils, EPSRC and STFC.

The Centre will work with businesses, government and the research community to deliver quantum computing capabilities for the UK, and support the growth of the emerging industry.

The NQCC facility will be located at Harwell Campus in Oxfordshire, and is due for completion in early 2023. Harwell Campus is home to world-class national research facilities and industry clusters.

The Quantum Computing & Simulation Hub (QCS Hub) is a collaboration of 17 universities, supported by over 25 commercial and governmental organisations, with the University of Oxford as its lead partner.

Funded by the UKRI-EPSRC, it is one of four hubs in the UK's National Quantum Technologies Programme. Focussed on overcoming the key challenges required to accelerate progress in quantum computing and simulation, the Hub aims to help position the UK at the forefront of the global competition to build a universal quantum computer. To achieve this the Hub is working with an extensive network of academic, industrial and governmental organisations.

Research within the Hub includes both hardware and software, and ranges from core technologies to potential applications. By proactively cultivating an environment in which researchers can engage with the world of commerce and entrepreneurship, the Hub's activities promote the real-world potential of quantum computing and the important part its early adoption can play in the UK economy.

The National Quantum Technologies Programme (NQTP) was established in 2014 and has UKRI (EPSRC, IUK, STFC), MOD, NPL, BEIS, and GCHQ as partners. Four Quantum Technology Hubs were set up at the outset, each focussing on specific application areas with anticipated societal and economic impact. The Commercialising Quantum Technologies Challenge (funded by the Industrial Strategy Challenge Fund) is part of the NQTP and was launched to accelerate the development of quantum enabled products and services, removing barriers to productivity and competitiveness. The National Quantum Computing Centre (NQCC) further strengthens this highly successful National Programme. The NQTP is set to invest £1B of public and private sector funds over its ten-year lifetime.