IBM Newsroom

UK STFC Hartree Centre and IBM Begin Five-Year, £210 Million Partnership to Accelerate Discovery and Innovation with AI and Quantum Computing

New Hartree National Centre for Digital Innovation will bring together innovative AI, quantum computing and the expertise of STFC Hartree Centre and IBM to benefit UK industry and research communities

DARESBURY, United Kingdom, June 3, 2021 /PRNewswire/ -- Science Minister Amanda Solloway has unveiled a five-year, £210 million partnership with IBM (NYSE: IBM). Its mission is to support UK businesses and the public sector by reducing the risk of exploring and adopting innovative new digital technologies, such as artificial intelligence (AI) and quantum computing, by breaking down practical barriers to innovation such as access to infrastructure or digital skills gaps within their organisation. By advancing the pace at which businesses can take advantage of new digital technologies, the collaboration will enhance productivity, create new skilled jobs and boost regional and national economic growth.

Based in Daresbury, an additional 60 new scientists, interns and students will join IBM Research and the Hartree Centre, within the UK Research and Innovation's Science and Technology Facilities Council (STFC) to establish a joint STFC – IBM programme called the *Hartree National Centre for Digital Innovation (HNCDI)*, which will apply AI, high performance computing and data analytics, quantum computing and cloud technologies to accelerate discovery and develop innovative solutions to industry challenges including materials development, life sciences, environmental sustainability and manufacturing.

The research is part of IBM's global Discovery Accelerator initiative, which seeks to accelerate discovery and innovation based on a convergence of advanced technologies by establishing research centres, fostering and enabling collaborative communities, and advancing skills and economic growth in large-scale programs.

HNCDI will help organisations to navigate four key stages of digital adoption by:

- Providing accessible training and application-focused skills, equipping staff to take full advantage of digital technologies.
- Exploring and discovering the technologies businesses need to succeed.
- Turning ideas into practical digital solutions for industry.
- Identifying and preparing for emerging technologies needed to futureproof the UK economy.

"Artificial intelligence and quantum computing have the potential to revolutionise everything from the way we travel to the way we shop. They are exactly the kind of fields I want the UK to be leading in, and this new centre in the North West is a big step towards that. Thanks to this fantastic new partnership with IBM, British businesses will have access to the kind of infrastructure and expertise that will help them boost innovation and grow the economy – essential as we build back better from the pandemic," Science Minister Amanda Solloway.

The HNCDI programme will support several industry projects to accelerate adoption of advanced digital technologies with UK companies of various sizes.

"Digitally-enabled innovation to create sustainable materials is an essential part of Unilever's Compass strategy and our ambitions to create renewable and sustainable products across our Beauty and Personal Care and Home Care divisions. It is exciting to see how this work is being accelerated through collaborative research and innovation with the STFC Hartree Centre. This further investment will undoubtedly increase research and innovation on important technology areas and projects for the

UK economy and industry," Richard Slater, Chief R&D Officer, Unilever

"Support from the STFC's Hartree Centre and IBM has enabled Gexcon to investigate the use of surrogate modelling in our advanced dispersion, explosion, and fire modelling tools. This has enabled us to realise the potential benefits of this approach and make plans for its implementation. We hope to continue this work together in the future to achieve improved validation techniques that will directly allow our customers to improve the safety of their facilities," said Chris Coffey, Global FLACS Product & Strategic Business Development Manager, Gexcon UK.

"HNCDI will enable the UK to develop the skills, knowledge and technical capability required to adopt emerging digital technologies, seeding the UK with new ideas and innovative solutions. The programme has transformative potential to generate long-term GVA for the economy by embedding AI solutions across UK industry. We are applying knowledge from the UK's strong fundamental research base to develop tools and techniques that address identified industry and public sector needs, improving economic and societal outcomes," said Professor Mark Thomson, Executive Chair of STFC Hartree Centre.

STFC Hartree Centre will join the IBM Quantum Network, in which more than 150 organizations, including bp and UK start-ups Cambridge Quantum Computing and Phasecraft, are provided access to IBM's premium quantum computers and development tools via the IBM Hybrid Cloud to significantly broaden the scope of problems than can be addressed. Quantum scientists at the Centre will help grow the quantum ecosystem with a focus on advancing quantum skills across the UK and support UK industry to realize the potential of quantum computing technologies.

In addition to quantum computing, scientists working on HNCDI will have access to a vast portfolio of IBM commercial and emerging AI technologies focused on materials design, scaling and automation, asset management, supply chain and trusted AI.

"The world is facing grand challenges which demand a different approach towards science in computing, including AI and quantum computing, to engage a broad community across industry, government, and academia to accelerate discovery in science and business," said Dario Gil, Senior Vice President and Director, IBM Research. "This partnership establishes our first Discovery Accelerator in Europe driven by our two UK-based IBM Research locations in Hursley and Daresbury as they contribute to our global mission of building discovery-driven communities around the world."

This announcement builds on a previous collaboration between IBM and the STFC Hartree Centre that started in 2013 and is part of a larger investment by the UK to increase R&D spending to 2.4 percent GDP.

About STFC Hartree Centre

The Science and Technology Facilities Council (STFC) Hartree Centre's mission is to transform UK industry through high performance computing, data analytics and artificial intelligence (AI) technologies. As part of UK Research and Innovation, the Hartree Centre is home to some of the most advanced computing, data and AI technologies in the UK.

From early stage SMEs to international corporations, Hartree Centre experts work with industry and the research community to address real life challenges and accelerate the adoption of high performance technologies, delivering transformative gains in performance, productivity and time to market.

About IBM

IBM is a leading global hybrid cloud and AI, and business services provider, helping clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their

industries. Nearly 3,000 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to affect their digital transformations quickly, efficiently and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and business services deliver open and flexible options to our clients. All of this is backed by IBM's legendary commitment to trust, transparency, responsibility, inclusivity and service.

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