

New £210 million centre to advance AI and quantum computing

A £210 million five-year programme has launched, giving the public sector and industry access to cutting-edge computing for innovative research.

The new Hartree National Centre for Digital Innovation (HNCDI) will bring together world-leading expertise with innovative artificial intelligence (AI) and quantum computing technology, to benefit industry and the public sector.

The collaboration between the UK's Science and Technology Facilities Council (STFC) and IBM, a leading global hybrid cloud and AI company, will be housed within STFC's Hartree Centre.

The government, via UK Research and Innovation (UKRI), has agreed to invest £172 million over five years, met with a £38 million in-kind contribution from IBM.

Science Minister, Amanda Solloway, said:

"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."

Supporting UK innovation

The HNCDI will support UK businesses and the public sector by reducing the risk of exploring and adopting innovative new digital technologies, such as AI and quantum computing.

It will do this by breaking down practical barriers to innovation such as access to infrastructure or digital skills gaps within their organisation.

By increasing the pace at which businesses can take advantage of new digital technologies, the collaboration will:

- enhance productivity
- create new skilled jobs
- boost regional and national economic growth.

Professor Mark Thomson, Executive Chair of STFC, said:

"The HNCDI programme will foster discovery and provide a stimulus for industry innovation in the UK. By allowing industry to access a ready-made community of digital experts and cutting-edge technology, it will provide momentum for new ideas and solutions. This programme has the potential to transform the way UK industry engages with AI and digital

technologies, to the benefit of not just research communities but all of society."

Boost to the economy

The centre is based at STFC's Daresbury Laboratory in the Liverpool City region and will create vacancies for an additional 60 scientists, plus further interns and students gaining hands-on experience.

With £28 million of government investment already agreed for the first year, work is underway to get the centre up and running as soon as possible.

To boost discovery and develop innovative solutions to practical problems raised by UK industry, the team of experts will apply:

- AI
- high performance computing and data analytics
- quantum computing
- cloud technologies.

The centre will work across sectors including:

- materials
- life sciences
- environment
- manufacturing.

This will include collaboration with academic and industrial research communities, including:

- start-ups and SMEs
- public sector
- government.

Possible industry applications from this new programme include optimising complex logistics. For example, picking and packing orders in large warehouses for supermarkets, traffic routing, energy distribution. Also improving design and manufacturing processes across automotive sectors.

Its objective is to:

- turn ideas into practical digital solutions to maximise benefit for UK industry
- find the right technologies needed for projects to succeed and make businesses more competitive
- provide training and skills to staff, in order to take full advantage of digital technologies
- support industry investment in emerging technologies to make businesses more resilient.

Dario Gil, Senior Vice President and Director, IBM Research, said:

"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. 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."

www.hartree.stfc.ac.uk