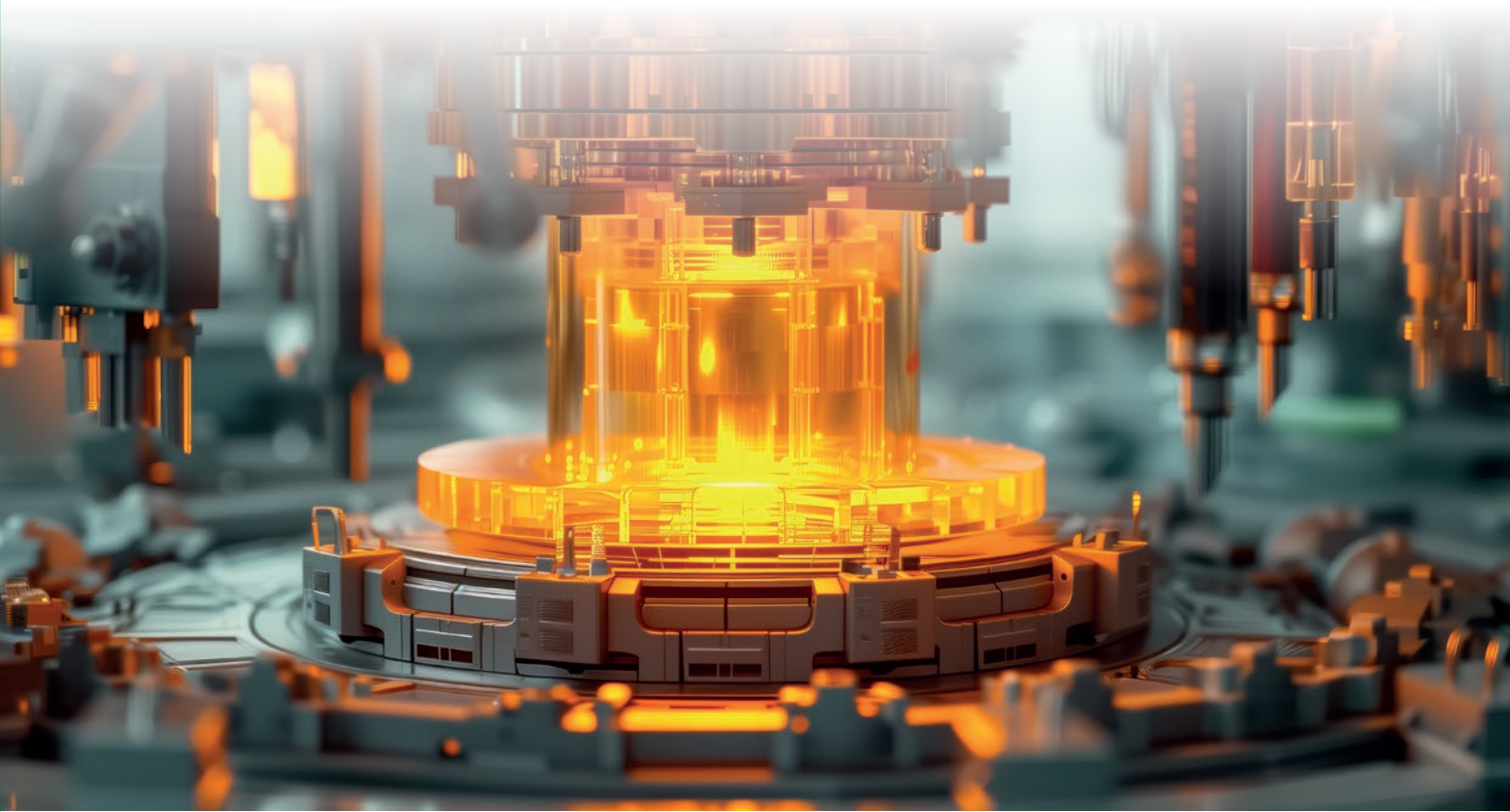


The UK's National Quantum Computing Centre (NQCC) OPENS

BY MELISSA COGAVIN, BROADBAND JOURNAL

THE UK'S NATIONAL QUANTUM COMPUTING CENTRE (NQCC) HAS RECENTLY OPENED ITS DOORS IN HARWELL, OXFORDSHIRE, MARKING A PIVOTAL STEP IN THE COUNTRY'S MISSION TO LEAD IN QUANTUM TECHNOLOGIES. AIMING TO ADDRESS SOME OF SOCIETY'S MOST PRESSING CHALLENGES, THE NQCC WILL PROVIDE OPEN ACCESS TO QUANTUM COMPUTING RESOURCES, POSITIONING THE UK AS A GLOBAL LEADER IN FIELDS RANGING FROM ARTIFICIAL INTELLIGENCE TO HEALTHCARE.



“If you think you understand quantum mechanics, you don’t understand quantum mechanics”

- Richard Feynman, Nobel Laureate, Physics, 1965

At the heart of the NQCC’s offerings are 12 state-of-the-art quantum computers, each equipped to push the boundaries of current technology. Quantum computers represent a leap from classical computing by harnessing quantum mechanics, enabling data to exist in multiple states simultaneously, rather than in binary terms. This unique capability empowers quantum systems to solve extraordinarily complex problems far more efficiently than traditional computers, providing the foundation for transformative advancements.

The NQCC’s structure encourages cross-sector collaboration by providing access to businesses, academia and government bodies. This open-access model promotes a collaborative approach to quantum development, allowing entities with diverse interests to utilise quantum computing capabilities for real-world applications. The Centre is also a hub for education and career advancement in quantum computing, offering the world’s first dedicated quantum apprenticeship programme, alongside PhD opportunities

and training placements. More than 70 expert staff members will support these initiatives, fostering an ecosystem that bridges research, industry and education.

Science Minister Lord Vallance said: “The National Quantum Computing Centre marks a vital step forward in the UK’s



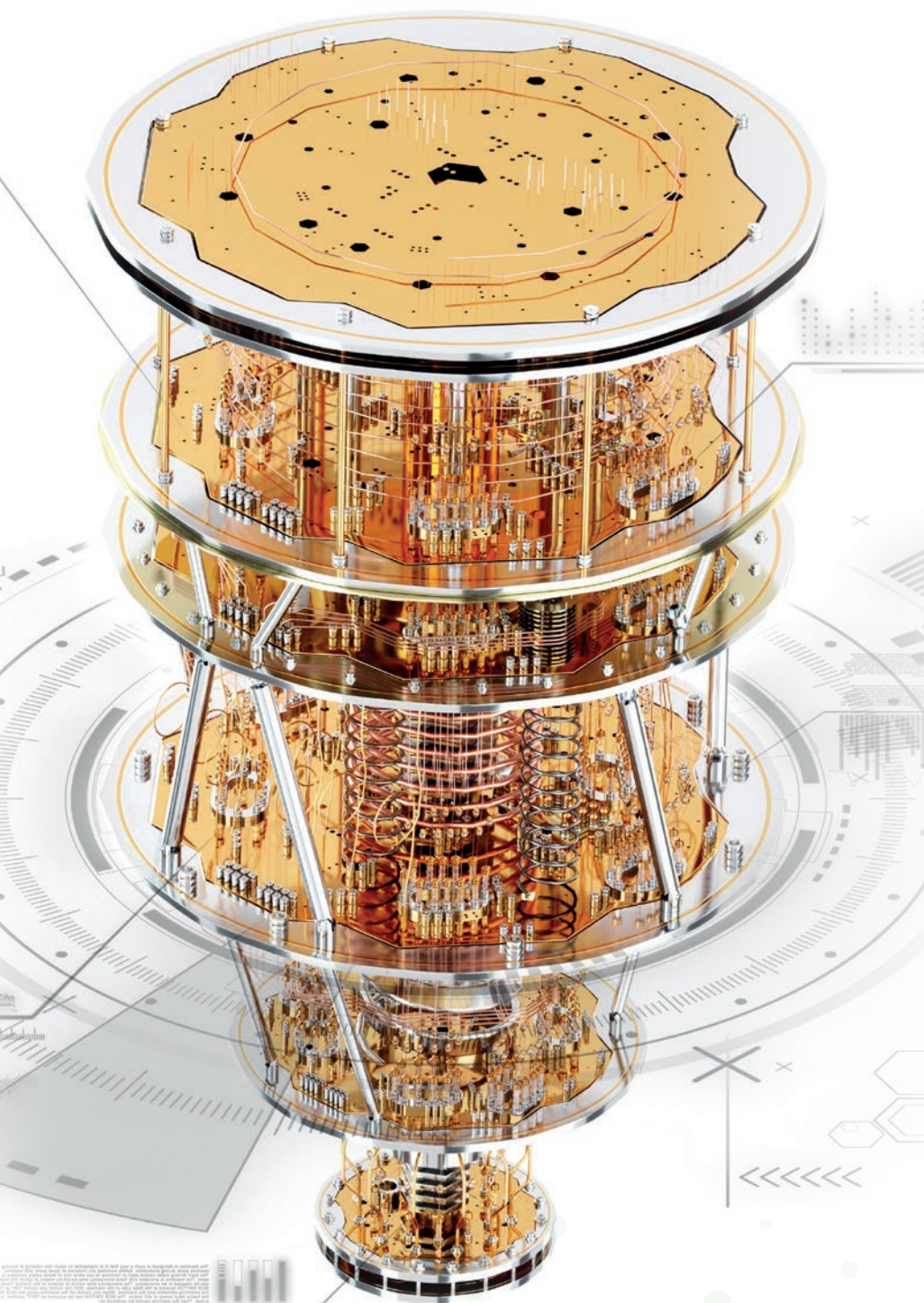
Science Minister Lord Vallance

efforts to advance quantum technologies. By making its facilities available to users from across industry and academia, and with its focus on making quantum computers practically useable at scale, this Centre will help them solve some of the biggest challenges we face, whether it’s delivering advances in healthcare, enhancing energy efficiency, tackling climate change or inventing new materials.

“It is hoped that the innovations that will emerge from the work the NQCC will do will ultimately improve lives across the country and ensure the UK seizes the economic benefits of its leadership in quantum technologies.”

Quantum computing holds remarkable potential for several fields. For instance, in healthcare, quantum computers can analyse complex molecular structures, significantly accelerating the discovery





of new treatments and drugs, which has the potential to revolutionise how we approach life-saving therapies.

Similarly, in energy, quantum systems are adept at processing vast amounts of data, allowing them to optimise energy grids, balance supply and demand, and minimise losses in real-time, a crucial capability as renewable energy sources grow.

Beyond healthcare and energy, quantum computing also offers potential breakthroughs in artificial intelligence (AI), climate modeling and financial security. Quantum-powered AI could transform medical diagnostics and fraud detection, providing more accurate insights and faster results. In climate science, quantum technology's data-processing capacity will improve climate prediction models, helping societies better prepare for environmental challenges.

The UK's quantum sector is already one of the world's most vibrant, backed by a significant ecosystem of companies, research bodies and talent. The NQCC's open-access approach and focus on practical applications aim to amplify this growth, creating pathways for commercialising innovations and building an economy rooted in quantum technologies.

Supported by an initial £93 million investment from UK Research and Innovation (UKRI), with further funding in place to drive quantum training and research, the NQCC reflects the government's commitment to a ten-year programme aimed at securing the UK's position at the forefront of this field. As the Centre advances, it will also focus on the ethical use of quantum technology, ensuring that breakthroughs benefit society responsibly.

With its broad mandate and state-of-the-art resources, the NQCC represents a bold leap into the future of quantum computing, opening doors to innovations that will shape the UK and the world in the decades to come.

www.nqcc.ac.uk