

Infleqtion Wins Funding to Develop and Manufacture the UK's First Optical Atomic Clock

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OXFORD, England, June 26, 2023 /PRNewswire/ -- Infleqtion, the world's quantum information company, today announced that it has been awarded funding from Innovate UK to expand its manufacturing capabilities for quantum-enabled systems. The funding will support the development of a new type of optical atomic clock that far exceeds the accuracy and reliability of current Global Navigation Satellite Systems (GNSS)-based systems.

The new clock will achieve a frequency stability that is more than fifty times better than the best commercially available atomic clocks of comparable size. This level of accuracy will be essential for applications such as autonomous navigation, resilient power distribution, and national security.

"Infleqtion offers unrivaled expertise, with products and R&D efforts spanning the whole quantum ecosystem, including quantum computing, quantum sensing, and positioning, navigation, and timing (PNT)," said Scott Faris, CEO of Infleqtion. "With a strong foundation, a highly skilled team, and the support of Innovate UK, Infleqtion UK is well-positioned to drive innovation and deliver groundbreaking solutions that will transform the field of PNT and quantum-enabled systems."



The quantum-enabled PNT systems market is poised for significant growth, fueled by the increasing need for highly accurate, reliable, and resilient PNT systems across various applications, including the deployment of 5G networks. Quantum-enabled PNT systems offer significant advantages over traditional GNSS-based systems, including improved accuracy, enhanced resilience, and reduced size and weight. They are also not dependent on satellite signals, making them less vulnerable to weather conditions, interference, and jamming. This makes them suitable for deployed applications.

The funding from Innovate UK will enable Infleqtion to bring its new optical atomic clock to market and make the UK a global leader in the development and manufacture of quantum-enabled PNT systems. The company has a team of world-leading experts in quantum physics and optical engineering, and has a proven track record of developing innovative quantum technologies. The winning Infleqtion project will also establish a sovereign UK capability to manufacture critical subsystems, such as microfabricated atomic vapor cells and photonic frequency combs.

"This project will deliver the UK's first commercially available optical atomic clock which will provide a crucial layer of resilience across many national security applications," said Dr. Timothy Ballance, General Manager of Infleqtion UK. "The funding will allow Infleqtion to advance its manufacturing capability in the UK for systems required to build a wide range of quantum-enabled products. Coupled with our engineering expertise, we are in an excellent position to lead the market in delivering next generation commercial atomic clocks at scale."

Minister of State at the new Department for Science, Innovation and Technology George Freeman MP said, "We are on the cusp of a quantum technology revolution, set to deliver transformational increases in computer processing speed and power in a whole new field of capabilities in sensing, communications, encryption, cyber security and navigation. We are making sure the UK is ready to harness it for the benefit of all."

Will Drury, Executive Director, Digital and Technologies at Innovate UK said, "Our exceptional researchers, businesses and innovators are continuously pushing the boundaries of Quantum Technology development, placing the UK at the leading edge of this field. Together, through this support and investment, we will work in partnership to realise the potential of this technology for our UK economy and society."

About Infleqtion

Infleqtion delivers high-value quantum information precisely where it is needed. By operating at the Edge, our software-configured, quantum-enabled products deliver precision and power, generating streams of high-value information for defense organizations, the United States, and allied governments. With 16 years of ColdQuanta's pioneering quantum research as our foundation, our hardware products and AI-powered solutions address critical market needs in PNT, global communication security and efficiency, resilient energy distribution, and accelerated quantum computing. Headquartered in Austin, TX, with offices in Boulder, CO; Chicago, IL; Madison, WI; Melbourne, AU; and Oxford, UK. Learn how Infleqtion is revolutionizing how we communicate, navigate, and discover at www.infleqtion.com.

Infleqtion UK is a wholly-owned subsidiary of the flagship commercial brand Infleqtion. Infleqtion UK has a fully equipped quantum research laboratory and established production facilities in Oxford for its UK-developed Photonic Integrated Cold Atom Source (PICAS) product. The company conducts advanced research and development in inertial sensing and advanced timing for navigation within GNSS-denied environments, radiofrequency sensors for communications and defense applications, memory modules for secure quantum networks, and quantum information platforms for computation and simulation.

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