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UK Quantum Computing Testbed Program Selects Infleqtion as First of Seven Deployments for Technology Evaluation

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RECENT DEVELOPMENT

US-based quantum computer (QC) maker, Infleqtion, [announced](#) that it will provide the first of seven prototype deployments made under the UK National Quantum Computing Centre's (NQCC) £30 m (US\$38.9 million) program designed to establish QC testbeds based on different hardware technologies by March 2025. All of the system-level prototypes will be built by the quantum hardware companies at the NQCC facilities on the Harwell Campus in Oxfordshire. The stated goal of the testbed program is to support the NQCC's mission of accelerating the development of quantum computing capabilities and related infrastructure within the UK. The six other QC makers participating in the program, who likely will be announcing their deployments shortly, are Aegiq, ORCA Computing, Oxford Ionics, Quantum Motion, QuEra Computing, and Rigetti, a mix of US and UK-based QC suppliers.

The seven projects reflect a range of qubit modalities. Rigetti will build a testbed with 24 superconducting qubits, while Oxford Ionics will demonstrate a trapped-ion platform based on technology originally developed at the University of Oxford. Projects awarded to QuEra and Infleqtion will assemble hardware systems based on neutral atoms, while ORCA Computing and Aegiq will target photonics-based quantum computing. Quantum Motion will use a prototype system based on conventional CMOS transistor process technology common throughout the IT industry.

ANALYST COMMENT

This is yet another example of a national government-funded effort, albeit one with a short deadline and a relatively modest budget to be divided among seven firms, to procure an array of early-stage QC systems to support QC-related research, promote end use engagement, and, perhaps most important, validate QC as a viable technology option. This effort is reminiscent of EuroHPC JU project announced last year that signed agreements with six sites across Europe to host and operate EuroHPC quantum computers, allowing European users to explore a variety of quantum technologies coupled with leading EuroHPC HPCs. All seven of the firms selected for this UK project elected to stand up their prototypes at the NQCC, validating the program's goals of fostering UK-based collaboration among vendors, driving UK industry adoption, and encouraging a UK-based QC supply chain.

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