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Israeli Government Launches Comprehensive Quantum Computing Development Program

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RECENT DEVELOPMENT

The Israel Innovation Authority and the Israel Ministry of Defense (IMOD) recently announced a $62 million USD collaborative effort to establish a domestic quantum computing (QC) infrastructure. The two-pronged approach calls for the Israel Innovation Authority, part of Israel's Ministry of Economy charged with fostering domestic industrial R&D, to focus on developing QC algorithms, applications, and a related software stack to support both on-premises or cloud QC access models. For its part, the IMOD will stand up a national center to develop a complete quantum computer including a quantum processor expected to consist of 30-40 qubits, quantum control capabilities, and I/O interfacing hardware. The IMOD center will draw on R&D organizations within the Israeli academic and industrial sectors as well as members of TELEM, an organization of Israel's major research funding organizations.

- Program planners indicate that initially, foreign technology will be used in the development efforts, but the ultimate goal is for the development and eventual use of Israeli-developed quantum processors and related technologies.
- This effort is part of an on-going five year Israeli National Quantum Initiative stood up in late 2019 with a budget of over $380 million USD spanning quantum computing, quantum sensors, and quantum communications.

ANALYST COMMENT

The announcement is yet another major step in Israel's efforts to enhance its position as a leading QC developer and end user nation to support national security needs and to boast the competitiveness of its overall industrial base. Despite not having the larger budgets of counterpart QC government programs such as those in China, the EU, or the United States, Israel's QC capability will likely benefit from a comprehensive program designed to foster collaboration across its domestic academic, commercial, and government sectors as well as address its long-term goal of establishing an indigenous QC supply chain. This effort will likely seek to leverage existing capabilities within the emerging set of world-class Israeli commercial QC firms such as Quantum Machines, a QC control system maker, and Classiq, a provider of QC algorithm design software.