Rigetti Computing Launches the Novera™ QPU Partner Program

April 26, 2024

The Novera QPU Partner Program aims to enable high-performing, on-premises quantum computing by creating an ecosystem of quantum computing hardware, software, and service providers who build and offer integral components of a functional quantum computing system. Novera QPU customers can work with Novera QPU partners to build a quantum computer powered by the Novera QPU that satisfies their system requirements and quantum computing research objectives.

BERKELEY, Calif., April 26, 2024 (GLOBE NEWSWIRE) -- Rigetti Computing, Inc. (Nasdaq: RGTI) ("Rigetti" or the "Company"), a pioneer in full-stack quantum-classical computing, announces the launch of the Novera™ QPU Partner Program. The Novera QPU Partner Program is an ecosystem of quantum computing hardware, software and service providers who build and offer integral components of a functional quantum computing system. Novera QPU customers who need control systems, a dilution refrigerator, quantum computing software tools, or integration services can integrate their Novera QPU with Novera QPU Partners' technology with the assurance of compatibility and quality.

The founding members of the Novera QPU Partner Program include some of Rigetti's most long-time partners and are leaders in their respective areas of quantum computing technology:

- Cryogenics: Bluefors
- Control Systems:
  - Quantum Machines
  - Zurich Instruments
- Software:
  - Q-CTRL
  - Strangeworks
  - Classiq
  - Horizon Quantum Computing
- Integration and Service Providers:
  - TreQ
  - ParTec AG
- QEC Solutions: Riverlane

Rigetti intends on growing the Novera QPU Partner Program with additional partners on an ongoing basis.

The Novera QPU is a 9-qubit quantum processing unit (QPU) based on the Company's fourth generation Ankaa™-class architecture featuring tunable couplers and a square lattice for denser connectivity and fast 2-qubit operations. The Novera QPU is manufactured in Rigetti's Fab-1, the industry's first dedicated and integrated quantum device manufacturing facility.

The Novera QPU includes all of the hardware below the mixing chamber plate (MXC) of a dilution refrigerator. In addition to a 9-qubit chip with a 3x3 array of tunable transmons, a 5-qubit chip with no tunable couplers or qubit-qubit coupling which can be used for developing and characterizing single-qubit operations on a simpler circuit, the Novera QPU components include:

- A puck that contains both the 9-qubit and 5-qubit chips, interposers and a PCB to route signals to SMPM connectors at the puck periphery.
- A tower that hangs from the MXC and connects coaxial cables between the puck and the SMA patch panel. The tower delivers cooling power from the MXC to the chips.
- Shields that surround the tower to isolate the puck from infrared radiation and stray magnetic fields.
- Payload brackets and a signal chain installed around the tower with mounted signal conditioning devices, including ferrite isolators, diplexers, filters, and optional quantum-limited amplifiers.

While a QPU is the core of a quantum computer, in order to have a functioning quantum computing system, the installation must also include (1) a dilution refrigerator and (2) a control system. Depending on a customer's research goals, system requirements, and use cases, there are also a variety of quantum software and integration resources that can be integrated with the Novera QPU.

Dr. Subodh Kulkarni, Rigetti CEO, said: "With the Novera QPU, we have a unique opportunity to support the development of on-premises quantum computing capabilities worldwide. At Rigetti, we are experts at overcoming the challenges of building, installing, and supporting a quantum computing system. After a decade in the quantum computing industry, we've also forged long lasting partnerships with world-leading quantum technology companies whose collaborations and expertise helped us advance our capabilities even further. We want to empower Novera QPU customers with an ecosystem of our trusted partners to support their own quantum computing research pursuits, and to help prepare us for a quantum-ready society."

David Gunnarsson, Bluefors CTO, said: "Bluefors' Dilution Refrigerator Measurement Systems are renowned for their unmatched reliability, and today we have more than 1,250 units in operation worldwide. It's important for us to continue to innovate and develop critical components of a high performing quantum computer. Bluefors next generation gas handling system supports the deployment and easy to use cryogenics for on-premises quantum systems. We have the capability to support our customers with best in industry lead time and we are thrilled to be leading the field and

pushing the boundaries of ultra-low temperature cooling."

Nir Minerbi, Classiq CEO, said: "Quantum computing relies on bringing together a collection of technologies in order to achieve the best fitting and performing solution. Classiq is proud to be providing efficient, scalable quantum computing software to facilitate best-practice algorithm development with Novera."

Joe Fitzsimons, Horizon Quantum Computing CEO, said: "Rigetti was one of the pioneers of cloud-based quantum computing, and we are delighted to partner with them as Rigetti processors begin to power on-premises systems. As the industry pushes towards quantum advantage, a strong ecosystem and close collaboration between hardware and software efforts is more important than ever. The Novera QPU Partner Program is a welcome new instrument for building collaboration and allowing for tight integration between technologies at all levels of the quantum computing stack."

Bernhard Frohwitter, ParTec AG CEO, said: "The Novera QPU Partner Program is an essential building block in ParTec's strategy of becoming a quantum computing system integrator, building full-stack solutions using a component-based design that relies on a supply chain of quantum technology providers. ParTec looks forward to integrating the Novera QPU in our holistic quantum computer solutions and working with customers on unleashing its potential."

Michael J. Biercuk, Q-CTRL CEO and Founder, said: "The team at Q-CTRL has been excited to work with the Rigetti team to show how the right combination of hardware and infrastructure software can help deliver huge capabilities and performance enhancements to end users. Now we're thrilled to be delivering this capability directly to researchers and customers of the Novera QPU to help them achieve their goals using quantum computing with optimal performance."

Dr. Itamar Sivan, co-founder and CEO of Quantum Machines, said: "We're excited to be one of the founding members of the Novera QPU Partner Program. OPX1000 enables users to control their Novera QPU in real-time and push the boundaries of what algorithms and experiments can be performed. By integrating our OPX family of high-performance, processor-based controllers with Rigetti's advanced QPU technology, we are paving the path to accessible, powerful quantum computing solutions and accelerated time-to-market. Our partnership embodies our commitment to delivering industry-leading quantum control capabilities that push the boundaries of our industry closer to real-world applications."

Steve Brierley, founder and CEO of Riverlane said: "Together, Riverlane's Quantum Error Correction Stack and Rigetti's Novera QPU go hand in glove. End users can use our stack holistically or in parts. This includes our hardware decoder, optimized for Rigetti's architecture; our suite of public and proprietary software decoders, 'QEC Explorer'; and 'Aqueduct', our open quantum experiment management platform."

swhurley, founder and CEO of Strangeworks, said: "This Partner Program will enable organizations to procure and build powerful quantum computer at a fraction of the price of commercial systems today. We are thrilled to be one of the first members of the Novera QPU Partner Program and deepen our existing partnership with Rigetti."

Mandy Birch, CEO of TreQ said: "TreQ is delighted to partner with Rigetti to build and operate on-premises quantum computing systems that include the Novera QPU. We look forward to supporting pathfinders around the world who are expediting useful and usable next-gen computing infrastructure to elevate their businesses, institutions, and communities."

Moritz Kirste, Head of Business Development Quantum Technologies at Zurich Instruments, said: "We are excited to be one of the founding members of Rigetti's Novera QPU Partner Program. Zurich Instruments started contributing to quantum technologies in 2015, and ever since we are committed to Swiss quality standards in R&D and in production. This partnership opens new pathways to support our customers with full-stack solutions, locally by our experts in seven international offices."

Among the early adopters of small-scale, high performing QPUs like the Novera QPU, are government agencies. The first two Novera QPU sales were to leading US government labs — the Superconducting Quantum Materials and Systems Center (SQMS) led by Fermilab, and the Air Force Research Lab (AFRL). Rigetti also recently sold a Novera QPU to Horizon Quantum Computing for their first quantum computing system, to be installed in their new hardware testbed in Singapore. Quantum computing researchers across academia and industry are also beginning to invest in this technology as it is a promising resource to advance quantum computing workforce development.

The Novera QPU Partner Program launch follows Rigetti's recent achievements with its larger-scale Ankaa-class quantum systems. Rigetti's 84-qubit Ankaa-2 system, which is available over the cloud via Rigetti's Quantum Cloud Services (QCS®) cloud computing platform, recently achieved a 98% median 2-qubit gate fidelity. This performance marks a 2.5X increase in error performance compared to the Company's previous QPUs. Rigetti was also recently awarded an Innovate UK competition to deliver a 24-qubit Ankaa-class quantum computing system to the UK's National Quantum Computing Centre.

About Rigetti
Rigetti is a pioneer in full-stack quantum computing. The Company has operated quantum computers over the cloud since 2017 and serves global enterprise, government, and research clients through its Rigetti Quantum Cloud Services platform. The Company's proprietary quantum-classical infrastructure provides high performance integration with public and private clouds for practical quantum computing. Rigetti has developed the industry's first multi-chip quantum processor for scalable quantum computing systems. The Company designs and manufactures its chips in-house at Fab-1, the industry's first dedicated and integrated quantum device manufacturing facility. Learn more at rigetti.com.

About Bluefors
Bluefors is the world leader in manufacturing cryogenic measurement systems for the field of quantum technology. We are dedicated to delivering the most reliable, easy-to-operate systems and versatile on the market. The quality of our products in combination with our scalable production capabilities, has made the quantum technology field recognize us as the preferred choice for their ultra-low temperature requirements. We offer a variety of models of dilution refrigerator measurement systems to meet the specific needs of our customers in laboratories in companies and universities worldwide.

About Classiq
Classiq Technologies, the leading quantum software company, provides an all-encompassing platform (IDE, compiler and OS) with a single point of entry into quantum computing, taking you from algorithm design to execution. The high-level descriptive quantum software development environment, tailored to all levels of developer proficiency, automates quantum programming. This ensures that a broad range of talents, including those with

backgrounds in AI, ML and linear algebra, can harness quantum computing without requiring deep, specialized knowledge of quantum physics. Classiq democratizes access to quantum computing and equips its users to take full advantage of the quantum computing revolution, including access to a broad range of quantum hardware.

About Horizon Quantum Computing

Horizon Quantum Computing is developing a new generation of programming tools to simplify and expedite the process of developing software for quantum computers. By removing the need for prior quantum computing experience to develop applications for quantum hardware, Horizon's tools are making the power of quantum computing accessible to every software developer.

The company was founded by Dr Joe Fitzsimons in 2018, a former professor with two decades of experience in quantum computing and computational complexity theory. The leadership team also includes Dr Si-Hui Tan, Chief Science Officer, who holds a Ph.D. in Physics from MIT and has been actively involved in quantum research for the same period.

About ParTec AG

ParTec AG, founded in 1999, specializes in the development and building of modular supercomputers, the design, manufacture and integration of quantum computers as well as the development of accompanying software. The team spearheads R&D projects in QC, HPC and AI optimizing efficiency and increasing performance.

ParTec AG positions itself as a quantum computer integrator. We assemble full-stack solutions using components from technology providers, allowing us to offer different type of QPUs and modalities in the same overall system architecture. The physical system will be complemented with a digital twin and the overall solution is integrated into high-performance computing environments with our QBridge integration software.

Further information on the company and ParTec AG's innovative solutions in the field of high-performance computing and quantum computing can be found at www.par-tec.com.

About Q-CTRL

Q-CTRL's quantum control infrastructure software for R&D professionals and quantum computing end users delivers the highest performance error-correcting and suppressing techniques globally, and provides a unique capability accelerating the pathway to the first useful quantum computers and quantum sensors. Q-CTRL also has developed Black Opal, an edtech platform that enables users to quickly learn quantum computing.

About Quantum Machines

Quantum Machines (QM) drives quantum breakthroughs that accelerate the realization of practical quantum computers. The company's Quantum Orchestration Platform (QOP) fundamentally redefines the control and operations architecture of quantum processors. The full-stack hardware and software platform is capable of running even the most complex algorithms right out of the box, including quantum error correction, multi-qubit calibration, and more. Helping achieve the full potential of any quantum processor, the QOP allows for unprecedented advancement and speed-up of quantum technologies as well as the ability to scale to thousands of qubits. Visit us at: www.quantum-machines.co.

About Riverlane

Riverlane's mission is to make quantum computing useful, sooner. This will transform the future of computing and start an era of human progress as significant as the digital and industrial revolutions. Achieving this requires a 10,000x reduction in the system errors that quickly overwhelm all quantum computers, today. Riverlane is building Deltaflow, the quantum error correction (QEC) stack, that solves this problem in all quantum computers using every type of qubit. At Deltaflow's core is the world's most powerful quantum error decoder. Deltaflow is powered by a new class of patented QEC semiconductors designed and built by Riverlane.

About Strangeworks

Strangeworks provides access to classical, quantum-inspired, and quantum computing technologies through its advanced compute platform. Strangeworks enables organizations to solve today's business problems while pathfinding the solutions for tomorrow. Strangeworks applications, including its flagship Optimization module and its business management tools, make it easy to manage compute resources, teams, and billing - all in one place. Together, Strangeworks helps your team discover new technologies and understand how to apply them to your novel problems. To learn more about how Strangeworks can accelerate your quantum journey, visit https://strangeworks.com.

About TreQ

TreQ builds and operates bespoke quantum computing systems, when and where they are needed, for global pioneers advancing economic opportunity, scientific discovery, and collective security.

About Zurich Instruments

Zurich Instruments is a Swiss company with a passion for phenomena that are often notoriously difficult to measure. We lead the change by developing cutting-edge hardware and software for quantum computing control systems, lock-in amplifiers, impedance analyzers, and arbitrary waveform generators. As a company of scientists for scientists, we tackle challenges of research by providing a wide product portfolio that reduces complexity of laboratory setups, unlocks new measurement strategies and complies to Swiss quality standards. Our commitment to collaborations and real-time support is reflected in seven offices worldwide, numerous research partnerships, and thousands of publications referring to Zurich Instruments. Since 2021, Zurich Instruments is a part of the Rohde & Schwarz and continues its sustainable growth to advance science and accelerate the second quantum revolution.

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Cautionary Language Concerning Forward-Looking Statements

Certain statements in this communication may be considered "forward-looking statements" within the meaning of the federal securities laws. These forward-looking statements are based upon estimates and assumptions that, while considered reasonable by the Company and its management, are inherently uncertain. Factors that may cause actual results to differ materially from current expectations include, but are not limited to: the Company's ability to achieve milestones, technological advancements, including with respect to its technology roadmap, help unlock quantum computing, and develop practical applications; the ability of the Company to obtain government contracts successfully and in a timely manner and the availability of government funding; the potential of quantum computing; the ability of the Company to expand its QPU sales; the success of the Company's partnerships and collaborations; the Company's ability to accelerate its development of multiple generations of quantum processors; the outcome of

any legal proceedings that may be instituted against the Company or others; the ability to maintain relationships with customers and suppliers and attract and retain management and key employees; costs related to operating as a public company; changes in applicable laws or regulations; the possibility that the Company may be adversely affected by other economic, business, or competitive factors; the Company's estimates of expenses and profitability; the evolution of the markets in which the Company competes; the ability of the Company to implement its strategic initiatives, expansion plans and continue to innovate its existing services; the expected use of proceeds from the Company's past and future financings or other capital; the sufficiency of the Company's cash resources; unfavorable conditions in the Company's industry, the global economy or global supply chain, including financial and credit market fluctuations and uncertainty, rising inflation and interest rates, disruptions in banking systems, increased costs, international trade relations, political turmoil, natural catastrophes, warfare (such as the ongoing military conflict between Russia and Ukraine and related sanctions and the state of war between Israel and Hamas and related threat of a larger conflict), and terrorist attacks; and other risks and uncertainties set forth in the section entitled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" in the Company's Annual Report on Form 10-K for the year ended December 31, 2023 and other documents filed by the Company from time to time with the SEC. These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Forward-looking statements speak only as of the date they are made. Readers are cautioned not to put undue reliance on forward-looking statements, and the Company assumes no obligation and does not intend to update or revise these forward-looking statements other than as required by applicable law. The Company does not give any assurance that it will achieve its expectations.