

Rigetti Awarded Department of Energy Contract to Develop Quantum Simulation for Fusion Energy

BERKELEY, Calif.— Rigetti Computing (Rigetti), a pioneer in full-stack quantum computing, has been selected to lead a quantum simulation project for fusion energy awarded by the Department of Energy (DoE). Rigetti will collaborate with Lawrence Livermore National Laboratory and the University of Southern California on the three-year, \$3.1 million project that will simulate plasma dynamics on Rigetti’s cloud-based quantum computers.

Fusion energy research seeks to harness the same nuclear reactions that power the sun as an alternative source of clean, safe, and abundant energy. The funding is part of an initiative sponsored by the Office of Fusion Energy Sciences (FES) to further the scientific understanding of plasma physics, the science underpinning fusion energy. Advancing the predictive capabilities needed to develop a sustainable energy source from fusion plasmas could ultimately create important economic, environmental, and national security benefits.

“The pursuit of fusion energy is one of the most challenging programs of scientific research and development that has ever been undertaken. Because the fusion mission is so computationally intensive, partnering with Rigetti will bring their quantum computing resources to bear on research designed to help create a path towards a safe, clean, and environmentally sustainable future,” says Patricia Falcone, Deputy Director for Science and Technology at Lawrence Livermore National Laboratory.

Under the program, the team will apply quantum information science and quantum computing techniques to plasma simulation. The project also aims to characterize quantum computing’s ability to exceed classical processing for this type of application.

“Rigetti quantum computers are ideal for this type of work where computational speed is the current bottleneck to progress. By combining our fast superconducting quantum processors with the high-performance co-processing and unique programming capabilities available on Rigetti Quantum Cloud Services, the project team can approach the underlying fusion models using powerful capabilities like hybrid quantum-classical solvers and advanced compiler optimizations,” said Matt Reagor, Director of Engineering for Rigetti.

The joint research will develop and apply quantum computing in ways expected to advance the fields of fusion energy and quantum information science. One outcome of this project will be the first exploration of carefully engineered multi-qubit gates and interactions for simulating plasma dynamics on a quantum computer. The project will also develop and apply control pulse engineering and dynamic error suppression techniques that are expected to enable long duration simulations with high effective gate depth.

The initiative will leverage and extend QUIL and associated programming libraries, such as Quil-T. QUIL is an open-source quantum instruction language for hybrid quantum-classical computing originally developed by Rigetti. Quil-T is its time-domain pulse programming extension. These advanced quantum programming tools will be made available to users through the company's Quantum Cloud Services platform and are expected to benefit other quantum computing application areas in addition to fusion energy science.

The project was selected for contract award by competitive peer review under the DOE [Funding Opportunity Announcement](#) for Quantum Information Science Research for Fusion Energy Sciences and a companion National Laboratory Announcement.

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 ultra-low latency integration with public and private clouds for high-performance 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. Rigetti was founded in 2013 by Chad Rigetti and today employs more than 140 people with offices in the United States, U.K., and Australia. Learn more at www.rigetti.com.

Additional Information and Where to Find It

Supernova Partners Acquisition Company II ("Supernova") has filed a registration statement on Form S-4 with the Securities Exchange Commission (the "SEC"), which includes a proxy statement/prospectus, that will be both the proxy statement to be distributed to holders of Supernova's common shares in connection with its solicitation of proxies for the vote by Supernova's shareholders with respect to the proposed business combination and other matters as may be described in the registration statement, as well as the prospectus relating to the offer and sale of the securities to be issued in the

business combination. After the registration statement is declared effective, Supernova will mail a definitive proxy statement/prospectus and other relevant documents to its shareholders. This communication does not contain all the information that should be considered concerning the proposed business combination and is not intended to form the basis of any investment decision or any other decision in respect of the business combination. Supernova's shareholders and other interested persons are advised to read, when available, the preliminary proxy statement/prospectus included in the registration statement and the amendments thereto and the definitive proxy statement/prospectus and other documents filed in connection with the proposed business combination, as these materials will contain important information about Rigetti Holdings, Inc. ("Rigetti"), Supernova and the business combination. When available, the definitive proxy statement/prospectus and other relevant materials for the proposed business combination will be mailed to shareholders of Supernova as of a record date to be established for voting on the proposed business combination. Shareholders will also be able to obtain copies of the preliminary proxy statement, the definitive proxy statement and other documents filed with the SEC, without charge, once available, at the SEC's website at www.sec.gov, or by directing a request to Supernova's secretary at 4301 50th Street NW, Suite 300 PMB 1044, Washington, D.C. 20016, (202) 918-7050.

Participants in the Solicitation

Supernova and its directors and executive officers may be deemed participants in the solicitation of proxies from Supernova's shareholders with respect to the proposed business combination. A list of the names of those directors and executive officers and a description of their interests in Supernova is contained in Supernova's prospectus dated March 3, 2021 relating to its initial public offering, which was filed with the SEC and is available free of charge at the SEC's website at www.sec.gov. To the extent such holdings of Supernova's securities may have changed since that time, such changes have been or will be reflected on Statements of Change in Ownership on Form 4 filed with the SEC. Additional information regarding the interests of such participants will be contained in the proxy statement/prospectus for the proposed business combination when available.

Rigetti and its directors and executive officers may also be deemed to be participants in the solicitation of proxies from the shareholders of Supernova in connection with the proposed business combination. A list of the names of such directors and executive officers and information regarding their interests in the proposed business combination will be included in the proxy statement/prospectus for the proposed business combination when available.

No Offer or Solicitation

This communication does not constitute (i) a solicitation of a proxy, consent or authorization with respect to any securities or in respect of the proposed business combination or (ii) an offer to sell, a solicitation of an offer to buy, or a recommendation to purchase any security of Supernova, Rigetti, or any of their respective affiliates.

Forward-Looking Statements

Certain statements in this communication may be considered forward-looking statements. Forward-looking statements generally relate to future events and can be identified by terminology such as "pro forma", "may", "should", "could", "might", "plan", "possible", "project", "strive", "budget", "forecast", "expect", "intend", "will", "estimate", "anticipate", "believe", "predict", "potential" or "continue", or the negatives of these terms or variations of them or similar terminology. Such forward-looking statements are subject to risks, uncertainties, and other factors which could cause actual

results to differ materially from those expressed or implied by such forward looking statements. These forward-looking statements are based upon estimates and assumptions that, while considered reasonable by Supernova and its management, and Rigetti and its management, as the case may be, are inherently uncertain. Factors that may cause actual results to differ materially from current expectations include, but are not limited to: the outcome of any legal proceedings that may be instituted against Supernova, Rigetti, the combined company or others following the announcement of the business combination and any definitive agreements with respect thereto; the inability to complete the business combination due to the failure to obtain approval of the shareholders of Supernova or to satisfy other conditions to closing; changes to the proposed structure of the business combination that may be required or appropriate as a result of applicable laws or regulations or as a condition to obtaining regulatory approval of the business combination; the ability to meet stock exchange listing standards following the consummation of the business combination; the risk that the Business Combination disrupts current plans and operations of Rigetti as a result of the announcement and consummation of the Business Combination; the ability to recognize the anticipated benefits of the business combination, which may be affected by, among other things, competition, the ability of the combined company to grow and manage growth profitably, maintain relationships with customers and suppliers and retain its management and key employees; costs related to the business combination; changes in applicable laws or regulations; the possibility that Rigetti or the combined company may be adversely affected by other economic, business, or competitive factors; Rigetti's estimates of expenses and profitability; the evolution of the markets in which Rigetti competes; the ability of Rigetti to implement its strategic initiatives, expansion plans and continue to innovate its existing services; the impact of the COVID-19 pandemic on Rigetti's business; and other risks and uncertainties set forth in the section entitled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" in the registration on Form S-4 and proxy statement/prospectus discussed above and other documents filed with Supernova from time to time with the SEC.

Nothing in this communication should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that any of the contemplated results of such forward-looking statements will be achieved. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. Neither Supernova nor Rigetti undertakes any duty to update these forward-looking statements.