

PRESS RELEASE

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EDF, Exaion Inc., PASQAL and the Quantum Innovation Zone Bring High-Performance Computing and Quantum Technologies to the Forefront of Energy Solutions

(Sherbrooke, Quebec, Canada, November 15, 2022) — EDF, Exaion Inc., PASQAL and the Quantum Innovation Zone are joining forces to create the first open center of excellence to develop sustainable energy solutions using the combined capabilities of HPC and quantum computing. As the world is facing unprecedented energy challenges, we aim to provide the energy industry with sustainable quantum-based solutions by 2024.

This center of excellence is called QuaTERA – Quantum Technologies Energy Result Accelerator. It aims to form an ecosystem of partnerships at the intersection of the energy industry, classic/quantum hardware, and hybrid algorithms to design and build quantum-HPC-based solutions that solve real energy industry challenges today. QuaTERA welcomes organizations that share this goal to join at quatera.com.

“Today, quantum technologies hold many promises waiting to be turned into real-life solutions. We decided to take the lead and play a decisive role in producing practical HPC-quantum solutions impacting today’s energy sector while creating opportunities for collaborative projects and training of highly qualified personnel” said Richard St-Pierre, CEO of the Quantum Innovation Zone.

The cornerstone of this center of excellence is the expertise of Exaion Inc. in HPC and PASQAL in quantum machines. The coupling of these two systems will deliver unprecedented computing potential to solve what was impossible before. QuaTERA goes beyond the bounds of technology by combining computing power with EDF’s extensive library of energy optimization and simulation algorithms. This man-machine combination offers a path forward to solve specific problems faced by the world's energy industry such as digital twins, citywide EV charging stations, and resilience optimization to name a few. The center aims to stimulate the creation of open solutions while providing enough commercial incentives for enterprises to participate.

“We are keen to collaborate with other industry players to benefit the energy industry worldwide. By combining classic and quantum infrastructure as well as classic and quantum algorithms, we have the possibility to build industry-wide inflection points” Stéphane Tanguy, CIO & CTO at EDF Labs at EDF - EDF Fellow.

QuaTERA’s first home is a massive innovation lab based in Sherbrooke, Quebec, Canada, in the middle of a momentous quantum ecosystem that spans renowned academics from the Université de Sherbrooke, PINQ² and leading industry players.

ABOUT EDF

As a major player in energy transition, the EDF Group is an integrated energy company active in all businesses: generation, transmission, distribution, energy trading, energy sales and energy services. EDF group is a [world leader in low-carbon energy](#), having developed a diverse production mix based mainly on nuclear and renewable energy (including hydropower). It is also investing in new technologies to support energy transition. EDF's raison d'être is to *build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive well-being and economic development*. The Group is involved in supplying energy and services to approximately 38.5 million customers (1), of whom 29.3 million in France (2). It generated consolidated sales of €84.5 billion in 2021. EDF is listed on the Paris Stock Exchange.

ABOUT EXAION

Exaion, a subsidiary of the EDF Group, was co-founded in 2020 by Fatih Balyeli and Laurent Bernou-Mazars who became CEO and CTO respectively. In line with the Group's raison d'être, it supports industries in their digital transformation towards Web3 with a responsible and sustainable approach: upgrading existing supercomputers, using low-carbon electricity (3), and recovering waste heat. Its mission is focused on data: accelerating processing, securing it and facilitating access and control for users. Its experts develop high-performance, innovative and sovereign solutions and services. Exaion Inc., its subsidiary based in Montreal and Sherbrooke, Canada, addresses the needs of North American players.

ABOUT PASQAL

PASQAL builds quantum computers from ordered neutral atoms in 2D and 3D arrays to bring a practical quantum advantage to its customers and address real-world problems. PASQAL was founded in 2019 by Georges-Olivier Reymond, Christophe Jurczak, Professor Dr. Alain Aspect, Nobel Prize Winner Physics, 2022, Dr. Antoine Browaeys, and Dr. Thierry Lahaye. PASQAL has secured more than €40 million in financing, combining equity and non-dilutive funding from Quantonation, the Defense Innovation Fund, Runa Capital, BPI France, ENI, and Daphni. PASQAL has 100+ employees and has offices in Palaiseau and Massy, south of Paris, France, Amsterdam, The Netherlands, and Sherbrooke, Canada.

ABOUT QUANTUM INNOVATION ZONE

Quantum Innovation Zone is a non-profit organization based in Sherbrooke, Quebec supported by the Government of Québec. It acts as a catalyst of quantum expertise & infrastructure to foster the emergence and acceleration of innovations for the industry. It leverages the ecosystem established by the long-standing leadership in global quantum research of the *Université de Sherbrooke* and *Institut quantique* where is conducted high-quality fundamental research to develop the quantum technologies of the future.

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(1) Since 2018, customers are counted per delivery site. A customer can have two delivery points: one for electricity and another one for gas.

(2) Including ÉS (Électricité de Strasbourg) and SEI.

(3) In France, more than 97% of the electricity generated by EDF in 2021 was CO₂ emission-free, thanks to nuclear and renewable energies. EDF SA perimeter / Source: EDF