

EQUAL1 WINS MAJOR PATHFINDER GRANT AWARD FROM EUROPEAN COMMISSION TO RESEARCH SCALING NEXT-GENERATION QUANTUM COMPUTERS

The QUADRATURE consortium will research distributed quantum cores for massively scalable quantum computing

SAN CARLOS, CA, US, March 9, 2023 /EINPresswire.com/ -- Equal1, the desktop quantum



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Jason Lynch, CEO of Equal1

computing company, today announced that the "QUADRATURE" consortium, of which it is a core member, has been awarded the prestigious, highly competitive Horizon Europe European Innovation Council (EIC) Pathfinder Open funding grant to advance research into massively scalable quantum computers through coherent quantum links connecting quantum processors.

Equal1 is joined in the consortium by leading European research centers Barcelona Supercomputer Center, Delft University of Technology, École Polytechnique Fédérale de Lausanne (EPFL), Technical University of Catalunya,

Technical University of Valencia (project coordinator), University College Dublin, University of Catania, and University of Siegen.

Quantum computing taps nature's operating system, quantum mechanics, to unlock exponential computer performance. Unlike classical computing, which calculates through 'bits' that represent either 0 or 1, quantum computing calculates with '[qubits](#)' that can represent all possible values simultaneously (superposition) until read. Qubits can be linked with other qubits, a property known as entanglement, which exponentially scales computational performance.

The vision of QUADRATURE is a step towards million-qubit quantum computing architectures able to address real-world problems otherwise intractable with classical computers. The total grant to the consortium from the European Union is €4 million.

To deliver on the era of Quantum Advantage (where processing real-world problems are faster

on a quantum computer than on a classical computer) demands upscaling quantum computers with thousands or even millions of qubits. This qubit scaling is where the QUADRATURE consortium is focused on novel new quantum architectures. Rather than individually wiring and connecting millions of individual qubits, QUADRATURE aims to pioneer a new generation of scalable architectures by connecting distributed quantum cores (Qcores). These cores are connected via quantum-coherent qubit state transfer links and via wireless interconnect. This novel architecture supports reconfigurability and will support massive flows of heterogeneous quantum algorithmic requirements.

"Scaling the performance is the defining challenge of the quantum computing industry," says Jason Lynch, CEO of Equal1. "We are delighted to join such a world-leading group of research partners in the Pathfinder award, which will explore novel ways to scale quantum computers. In short, instead of interconnecting millions of individual qubits, interconnecting a few quantum cores."

References

https://eic.ec.europa.eu/eic-funding-opportunities/eic-pathfinder_en

About Equal1

Equal1 leverages commercially available semiconductor technology to deliver quantum computing solutions that empower businesses to overcome data-intensive AI challenges today.

With its much smaller carbon footprint, our scalable, cost-effective technology provides a quantum computing path that will impact the trajectory of AI. This means we enable our customers to leverage the power of AI to develop useful, real-world solutions. www.equal1.com

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