

EQUALITY consortium selected by EU's Horizon Europe Program to develop quantum algorithms for industrial applications

The project brings together scientists, innovators, and industrial players and will receive a six-million-euro funding from the EC over the next three years.

BERLIN, GERMANY, February 24, 2023 /EINPresswire.com/ -- The EQUALITY¹ consortium comprising Airbus, Capgemini, Da Vinci Labs, Fraunhofer ENAS, German Aerospace Center, INRIA, Leiden University and PASQAL, has been selected by the EU's key funding program for research and innovation, Horizon Europe, to develop innovative quantum computer algorithms that are aimed to solve strategic industrial problems.



EQUALITY is funded by the European Union under Grant Agreement 101080142.

By transforming current industrial interest into widespread adoption, EQUALITY's objective is to solidify the link between strategic European industries and the emerging quantum ecosystem, while also contributing to technologies which are critical to the green transition. This project is one of three submissions selected out of a total of 51. The partners will receive a cumulative six-million-euro funding from the European Commission over the next three years.

The consortium will target eight industrial use cases that can benefit from the quantum-enabled speed-up – each computationally complex and faced routinely by the industrial partners. These are airfoil aerodynamics, battery design, fluid dynamics, space mission optimization, materials design, multidisciplinary optimization, space data analysis and fuel cell design. The computational requirements are enormous, forcing today's engineers to use simplistic models or rely on expensive build-and-test cycles. This is exemplified in aerodynamics, where it is more feasible to test models in a wind tunnel than solving the difficult equations involved in simulations. Similarly complex situations are also found in Li-ion batteries and fuel cell simulations.

The opportunity provided by quantum computers to tackle such questions computationally

promises a competitive edge for European industry. Moreover, energy-efficient aerodynamics and more durable and affordable batteries are critical to propelling these industries towards zero emissions.

Born in Europe over 100 years ago, quantum physics brought forth a technological revolution, enabling inventions such as semiconductors, lasers, fibre optics, and other technologies that are today ubiquitous in our lives.

Quantum computers can perform several operations that are too difficult, or even impossible, for regular processors. And as they approach widespread commercial application, they open up market opportunities in several sectors.

The use of today's quantum hardware, however, requires grappling with the limitations of this nascent technology. These bottlenecks limit the application of quantum computers to solve industrial problems.

¹EQUALITY stands for Efficient 'QUAntum ALgorithms for IndusTrY'

Learn more at EQUALITY's [website](#), and [Twitter](#) and [LinkedIn](#) pages.

About Capgemini (Coordinator)

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of 360,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2022 global revenues of €22 billion.

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About Da Vinci Labs (Communication and Dissemination Partner)

Da Vinci Labs is a research and incubation structure inspired by Leonardo da Vinci. It's interdisciplinary and humanistic approach aims to respond in a competitive way to the ecological challenges of tomorrow, and to bring out the future champions of deeptech, in particular in the field of quantum technologies, artificial intelligence and synthetic biology. To do this, Da Vinci Labs participates in European collaborative research projects and builds a technological infrastructure in Touraine which will be made available to researchers and entrepreneurs ready to tackle our major societal challenges.

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