



Capgemini 

Capgemini and Pasqal

The partnership to apply real-world quantum solutions for out-of-this-world capabilities

CAPGEMINI VENTURES

Pasqal is a leading quantum computing company that's committed to addressing real-world problems. It builds quantum processors from ordered neutral atoms in 2D and 3D arrays to bring a practical advantage to its customers. With a global reach and over €140 million in financing secured, Pasqal has demonstrated its innovative capabilities, reshaping industries and pioneering new technologies.

The power of partnership

Our global alliance partnership unlocks the true potential of quantum technology. From climate change to discovering new cures for illness, we combine our expertise to tackle human challenges and make a tangible impact on people's lives.

Recognizing that many organizations have yet to see a compelling use case or real-world application of quantum computing, Pasqal and Capgemini work closely together to guide customers through their quantum journey. We empower them to apply and leverage this exciting, cutting-edge technology.

With a shared ambition to offer end-to-end quantum applications, support, and training to organizations of all sizes, we enable faster and more efficient resolutions to complex business challenges.

Leveraging Nobel Prize-winning technology, Pasqal and Capgemini to address complex industry challenges that current technology cannot solve through the power of quantum computing. Together, we aim to integrate quantum capabilities into existing High Performance Computing (HPC) workflows, developing practical, enterprise-grade applications. Pasqal's quantum processors provide the most realistic chance of achieving tangible near-term outcomes, helping businesses tackle their most pressing challenges with advanced quantum solutions.

"We are proud to partner with a global leader like Capgemini that shares our vision for advancing quantum technologies and sustainability."

Georges Reymond,
CEO, Pasqal

Three things to know about Pasqal

1.

Pasqal was founded in 2019, out of the Institut d'Optique, by Georges-Olivier Reymond, Christophe Jurczak, Professor Dr. Alain Aspect, Nobel Prize Laureate Physics, 2022, Dr. Antoine Browaeys, and Dr. Thierry Lahaye.

2.

Industry leaders in neutral atom technology – a fast-developing and promising computing platform, which can enable organizations to address today's business challenges in a revolutionary way.

3.

At the forefront of the second quantum revolution – a diverse, passionate team of creative and collaborative engineers and scientists, committed to developing efficient tools to solve real-world problems.

Our joint purpose

Together, we're dedicated to developing breakthrough quantum computing solutions and enabling industry advancement across a variety of sectors such as life sciences, financial services, energy transition, and utilities.

Specific examples of this include:



Accelerating drug discovery



Asset portfolio optimization



Improving the efficiency of batteries and fuel cells

Our partnership also spotlights energy transition and sustainability applications. The outcome is to help customers achieve their higher goals faster, get to their desired results more efficiently, and achieve a robust industry leadership position.

Developing quantum algorithms for industrial applications

Client

The EQUALITY Consortium, comprising Airbus, Capgemini, Da Vinci Labs, Fraunhofer ENAS, German Aerospace Center, INRIA, Leiden University, and Pasqal.

Challenge

EQUALITY has been selected by the EU's key funding program for research and innovation to develop innovative quantum computer algorithms that can solve strategic industrial problems. The consortium's challenge is to achieve this while also contributing toward technologies that are critical to the green transition.

Solution

Powered by funding from the European Commission, the consortium is targeting eight industrial use cases that can benefit from a 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.

Results

The opportunity provided by quantum computers to tackle such complex questions computationally delivers a competitive edge for European industry. For example, Pasqal and Capgemini have already supported Airbus in optimizing airplane frames for enhanced energy efficiency using Computational Fluid Dynamics (CFD) simulations.

⟨ EQUALITY ⟩

Efficient QUantum ALgorithms for InduSTRY



“We are looking forward to expanding our partnership with Pasqal and exploring new quantum applications for our clients – so they can develop a long-term quantum advantage for concrete business impact, while reinforcing the European quantum ecosystem.”

Pascal Brier, Chief Innovation Officer, Capgemini

Collaborate with Capgemini and Pasqal

For further information about our innovative partnership with Pasqal, and to find out how we can leverage quantum computing to address your unique business challenges, please contact:

Wael Yahyaoui from the Capgemini Ventures team.

Or email the **Startup Catalyst Team** at startupcatalyst.global@capgemini.com.