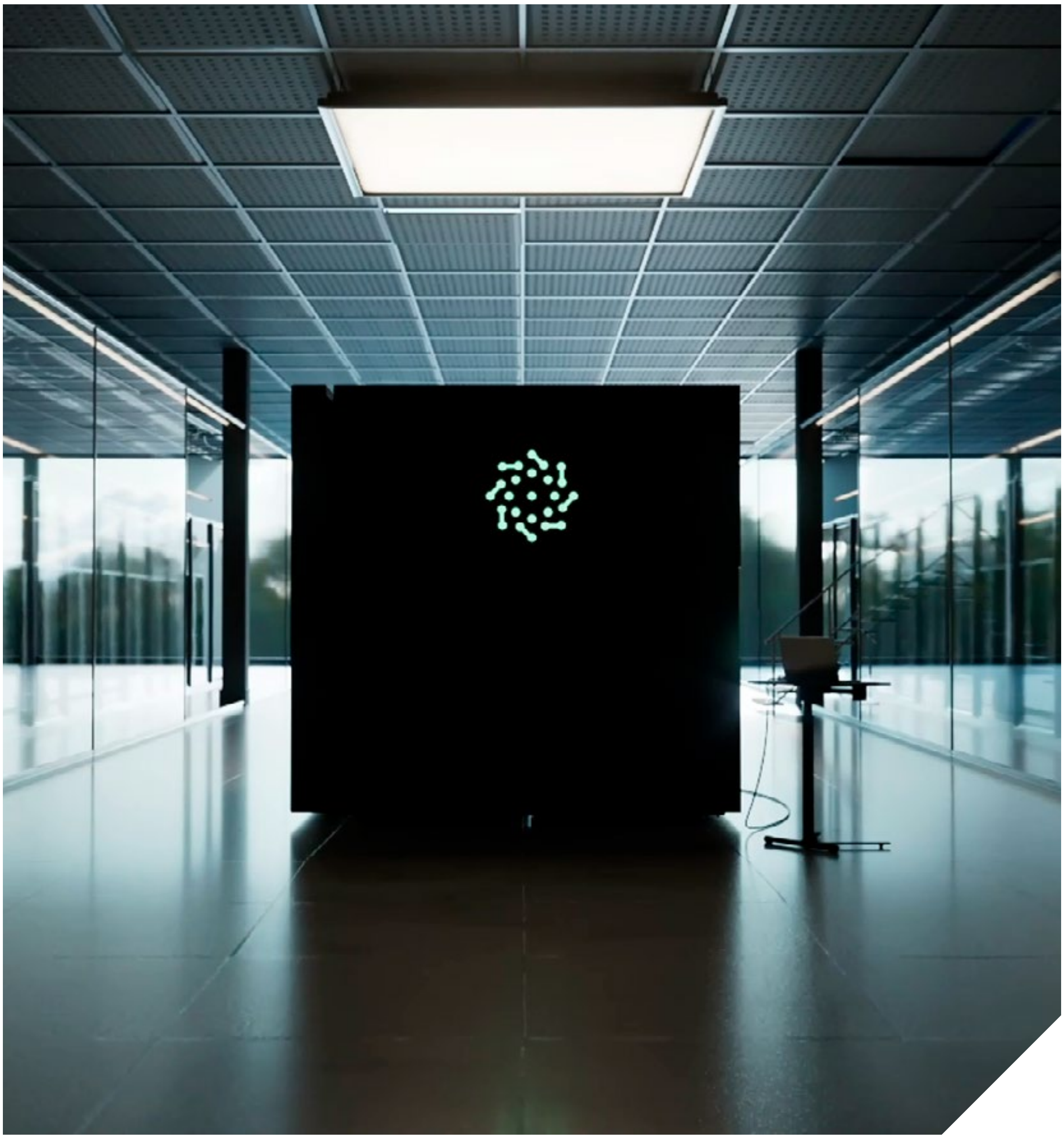
Pioneering Neutral Atom Quantum Computing for Real-World Advantage

2025



Leading with Science.
Excelling in Engineering

Leading the way in neutral atom quantum technology, Pasqal unites scientific discovery with engineering excellence. Built on Nobel Prize-winning neutral atom technology, our quantum processors deliver transformative solutions to complex challenges across industries from finance to pharmaceuticals.

Founded in 2019, we develop and commercialize quantum computers that address real-world problems through our full-stack approach. Our programmable quantum processors harness laser-cooled atoms to unlock unprecedented computational possibilities, empowering businesses and researchers to solve what was previously impossible.

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At Pasqal, we are driving the industrialization of quantum computing by transforming scientific breakthroughs into business solutions.

We are committed to unlock the unprecedented value of quantum computing for industries, governments, and academia worldwide.

LOÏC HENRIET
Chief Executive Officer

Vision

Our ambition is to break through the limits of computing by leading the delivery of state-of-the art quantum computing.

Mission

From single atoms to global impact, our passion for science helps interpret the complexity of the world.

+1,100
trapped atoms

+540
qubits sold

200
qubits, most sophisticated
QPU installed on-premise in 2025

7 QPUs
in operation
& manufacturing

2 QPUs
installed

4 QPUs
to be delivered

+400
Publications & patents
by 2024

+20
public customers
use cases

+75
international PhDs

+200M€
raised to date

2 Quantum factories
Paris (France) & Sherbrooke (Canada)

FTQC

Pasqal is committed to a cohesive full-stack approach, ensuring that as quantum hardware evolves towards fault-tolerant systems, our customers can seamlessly develop and scale their applications. Fault-tolerant quantum computing systems, also known as Fault Tolerant Quantum Computing (FTQC), are large-scale, error-resistant, and capable of efficiently running complex algorithms.

We are actively working towards this vision by advancing neutral atom technology and quantum error correction, collaborating with partners like Riverlane to deliver powerful quantum solutions that unlock the full potential of quantum computing for real-world applications.

Our solution to FTQC

Dual-programming model

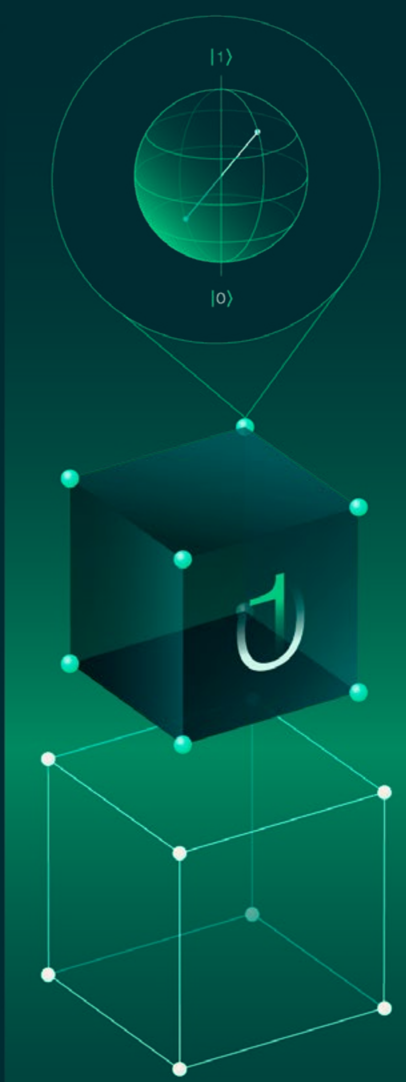
FTQC means evolving from a physical qubit paradigm to a logical qubit one on the same hardware platform.

Logical qubit

Entangling multiple physical qubits to create a logical qubit.

Ancillary qubit

Ancillary qubits are measured to detect if errors have occurred, without disturbing the logical qubits' states



History & Roadmap

2019

Pasqal is founded out of the Institut d'Optique Paris, by five visionary scientists: Dr. Georges-Olivier Reymond, Prof. Alain Aspect, Dr. Christophe Jurczak, Dr. Antoine Browaeys, and Dr. Thierry Lahaye.

The backbone of Pasqal's neutral atoms quantum computing technology is Prof. Alain Aspect's pioneering work that earned him the Nobel Prize, with the first experiment dating back to 1980.

2021

Pasqal raises €25M in Series A funding to speed up the commercialization of quantum processors.

2022

First Neutral Atoms Quantum Computer available on the cloud.

Professor Alain Aspect, Pasqal co-founder, is awarded the Nobel Prize in Physics for experiments with entangled photons and pioneering quantum information science.

2023

Pasqal raises €100 M in Series B funding to advance research and industrialization of neutral atoms quantum computing.

Highlighted by the BCG as the only non-US based quantum computing company developing enterprise-grade ready offer. Thanks to the most ambitous quantum use case implemented in the world together with a private customer (CA CIB).

2024

New technology roadmap focused on business utility and scaling beyond 1,000 qubits towards Fault-Tolerance Era.

Over 50 customers and partners from Fortune 500 companies spanning more than 10 countries.

A well-established global presence with offices in Europe, North America, Middle East, APAC. A workforce of over 250 people.

Successful delivieries of 2 QPUs to customers' facilities.

2026

Industrial Quantum Advantage achieved.

2028

Break even in FTQC.

2029

200 logical qubits industrialised quantum processor.

Strategic Alliances to Accelerate Quantum Adoption

Long-term collaboration around software innovation and integration for quantum -centric supercomputing. First-of-its-kind collaboration in Quantum Computing.

Reduce costly infrastructure barriers for companies wanting to use Pasqal's QPU, by leveraging the flexible, pay-as-you-go model of Google Cloud.

Connected NVIDIA's CUDA-Q open-source, hybrid quantum-classical computing platform, to Pasqal's QPUs.

Partnership extension with Microsoft Azure to allow wider accessibility of quantum technology through the Azure cloud.

Pasqal QPUs already all around the world

ON PREMISE SALES | CLOUD HOURS | CLOUD SERVICES

GENCI — Le calcul intensif au service de la connaissance | JÜLICH Forschungszentrum | CINECA | aramco

CLOUD HOURS | CLOUD SERVICES

BASF We create chemistry | AIRBUS | PINQ² | POSCO | SAFRAN

Fraunhofer | Johnson&Johnson | Sumitomo Corporation

SIEMENS | LG Electronics | THALES | Panasonic

Working with global companies

Energy

CONTEXT

Charging of Electrical Vehicles presents both challenges and opportunities for grid electricity management.

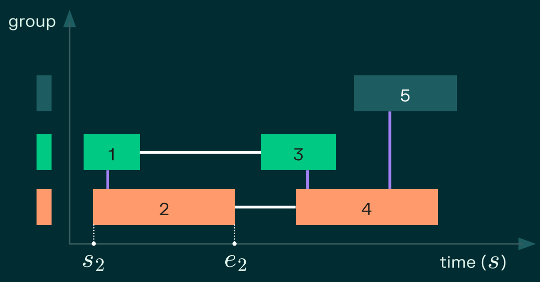
OBJECTIVE

Minimize the time of a number of charges, while no group (representing e.g. a vehicle fleet) is over-represented in the schedule.

CURRENT METHOD

From a dataset of 2,250 load tasks, performed in May 2017 in Paris, randomly N loads were selected and grouped using a uniform distribution.

To embed this in graphs, nodes were assigned to each load (e.g. 1 — 5 on the right) and two nodes were connected by edges when either they belonged to the same group or their intervals overlapped (e.g. white/purple lines).



QUANTUM SOLUTION

Reaching the objectives equals finding the Maximum independent Sets (MIS) of the graphs (e.g. nodes 2, 3, 5).

A so-called quantum annealing algorithm was proposed to solve this and implemented on a Pasqal QPU with 100 qubits, allowing for graphs up to size 100.

This diversity can be leveraged in hybrid classical quantum approaches for 1,000 qubit system size that promises energy performance gains vs. classical*.

Pasqal has demonstrated such a 1,000 qubit system back in 2024, and is industrializing this for commercial use soon.

>98%
approximation ratio
with a strong diversity of solutions

* Da Silva Coelho et al., Physical Review A 107.3 (2023): 032426

CLOUD ACCESS

Pasqal Cloud

Pasqal makes available a comprehensive ecosystem of tools under Pasqal Cloud Services with the aim to enable the quantum journey of our customers.

Google Cloud

Google Cloud provides customers with an efficient and accessible way to explore quantum computing by offering on-demand access to third-party quantum computing hardware, such as Pasqal's neutral atom QPU.

Microsoft Azure

Microsoft's QCaaS offering provides a comprehensive platform built on the Azure cloud platform. By supporting multiple hardware providers and programming languages – incl. Pasqal's Pulser – it fosters an open and flexible environment for developing quantum solutions.

ON-PREMISE ACCESS

Orion Gamma

140+
qubits

Noise level

ANALOG MODE

Vela

Pre-order for 2027

200+
qubits

Noise level

ANALOG MODE

QUANTUM ADVANTAGE

Leveraging the hardware

Quantum applications

Solve complex optimization and machine learning challenges with ready-to-use quantum algorithms, like MIS (optimization) and QEK (machine learning), accelerating innovation in industries such as logistics and finance.

Software development kit

Create and control quantum experiments easily, using Pulser (python-based code libraries) and Pulser Studio (no-code programming platform) to streamline development on neutral atom-quantum processors.

Quantum emulator

Simulate quantum hardware behavior to develop and test algorithms efficiently, locally on your PC or in the cloud, reducing risks and speeding up deployment on real quantum hardware.

Pasqal

Orion Gamma

140+
qubits

3 kW
average consumption

Room temperature
operation

Standard data center
compatible

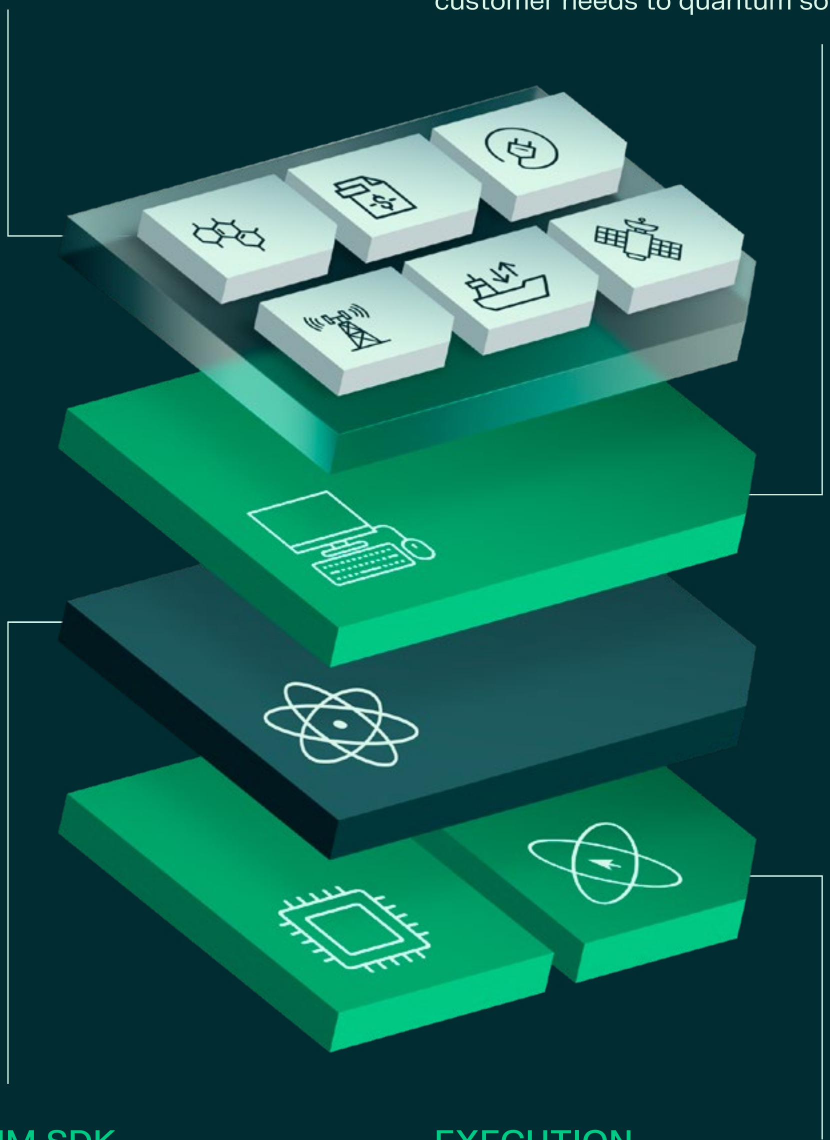
Quantum Stack

USE CASES

Pasqal's software stack, shaped by real-world challenges in logistics, finance, energy, telecom, and chemistry, has been already a key asset in driving successful projects and industrial solutions.

QUANTUM APPLICATIONS

Ready-to-use libraries built around quantum-hybrid algorithms tailored to problem classes as combinatorial optimization, dynamical system simulation, or quantum-inspired machine learning, bridging customer needs to quantum solutions.



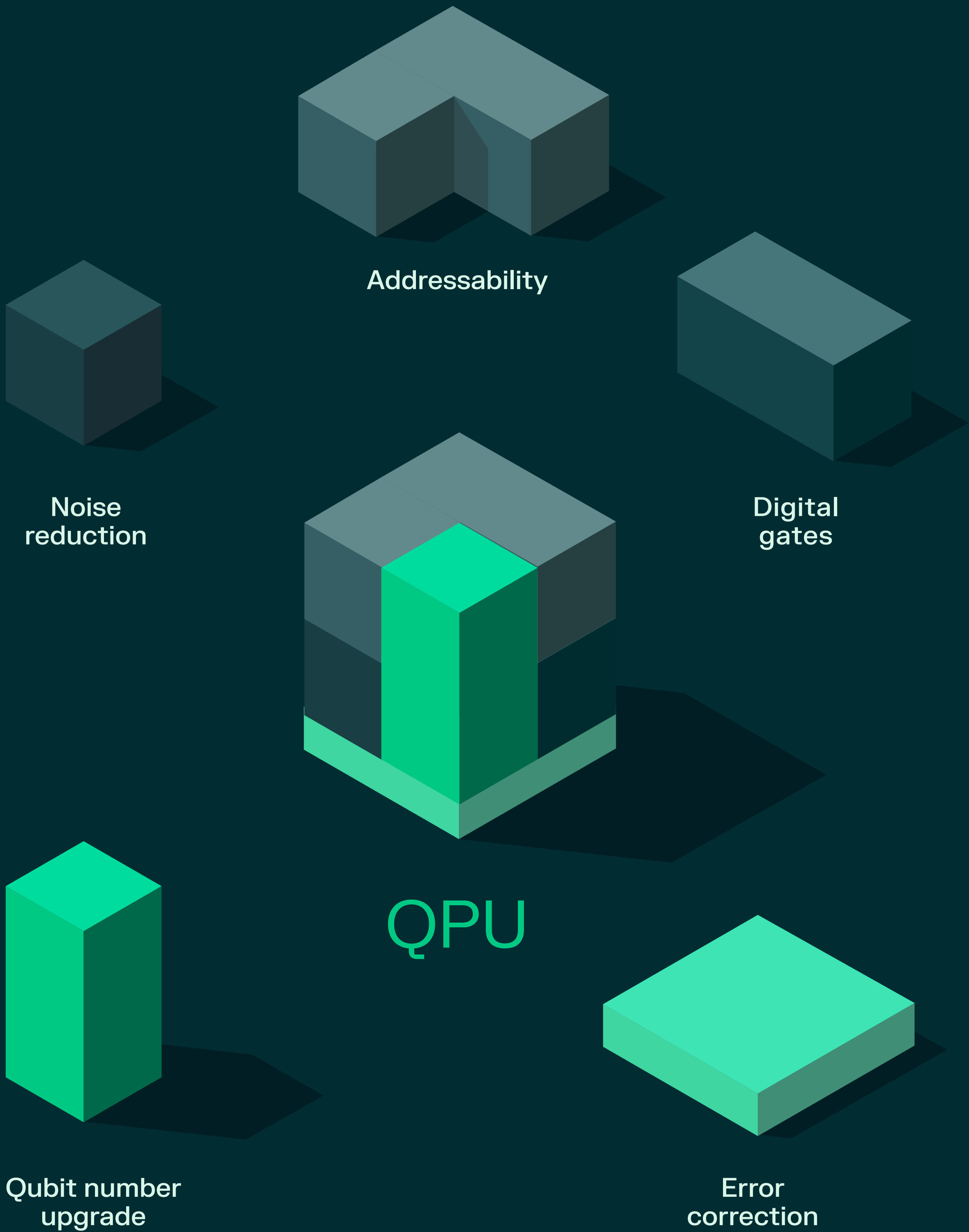
QUANTUM SDK

A Multi-level Software Development Kit to design quantum algorithms, compile them for neutral-atom architectures, and connect them seamlessly into existing classical applications and workflows.

EXECUTION

Infrastructure to process workloads on Pasqal's QPUs and quantum emulators, with scalable options for experimentation, benchmarking, and integration into larger quantum-classical workflows.

Modular & Rapid Innovation



Partner with Pasqal: Turn Quantum Benefits into Business Advantage

Scientific foundation

Spin off from the renowned Institut d'Optique of Paris-Saclay University, co-founded by Nobel-Prize winning professor Alain Aspect, and close to 100 scientific publications since the company's founding in 2019.

Full stack

Pasqal offers both hardware and integral software solutions. Our open-source software libraries make it easy to engage with our hardware and build your own solutions.

Modular design

Individual hardware modules can be upgraded to stay on par with the state-of-the-art without needing to replace the entire QPU.

Industrialized technology

Pasqal technology is currently deployed in various data centers, and can be delivered on-site for full control of access and security.

Services

We provide services in collaboration with certified partners to help in every step towards quantum computing delivering value to your business.

Community

A vibrant Pasqal community providing peer to peer support and continuously creating new applications based on Pasqal products.

EASE OF OPERATION

No strict requirements on environment. Just need a wall socket and a network cable to connect.

SCALABILITY

Neutral atom technology offers a clear path toward 10,000 qubits and beyond, following our roadmap.

BOTH ANALOG & DIGITAL MODES

The unique capability to do both analog and digital experiments adds flexibility and offers the opportunity of near-term value with analog while developing FTQC.

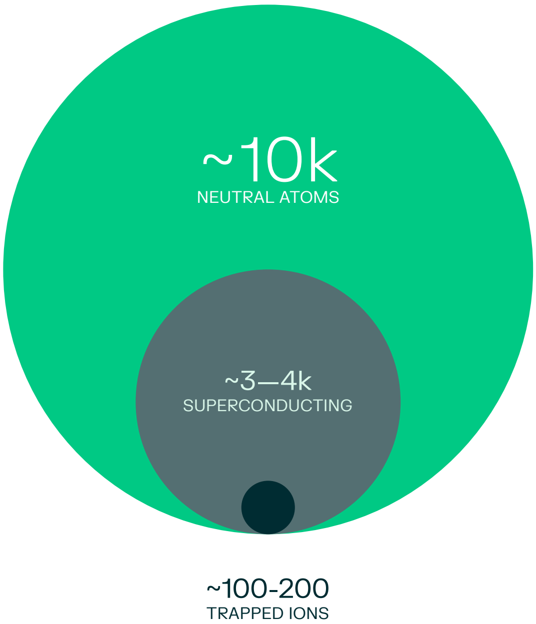
ENERGY EFFICIENCY

No cryogenics required, the system operates at room temperature, significantly reducing power consumption compared to classical computing.

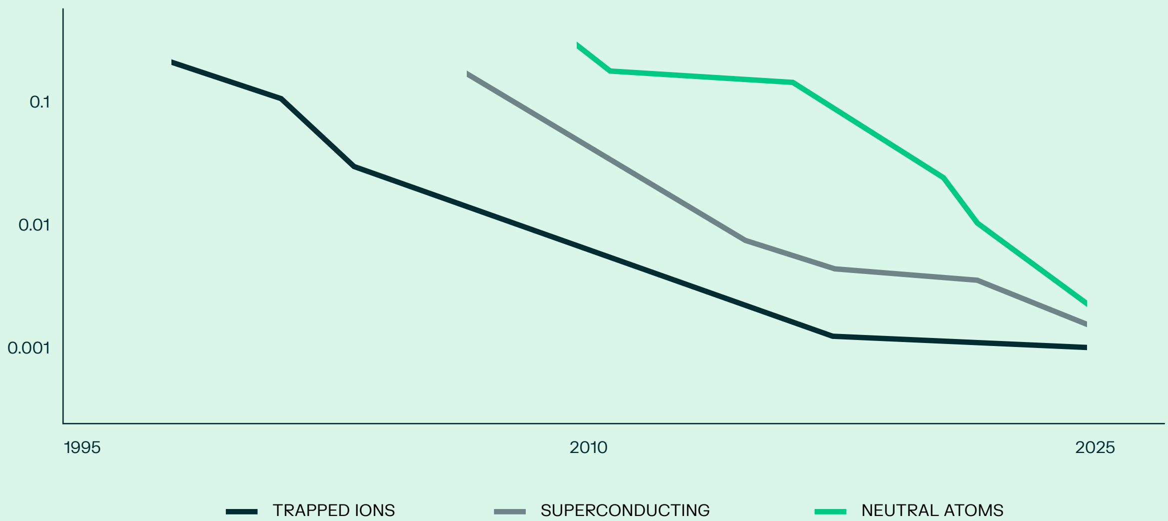
UNIFORMITY & QUALITY

This technology uses atoms as qubits, they are naturally identical and free from any imperfections.

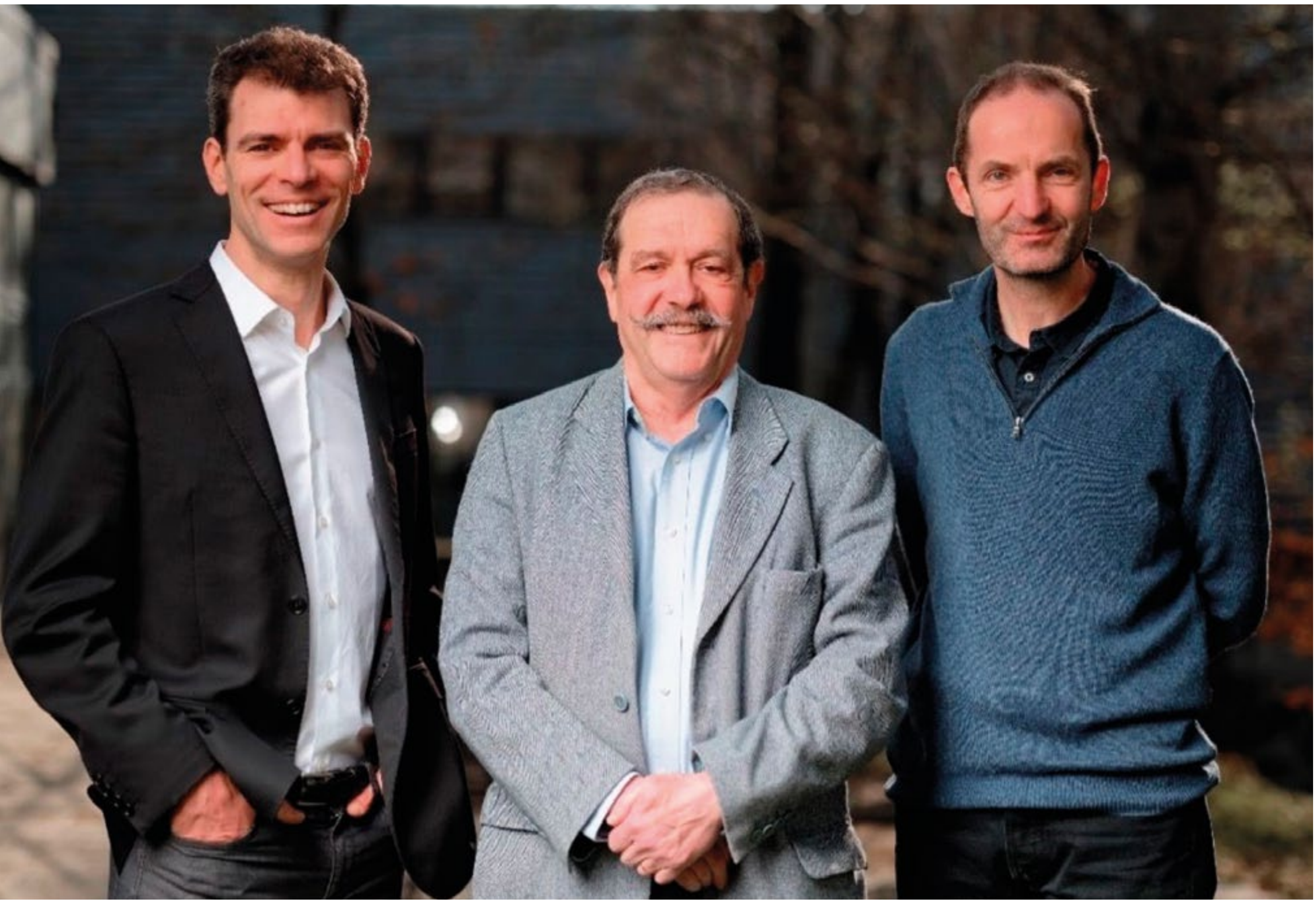
Estimated max. number of qubits achievable in a single QPU.



Error rates of neutral atoms are catching up to other technologies, and fast.



Pasqal is a Unique Mix of Science and Engineering



Georges-Olivier Reymond
Co-founder & Strategic alliances

16 years in bringing new tech to the market

Prof. Alain Aspect
Co-founder & Scientific Advisor

2022 Nobel Prize Laureate in Physics

Prof. Antoine Browaeys
Co-founder & Scientific Lead

2022 Solvay conference attendee, Nature 2021 & 2023, French Sciences Academy since 2024

“When there are no fundamental limitations, engineers find a path.”
– Prof. Alain Aspect

Our leadership team

Loïc Henriet
CEO

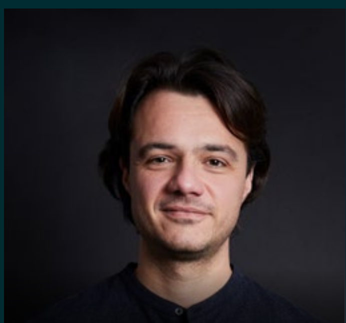
Wasiq Bokhari
Executive Chairman of the Board

Barbara Bonneau
Chief Operation Officer

Veronique Dentan
Chief Engineering & Production Officer

Jean-Yves Quentel
Chief Financial Officer

Georges-Olivier Reymond
Chief Strategic Alliances & Co-Founder



Mourad Beji
Chief Software Officer

Adrien Signoles
Chief Hardware Officer

Pasqal

Pioneering Neutral Atom Quantum Computing for Real-World Advantage

Roadmap 2025

2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 >

HARDWARE PRODUCTS
On-Premises & Cloud

Orion

- Alpha: 100+ qubits, ±3M gates
- Beta: 100+ qubits, 5M gates, On-prem
- Gamma: 140+ qubits

Vela
200+ qubits
First Quantum Advantage

Centaurus
Analog
& Early FTQC

Lyra
Analog
& impactful FTQC

HARDWARE R&D

Physical qubits: 200 | 1,000 | 10,000

Per-step fidelity: 95% | 99% | 99.5% | 99.9%

Features: Z add | Zoning | In-circuit readout | In-circuit reloading | Fast decoder | Large-scale operations

10+ PIC-enabled parallel 1Q gates

100+ PIC-enabled parallel 2Q gates

Full adressability

Logical qubits: 2 | 20 | 200

Logical fidelity: 95% | 98% | 99.9% | 99.999%

BREAK EVEN

MEGAQUOPS

ALGORITHM & ACCELERATED LIBRARIES
Quantum application

Quantum Advantage on quantum matter

Quantum Advantage on optimization & Machine Learning

Brand guidelines

The purpose of these guidelines is to present the identity of the Pasqal brand and to define all the rules that allow the brand to be conveyed in its communications. This document is a reference tool that will help you build the brand's image.

In all your communications, you must systematically refer to the rules defined in this document musn't modify the brand's assets (logos, colours, typography, etc.).

Logotype

The Pasqal logotype is the main element of the brand identity.

Built around a strong symbol, illustrating the quantum mechanics between atoms and lasers, it is associated with a refined typography, combining modernity and legibility.

Don’ts

1. Do not distort the logotype.
2. Do not remove any element from the logotype
3. Do not change the colour of the logotype.
4. Do not change the composition of the logotype
5. Do not apply any outline to the logotype.
6. Do not change the layout of the logotype.

Baseline

A specific version of the logotype incorporating the brand signature «Defining the quantum reality» has been created. This version can be used in place of the classic version to sign various brand media and respects the same rules as the logotype.

Brand Architecture

The Pasqal logotype serves as the core brand identity element across all corporate materials. Products may use standalone treatments that maintain consistent structure and typography, while all services and subsidiaries must incorporate the complete logotype to ensure cohesive brand representation and corporate identity integrity.

Services & subsidiaries

Pasqal Community | Pasqal Cloud | Pasqal Canada

Products

Qadence | Pulser

Colors and Contrast

Rules of use have been defined to ensure optimal use of the brand's palette, the following is an example of optimal contrast between text and background color.

Primary colors

Dark Green	C80 M45 Y40 K90	R15 G30 B35	#0F1E23 — PMS 5463 C
Soft Green	C90 M61 Y54 K63	R23 G48 B53	#173035 — PMS 2216 C
Light Green	C14 M0 Y13 K0	R255 G246 B233	#E1F6E9 — PMS 6148 C
Mint Green	C70 M0 Y62 K0	R0 G200 B135	#00C887 — PMS 2414 C

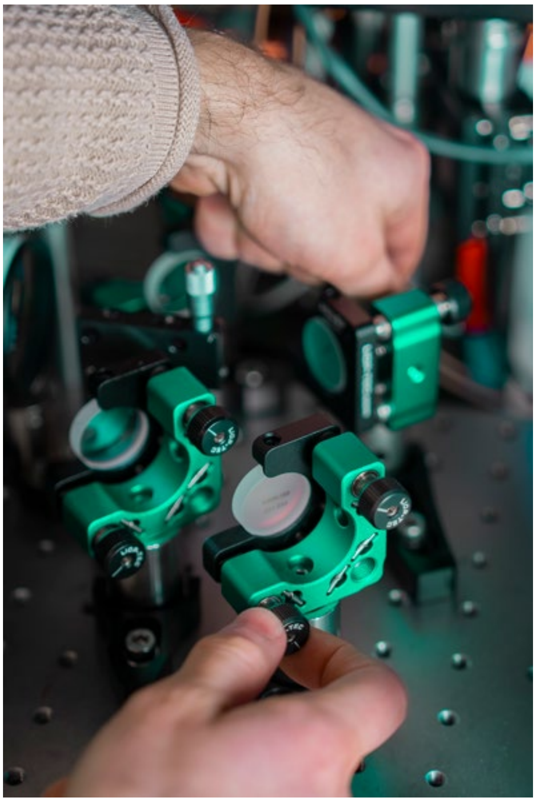
Secondary colors

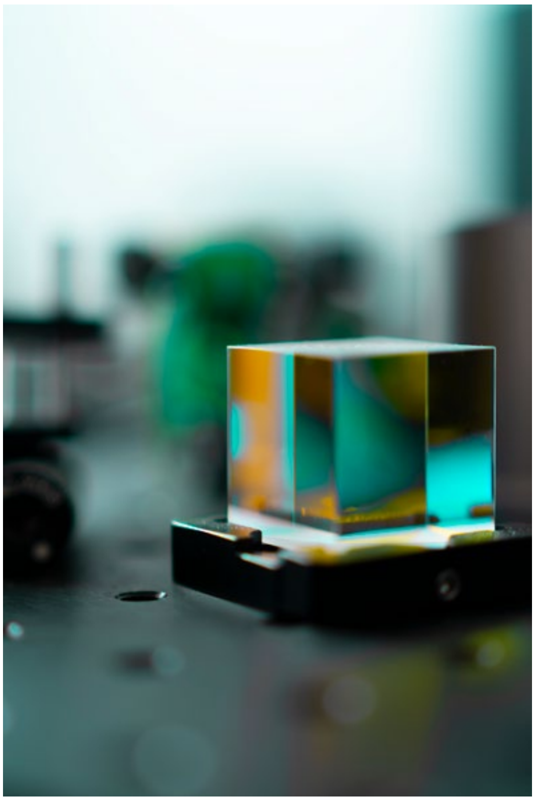
Metal Blue	C80 M45 Y40 K90	R15 G30 B35	#0F1E23 — PMS 5463 C
Neon Green	C90 M61 Y54 K63	R23 G48 B53	#173035 — PMS 2216 C
Purple	C14 M0 Y13 K0	R255 G246 B233	#E1F6E9 — PMS 6148 C
Orange	C70 M0 Y62 K0	R0 G200 B135	

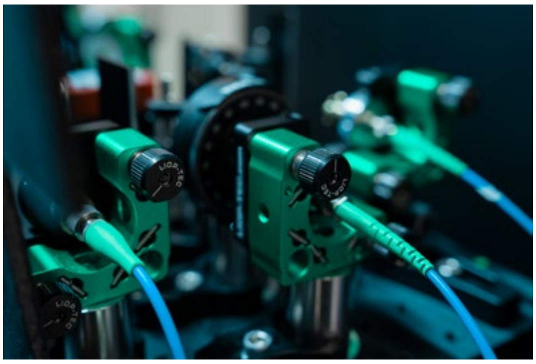
Pasqal Media Library

A selection of visual assets is made available to illustrate the company's infrastructure, its technology and the tools used. They are depicted realistically, in their context and in a luminous environment.

They can be shown on their own, or with a human in action. Nevertheless, we aim to highlight the technological and material aspects of the company through these shots.







Access our complete media library and downloadable brand assets at pasqal.com/legal/brand-guidelines/

Pasqal

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