

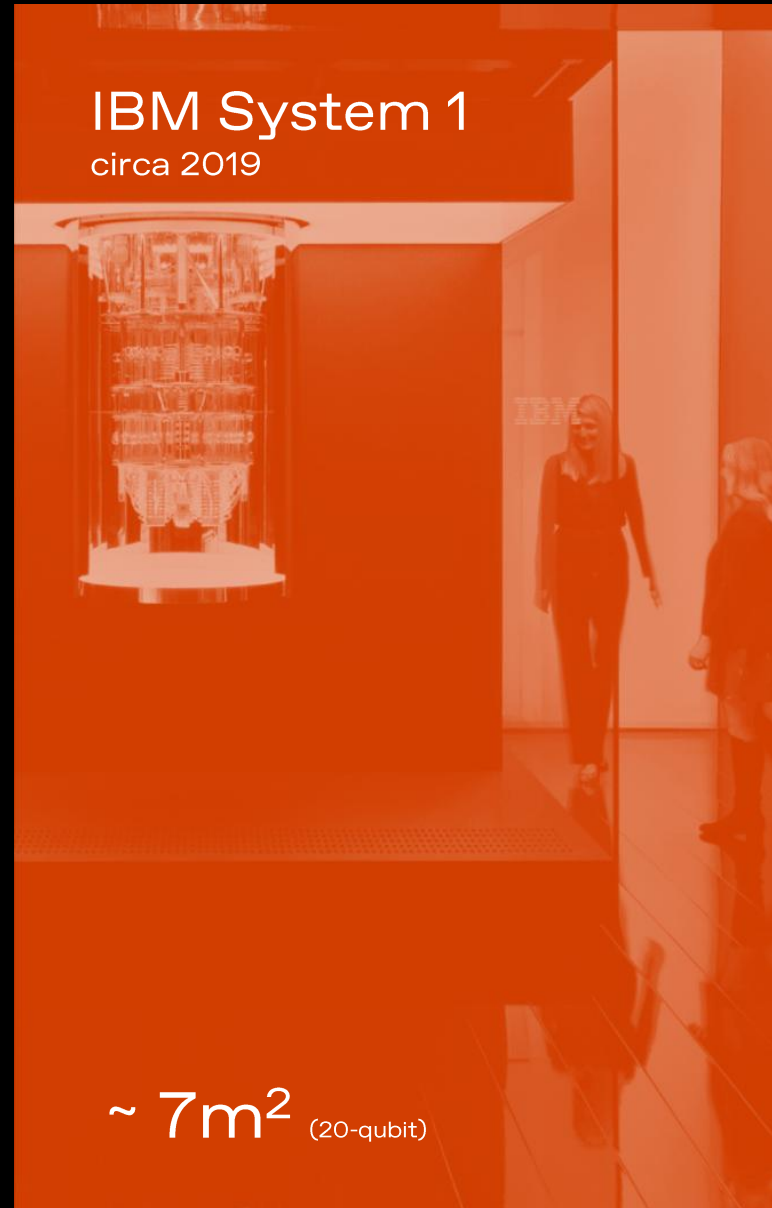
SemiQonTM



We build quantum
processors for the
million-qubit era.

THE PROBLEM

Quantum computers keep getting bigger as they get better



THE SOLUTION

We address three major challenges slowing down the development of quantum computers globally — scalability, price, and sustainability.

SemiQon™



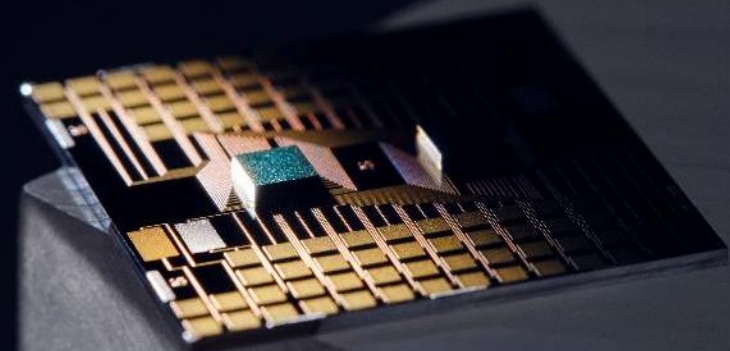
THE SOLUTION

Quantum electronics on a fingertip

Scalable, sustainable, and
cost-effective Quantum
Integrated Circuits

- Qubit processor chip that has ultra-small qubits
- Qubit processor chip that operates at high temp, 1K
- Control electronics converted to a chip inside the cryostat

SemiQon[™]



Company overview

SemiQon in numbers

2023

Founded

Finland

Headquarters

26

Employees

14 & 7

Engineers & PhDs

>10M€

Fundings

8

Patents filed

10+

R&D kits
delivered

1 000+

Quantum dots
multiplexed with
cryo-CMOS

SemiQon team

Executive and founding team



Dr. Himadri Majumdar
CEO, Board Member



Dr. Janne Lehtinen
Chief Science Officer, Board Member



Prof. Mika Prunnila
Chief Research Officer



Markku Kainlauri
Director, Operations

Board



Dr. Antti Vasara
Chair of the Board



Jussi Sainiemi
Director

Advisory



Prof. Prineha Narang
UCLA, USA



Prof. Juha Muhonen
Jyväskylä University, Finland

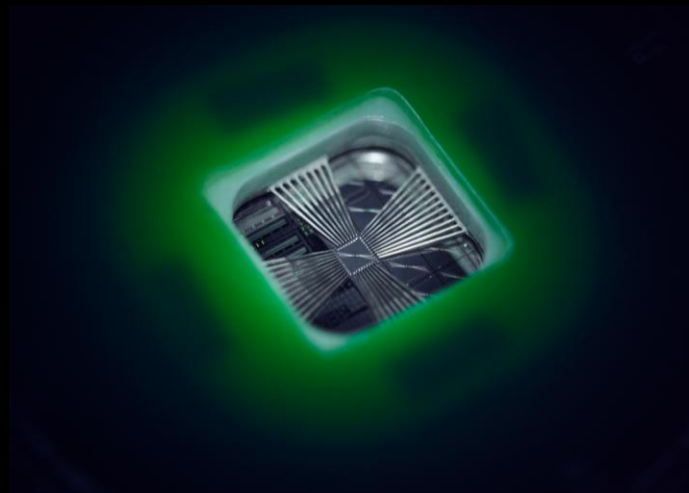
Our technology & capabilities

Milestones to date



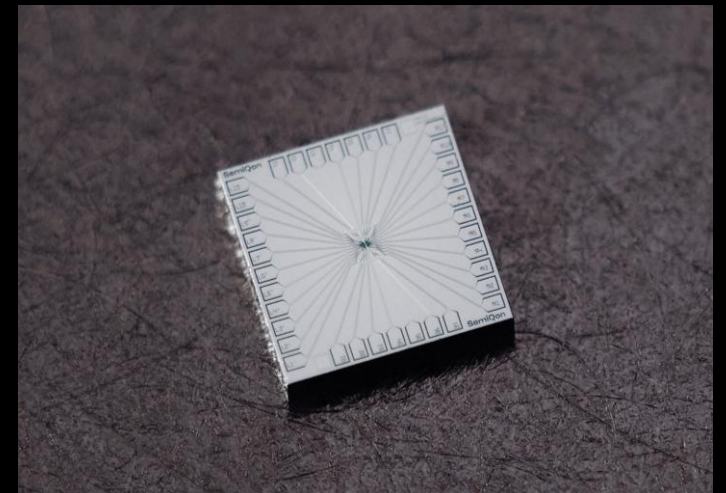
1st prize for cryo-CMOS chip innovation by EATRO

Oct 2025



Launched first ever CMOS transistor fully optimized for cryogenic conditions

Nov 2024



Delivered 4 quantum-dot chips to partners

Mar 2024

OUR TECHNOLOGY & CAPABILITIES

What sets us apart

Vertically integrated operation

- In-house operations and full ownership of IP of design, manufacturing and testing
- 3–5 times faster and cheaper cycle than competitors

Superior technology

- Silicon-based Quantum ICs to make quantum computers scalable, cost-efficient, and sustainable
- Cryogenic-CMOS operating below -272°C , and ultra low power consumption 1,000x times lower than a few, if any, competitors can achieve
- Cryogenic-CMOS chips can independently function as
RF switch, Multiplexer, Comparator, Image sensor, Amplifier, Memory elements

SemiQonTM

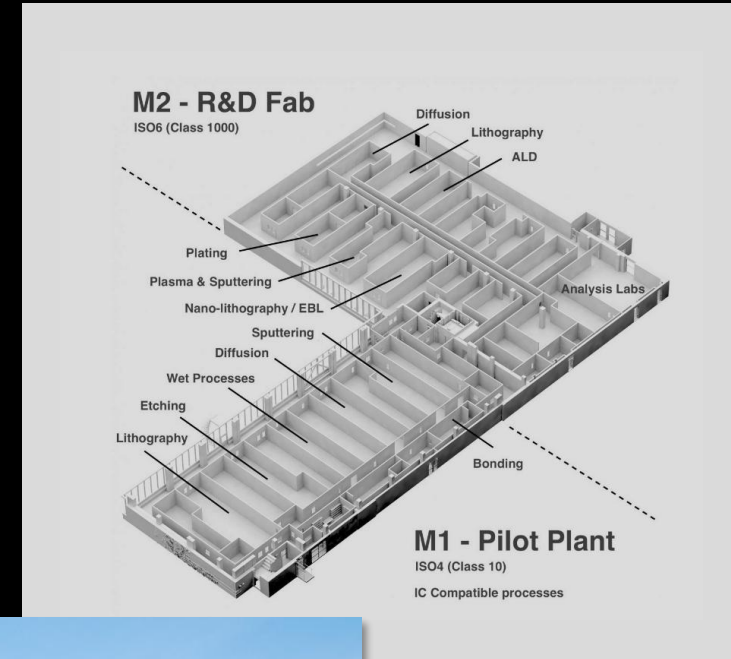


Fabrication facility

SemiQon process engineers and operators work hands-on in the premises

Micronova in Espoo Finland

- Largest R&D cleanroom in the Nordic countries.
- Total CR area 2600 m²
- Hosted by VTT & Aalto University
- Wafer size upgrade from 150mm to 200mm in 2025
- Further expansion of manufacturing capability through €0.5B investment at the new Kvanttinova facility from 2027



OUR TECHNOLOGY & CAPABILITIES

Measurement infrastructure

Measurement lab in the premises of Finland's national metrology institute

MIKES metrology building — purpose-built metrology facility

Locates in Otaniemi close to Micronova

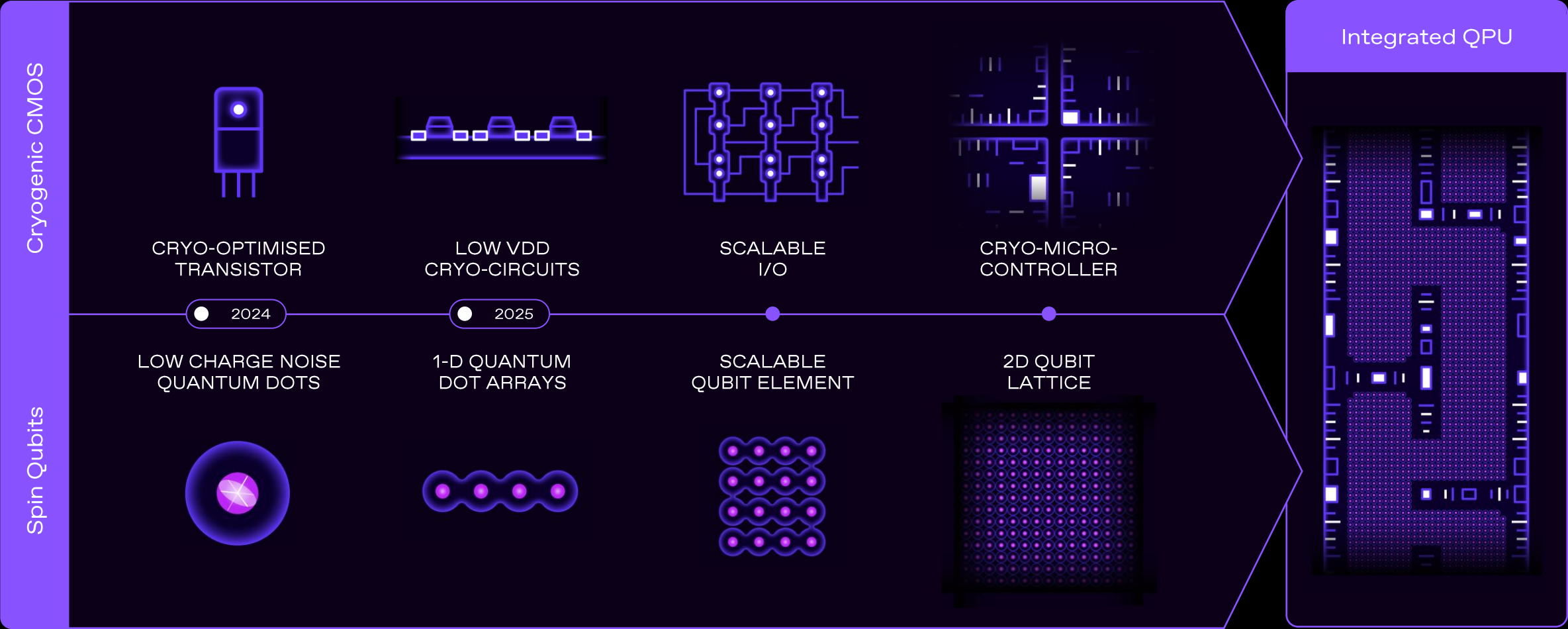
SemiQon 25m² dedicated lab space in shielded room

- Possess two cryostats
- MPI wafer level automated room temperature probe station
- High-end measurement electronics

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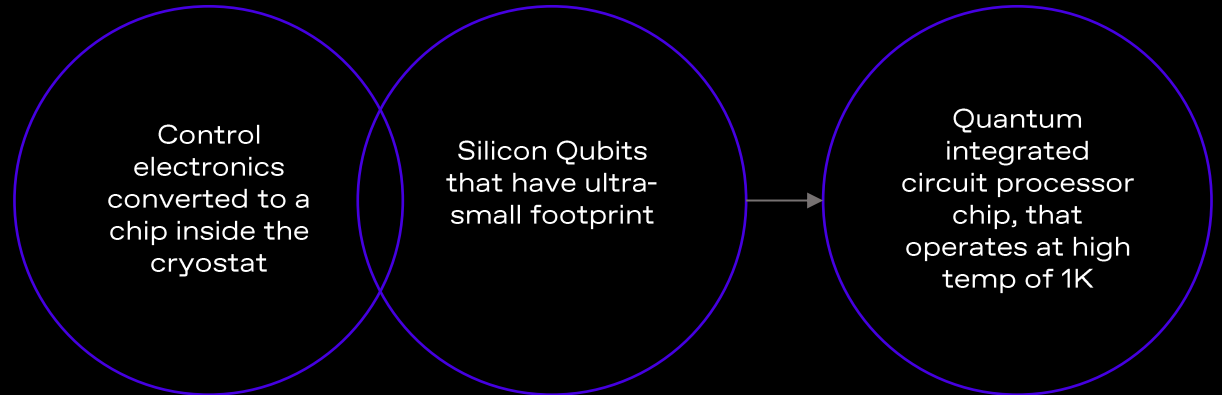
Roadmap



An approach that makes sense — Quantum Integrated Circuits

Why are Quantum Integrated Circuits the way forward?

- Reverse the unsustainable trend of expanding control electronics by integrating the control logic system onto a chip inside the cryostat
- Eliminate the cabling bottleneck with on-chip routing on the QIC, enabling millions of times higher packing density and sustainability
- Significantly reduce infrastructure costs associated with quantum computing.



Available products

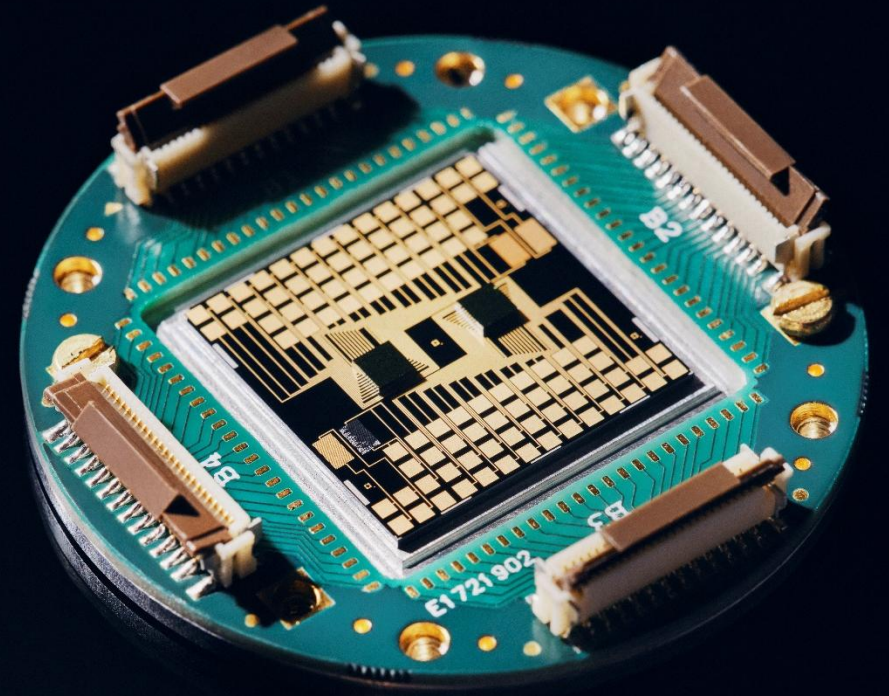
AVAILABLE PRODUCTS

SemiQit

A ready-to-use quantum research solution

SemiQit equips universities and research groups with ready-to-use spin-qubit chips, enabling faster experimentation and discovery.

- Selected spin-qubit chip variants (1 to 12 qubits)
- Devices shipped fully packaged: plug-and-play without tedious bonding
- Quality control: Pre-tested and shipped with datasheets and operational instructions
- Technical support from SemiQon experts



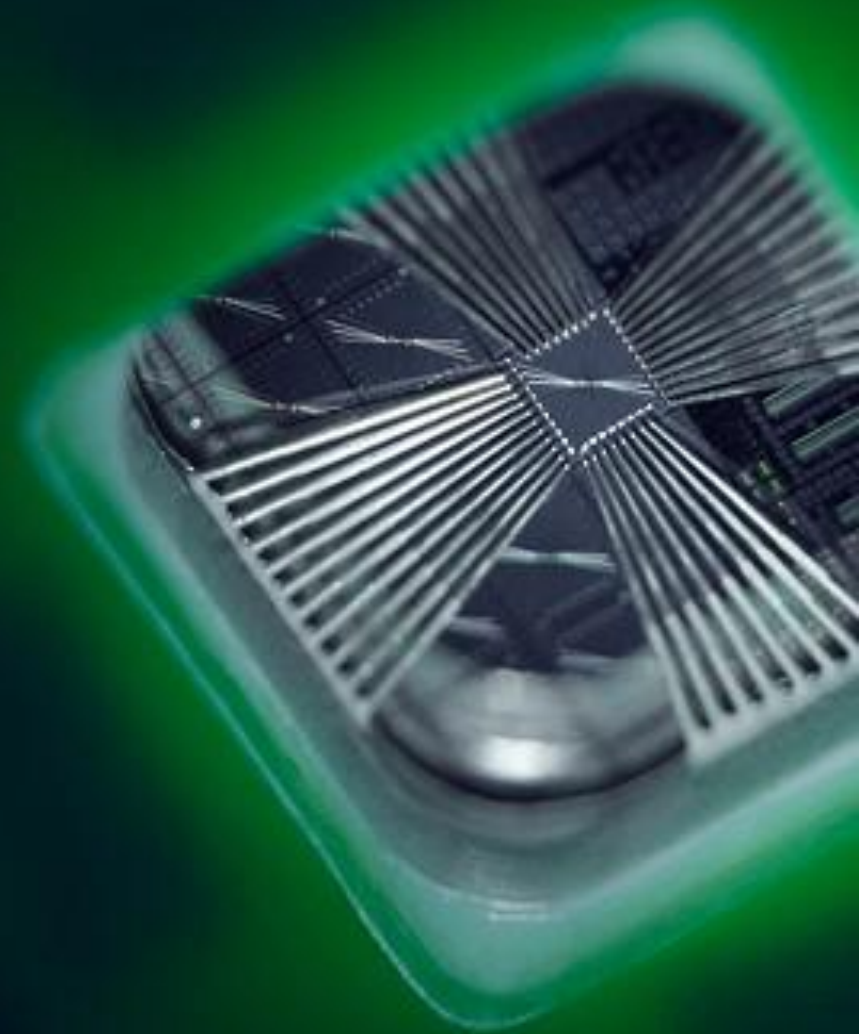
AVAILABLE PRODUCTS

Cryogenic CMOS

World's first fully optimized transistor for cryogenic conditions

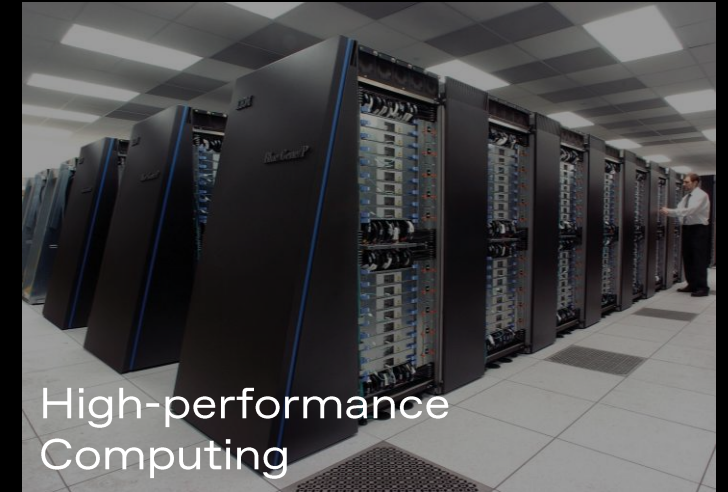
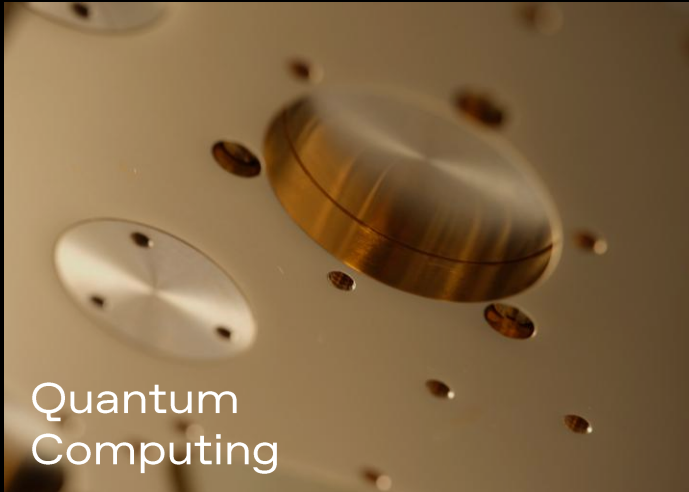
Key benefits of our [award-winning](#) solution to applications operating at in cryogenic conditions (quantum computer, space)

- High efficiency: 1,000x lower power consumption and lower heat load than traditional electronics
- In-house manufacturing and packaging: Rapid iteration in a semiconductor pilot line foundry as well as expertise in cryogenic packaging
- Serves as multiple electronics functions: RF switch, Multiplexer/De-multiplexer, Amplifier, Basic logic blocks, Memory elements, Image sensor



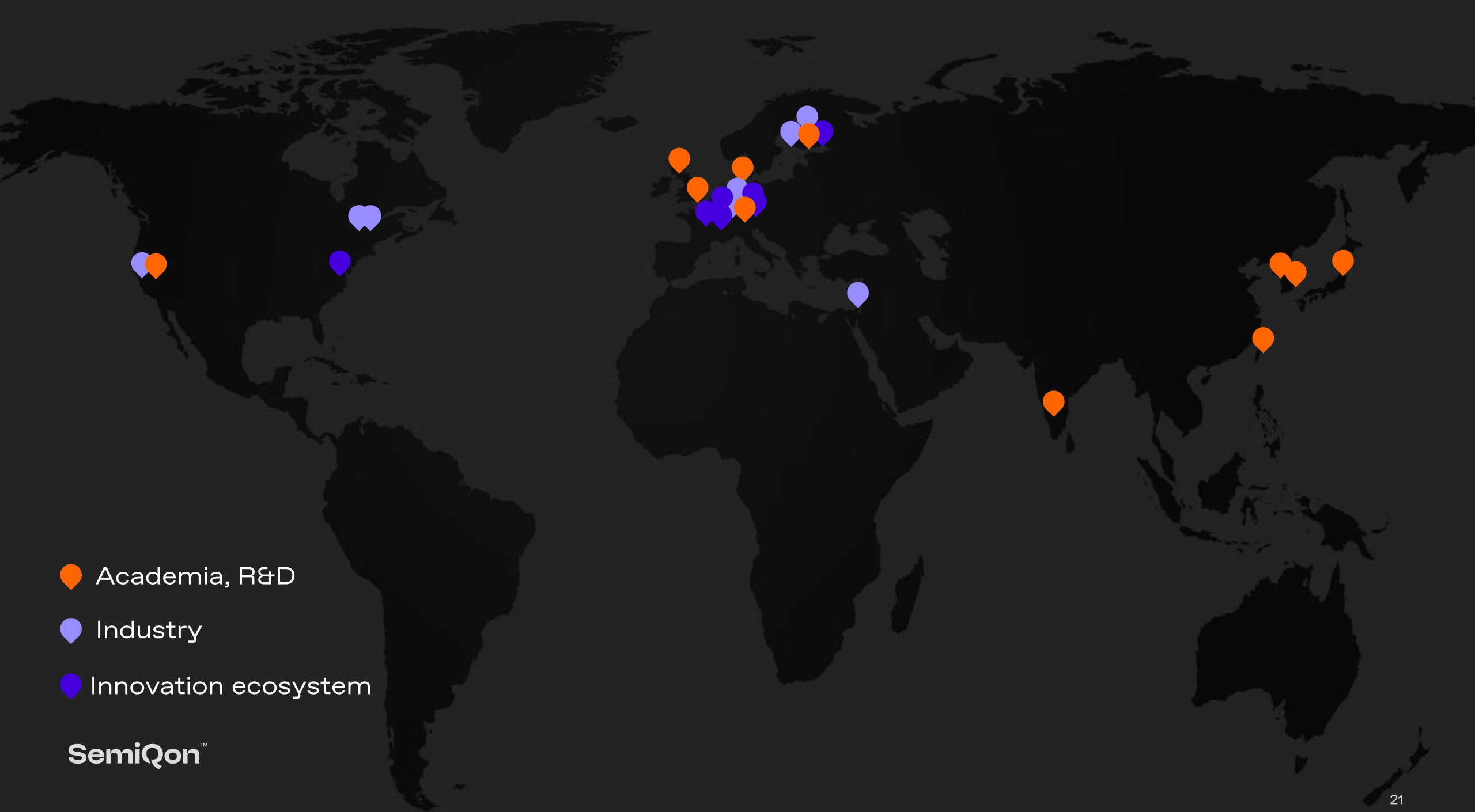
THE AMBITION

Application in multiple domains





Global network



SemiQonTM