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MADE WITH LIGHT

Photonic edge quantum computers

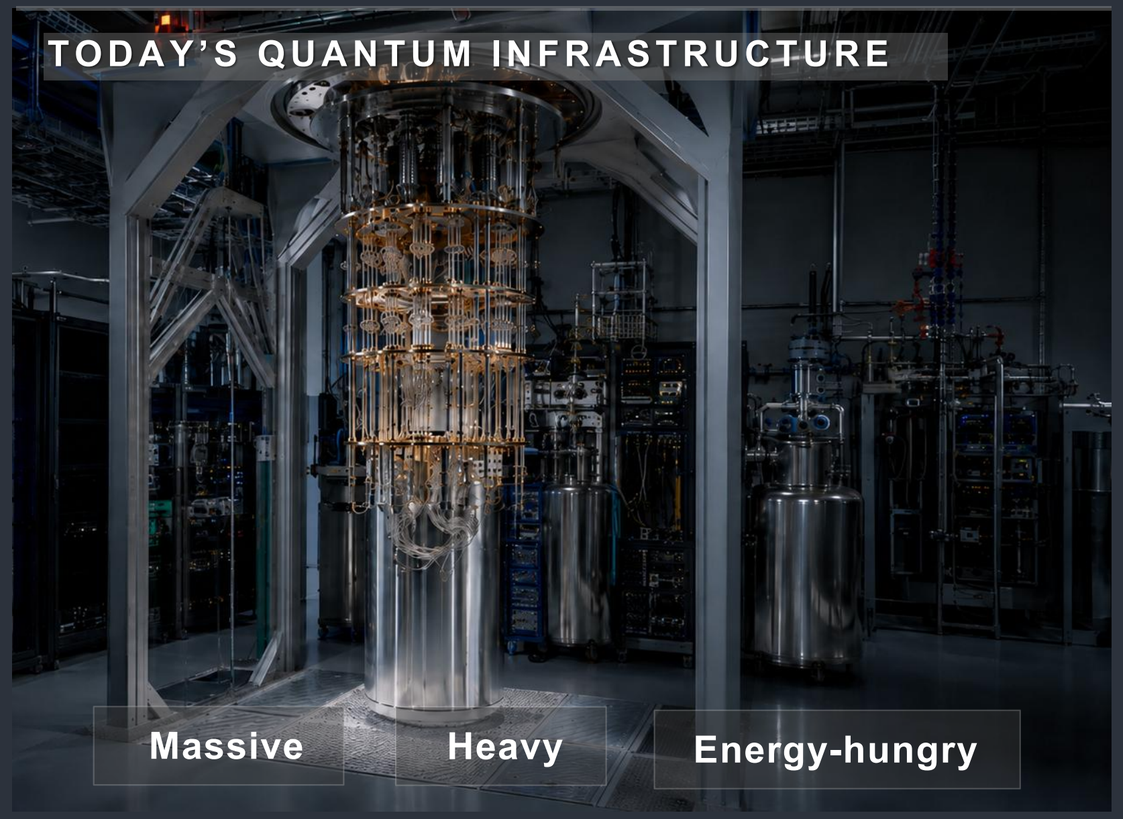
for resilient and autonomous systems

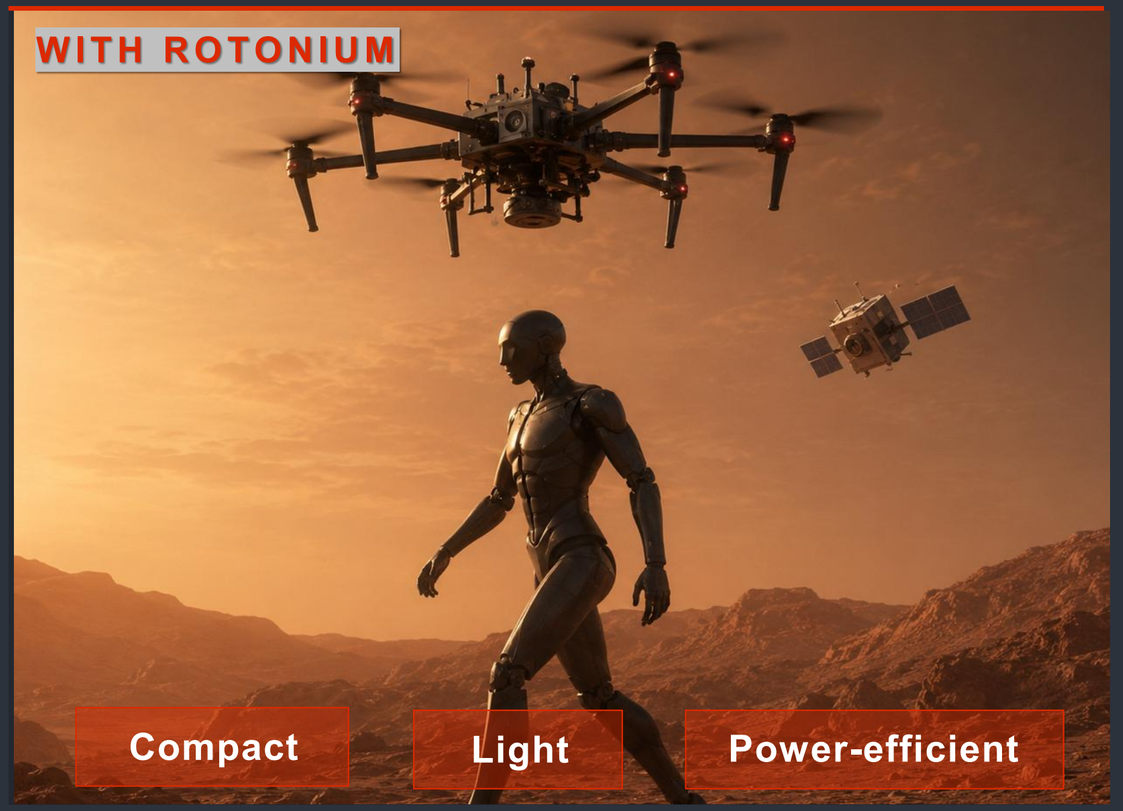
Quantum won't scale only through centralized machines. We're building the edge-first path.

THE PROBLEM AND THE SOLUTION

Today’s quantum computers are not designed for real-world deployment

Quantum computing is still in its mainframe era and every major disruption in classical computing came when compute moved closer to the user: the PC, then the GPU.





AT THE EDGE

Quantum performance is meaningless without deployability

Two dimensions

PERFORMANCE

TODAY'S FOCUS

Optimized almost exclusively for the lab

- Qubit count
- Quantum volume
- Raw operations / second

+

DEPLOYABILITY

ROTONIUM ADDS

Purpose-built for real-world deployment

- **Size** · compact form factor
- **Weight** · lightweight integration
- **Power** · highly energy-efficient
- **Cost** · commercially viable

Deployability = SWaP-C, the metric defence and space integrators already procure by.

Industrial Quantum Utility = Performance + Deployability — **we optimize for both dimensions simultaneously**

The trade: we accept a lower qubit-count ceiling than data-centre architectures.
For edge workloads (robots, drone, satellite, etc.) deployability is the binding constraint, not qubit count.

CORE TECHNOLOGY

Gate-based photonic quantum processors

Deterministic multi-qubit logic in a single photon

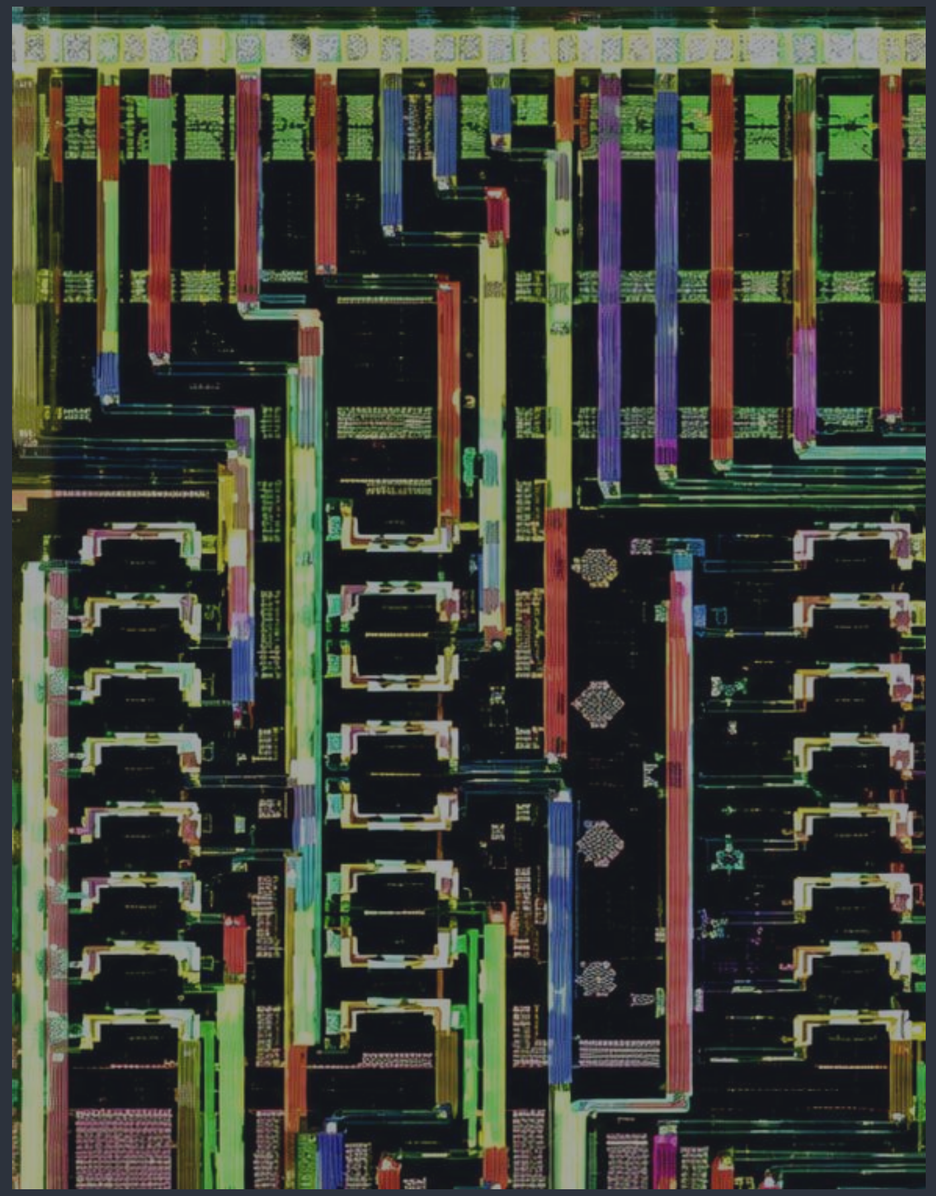
01 **Single-photon architecture** (1)

02 **No photon-photon non-linearity required**

03 **Repeat-until-success error correction**

04 **Room-temperature operation**

05 **Protected by 6 patent families** (2)



(1) using Spin Angular Momentum (SAM) & Orbital Angular Momentum (OAM) of light

(2) EP4591239, EP4612844, EP4774668, IT102023000008802, PCT/IB2025/058991, PCT/IB2025/058993

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MINIATURIZATION ROADMAP

Each generation reduces deployment friction and unlocks a larger market

The same path graphics accelerators travelled (workstation box, PCIe card, embedded silicon) replayed for quantum.

STEP 1 · DESKTOP

QPU in a desktop format

Universities & research centres

Direct sales

STEP 2 · PCIe

QPU in a PCIe format

Workstation cloud data centres

Indirect sales

STEP 3 · CHIPLET

QPU in a SoM format

System integrators & OEM

Direct & indirect

Step 1–2: this round (€20M, 24 months). Step 3: self-financed or Series B, gated on technical milestone in H2 2029

EXECUTION TRACK RECORD

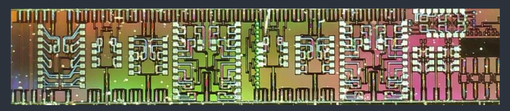
Three chip generations in three years.

2024

Si PLATFORM

RC000 PIC

Core technology validation.



Qubit technology validated

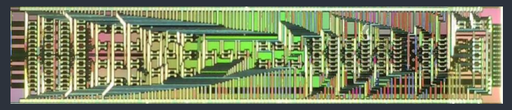
core physics proven on Si

2025

Si PLATFORM

RP000 PIC

4-qubit processor.



Quantum processing logic validated (1)

architecture proven on Si

(1) Design and Benchmarking of a Quantum Photonic Chip https://arxiv.org/abs/2607.06488 - paper accepted for IEEE - QCE26 Quantum Photonics track

2026

SiN PLATFORM

RP110 PIC

UNDER TEST

4-qubit processor & integrated single-photon source.

Production platform: validation in progress

results expected Q3-26 scale-up de-risked on SiN

PIC: Photonic Integrated Circuit

A large market, with a focused initial entry point

2030 MARKET SIZING

TAM
€3,5 B

SAM
€1,7 B

SOM (bottom up)
€42 M

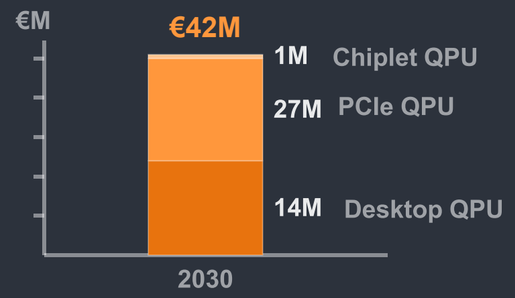
TAM €3.5B : ResearchandMarkets-2026, Grand View Research-2024, Resonance/TQI-2025.
SAM €1.7B: edge-deployable subset: defence & space system integrators, New Space, research & advanced computing · EU + North America
SOM €42M · full pipeline model available under NDA
Beyond the plan: volume DC rollout in the $286B AI accelerator market (Omdia) is upside, not priced in.

2030 SALES PROJECTION
built from unit price × pipeline conversion

Desktop QPU
~29 units @ €480k ASP = € 14M (1)

PCIe Card QPU
~97 units @ €280k ASP= €27M (2)

Chiplet QPU
~10 units 10 evaluation units @ €90k = €0.9M (3)



EXPANSION STRATEGY

01 **Initial entry market**
Research centers & advanced computing labs

02 **Next expansion**
Industrial computers & servers

03 **Long-term deployment**
Edge quantum processors

(1) derived from 230 research institutions and 150 Sis in current pipeline, 5% conversion assumption, benchmarked against comparable early quantum system pricing : ~1M

(2) assumes production start H2-29, 2 channel partners signed by 1Q-30

(3) assumes production start H2-30; these are OEM design-in, not volume orders; volume revenue begins 2034

TRACTION

Technology Validation & Early Market Traction

2

R&D Partners

Collaborating with top research institutions.

3

LOIs signed

Letters of Intent.

AEROSPACE

INDUSTRY 5.0

RESEARCH

1

POC (paid)

Proof-of-concept stage.

DEFENCE

FUNDING ROUND OBJECTIVE

€20M to bring Desktop & PCIe QPUs to market

01 Finalize Gen-1 PIC QPU industrial engineering

02 Bring Desktop and PCIe QPUs into production

03 Start commercial deployment

USE OF FUNDS

R&D	45%	Eng. & Production	29%
Marketing & Sales	15%	G&A & IP	11%

THE TEAM

Deep science. Proven execution.

The founders

Roberto Siagri M.Sc., CEO

29 years building and selling ruggedized edge computers to the aerospace, defence and industrial buyers Rotonium targets today. Co-founded Eurotech S.p.A. and led it as CEO through Borsa Italiana IPO (2005), 6 acquisitions, and global scale.

Fabrizio Tamburini, Ph.D , CQO

Rotonium's qubit encoding is the productization of his own OAM research. From the first real-world OAM transmission demonstration (2011, Venice) to work published with the Rotonium team in Physical Review Research (2026). Ångström Lecture 2018.

Bridging physics and company-building

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THANK YOU · GRAZIE

“

In the near future, quantum processors will fit in our smartphones. They will be made with light.

Roberto Siagri
CEO · ROTONIUM

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Appendix

COMPETITIVE POSITIONING

	Room Temperature	Gate-based Computation	Field Deployability	Power Consumption	Small Footprint	Scalability Potential
Rotonium	Yes	Yes (deterministic gate)	High (by design)	Low	Yes	Medium (in the near term)
QC82	Yes [1]	Roadmap [2]	Low	Low	Yes	High
Orca Computing	Yes	No	Medium [3]	Medium	Yes	High
Quix Quantum	No [4]	No	Low	Medium	No	High
Quantum Brilliance	Yes	Yes (with limitation)	High	Low	Yes	Medium
SaxonQ	Yes	Yes (with limitation)	High [5]	Low	Yes	Medium
Quantum Transistors	Yes (claimed)	Yes (claimed)	Low [6]	Low/Medium (est.)	Yes (target)	High (claimed)

[1] Room-temp photon detectors still in development (prototypes) - [2] GKP-based universal gates: published architecture, not yet demonstrated - [3] Data-centre deployability proven (10+ systems); not edge/field - [4] Photonic chips at RT; SNSPD detection requires ~4 K cryostats - [5] Mobile system demonstrated live; ≤5 qubits/core limits current utility - [6] Pre-prototype; targets large-scale systems only, no deployed hardware - **Competitors include photonic and NV-diamond QC approaches, both targeting edge deployability**

We have a demo up and running at Room-Temperature a 4 qubit quantum computer based on the RP000