R&D phase | Research **Expected Commercialization** | FY30-

Mehr Licht!
More Photonics for Intelligence

#D01

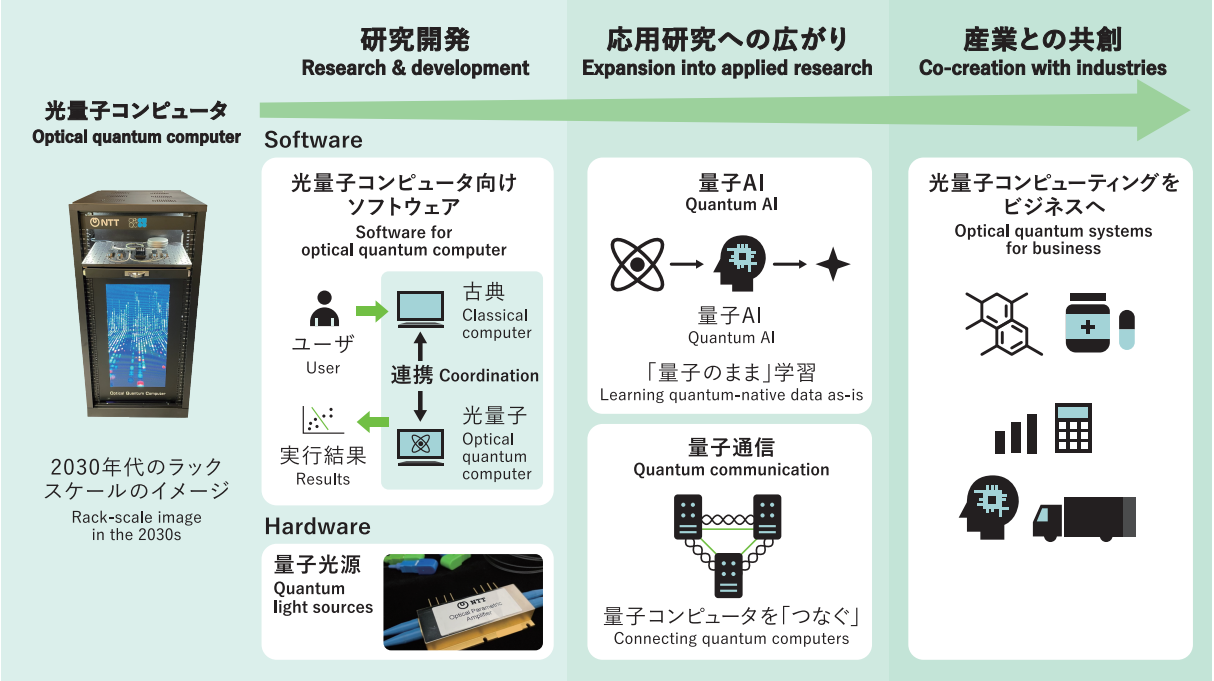
#AI & Quantum Infrastructure#Carbon Neutral#Open Innovation

Quantum in Action

Optical quantum advantage to the real world

Technical Challenges & Goals

Advancing quantum AI, we leverage optical quantum computing's scalability—speed, power, and compact size—to achieve large-scale, general-purpose systems by 2030. This tackles tasks intractable for conventional computers due to time and power limits, like complex molecular simulations and financial optimization.



Key Technologies

Core Technologies

- High-performance quantum light source/detection device
- Quantum error suppression and correction
- Classical and quantum cooperative control

Key Differentiators

- Large-scale quantum computers typically require physical expansion
- Optical quantum systems scale efficiently by multiplexing information in space, time and frequency

Use Cases

Financial Services

Operating at room temperature, optical quantum computers allow cloud access via standard data centers. Key applications include molecular simulations and financial risk analysis. Hybrid quantum-classical computing optimizes time and energy.

Exhibitors
NTT, Inc. Network Innovation Laboratories

External Partners
OptQC Corp.

CONTACT：Frontier Communication Laboratory