Mehr Licht!
More Photonics for Intelligence

#E25

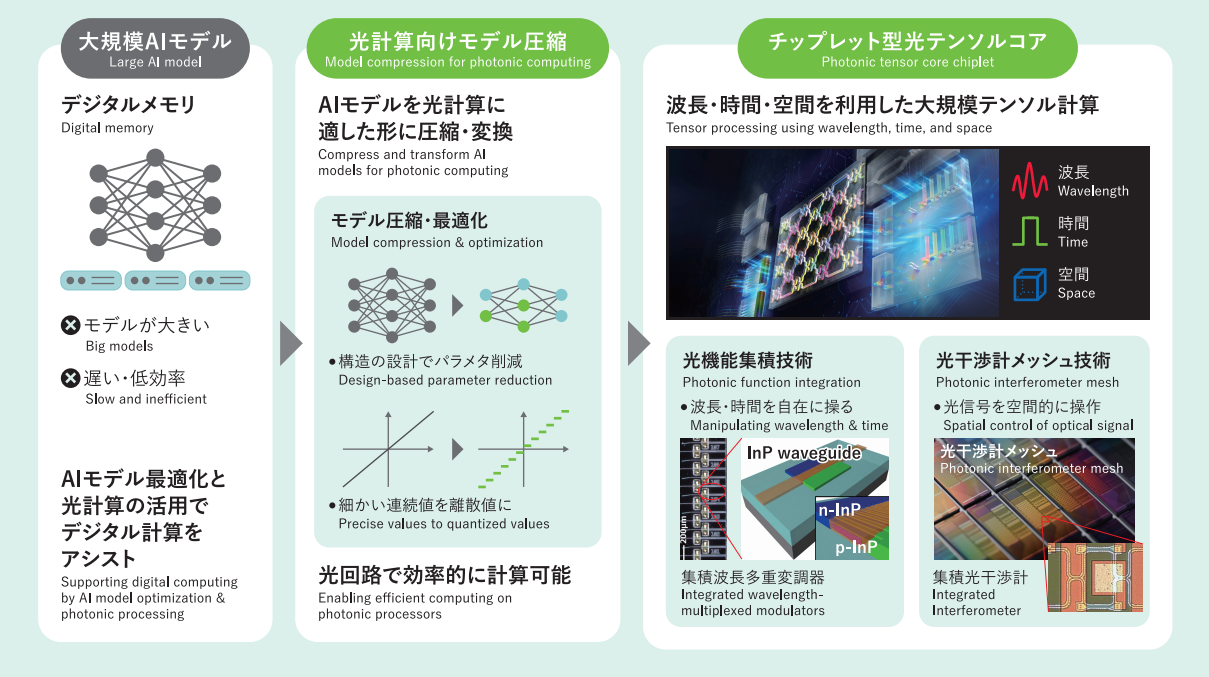
#AI & Quantum Infrastructure#Carbon Neutral#Open Innovation

Analog Photonic Computing for Large AI

Supporting growing AI computation demand faster and with less energy

Technical Challenges & Goals

As AI models continue to scale, energy consumption and latency are becoming major challenges. We combine wide-bandwidth and parallel photonic computing devices with AI model compression to execute communication and computation in photonic circuits, enabling faster, lower-power, and more sustainable AI computing.



Key Technologies

Core Technologies

- Scalable photonic computing using wavelength, temporal, and spatial multiplexing
- Photonic hardware-aware quantization, noise-robust training, and model compression for diverse AIs

Key Differentiators

- 10-Peta OPS scale photonic computing using wavelength, temporal, and spatial multiplexing
- Integrates data transfer and computation on photonic circuits

Use Cases

Information Technology (IT)

Accelerating large-scale AI training and inference in data centers and AI clusters with less energy.

Exhibitors

NTT Device Technology Laboratories
NTT Communication Science Laboratories
NTT Basic Research Laboratories
NTT Computer and Data Science Laboratories

External Partners

Institute of Science Tokyo

Related Links

https://www.kecl.ntt.co.jp/openhouse/2026/exhibition_03.html

CONTACT：Photonics-Electronics Convergence Laboratory