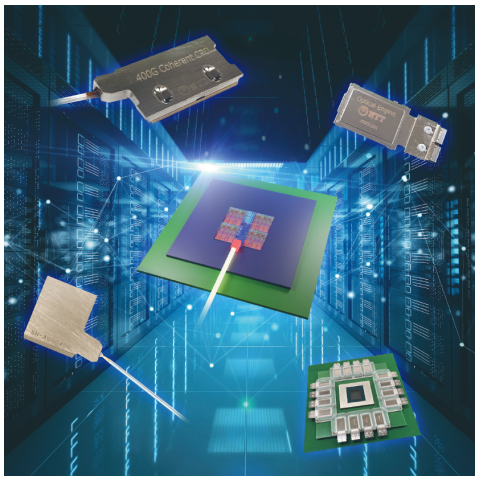
Photonics-Electronics Convergence devices



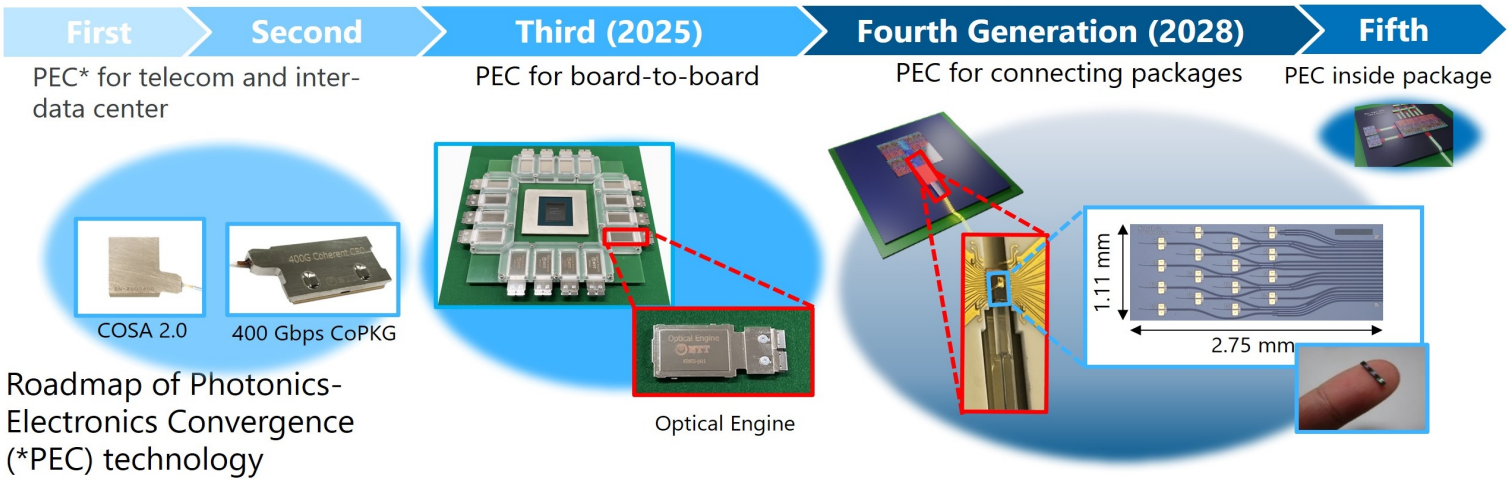
Background

The amounts of data processed and exchanged by LSIs such as CPUs and GPUs are increasing. There is a problem that the communication distance was limited to the size of the printed circuit board with only electrical wiring. Optical interconnects are keys to solve the problem.

Summary

Based on the 1st to 3rd generation technologies cultivated at NTT, we have prototyped a compact Photonics-Electronics Convergence (PEC) devices that can be placed near the LSI. It can convert an electrical signal into an optical signal and transmit it with a width of about 1mm.

From network to computing



Roadmap of Photonics-Electronics Convergence (*PEC) technology

Features

- Optical semiconductor device technology for small size and high efficiency (Membrane technology) at the world-record level
- Connecting and packaging technologies of electrical chips, optical chips and optical fibers
- Integration technology in design and manufacturing from electronics to photonics

Future_benefits

By converting the electrical signal near the LSI into optical signal, it is possible to connect distant LSIs. This will support the realization of optical disaggregated computing.

Exhibiting Company

NIPPON TELEGRAPH AND TELEPHONE CORPORATION

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