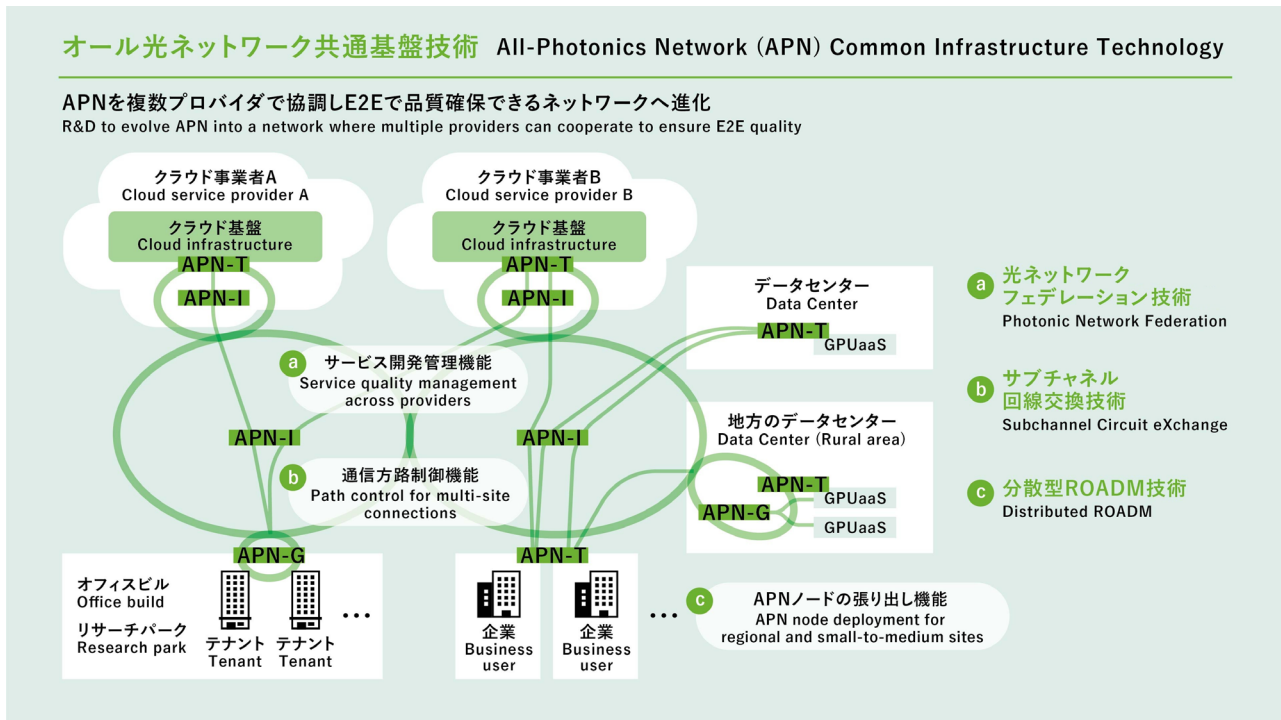


# R&D to evolve the APN into a network where multiple providers can cooperate to ensure E2E quality All-Photonics Network common infrastructure technology

## Background and Technical Challenges

In optical networks that are independent of each operator, it is difficult to interconnect and guarantee quality, and it is difficult to cope with disaster resilience and flexible cloud use.



## R&D Goals and Outcomes

This research aims to establish a disaster-resistant and high-quality communications infrastructure by coordinating optical networks of multiple operators, thus eliminating regional disparities and enabling diverse data utilization.

### Key Technologies

#### 01 Core Technologies

SCX technology that deterministically secures APN wavelength resources and executes traffic control on a per-terminal/per-flow basis enables end-to-end deterministic communication.

#### 02 Key Differentiators

To achieve deterministic communication, it has been necessary to use equipment with advanced functions such as time synchronization and time division multiplexing. However, SCX enables asynchronous and general-purpose switches.

Use Cases Multi-Industry

R&D phase Research

Technology Schedule FY25-26

Commercialization Schedule TBD

#### 【Exhibitors】

NTT Network Service Systems Laboratories

#### 【Contact】

Network Architecture Project

#### 【Co-exhibitors】

KDDI, 1FINITY, NEC, Rakuten Mobile

\*Obtained from NICT commissioned research (JPJ012368C09001)

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