The demand for communication networks is
on the rise as society continues to digitize.

The number of IP networks will increase
30-fold by 2030 and 4,000-fold by 2050.

Global network power consumption will
increase 5-fold by 2030 and 530-fold by 2050.

Communication networks alone will account
for a 9-fold jump in power usage.

IOWN, promoted by the NTT Group,
is designed to solve this difficult problem.

IOWN's All-Photonics Network reduces power
usage to 1/100th of the current level using
photonics-electronics convergence technology.

IOWN's effects on reducing GHG emissions are
comparable to those of renewable energy.

With 125 times the capacity and 1/200th the
delay, it will enable new network services.

IOWN can mitigate the increase in power
consumption, but only if widely used.

NTT Comware has been building an IOWN testbed
since 2021 to communicate the value of IOWN
and promote its use in business.

We are building a unique APN environment
using dark fiber cables in Tokyo.

We work to verify future maintenance and
operations, while also developing and
verifying use cases that take advantage of
APN's high speed and low latency.

Two examples of use cases: 'XR table tennis'
and 'remote data center maintenance.'

XR table tennis was developed to showcase

APN's high capacity and low latency, enabling remote matches using actual video.

Please enjoy this demonstration of XR table tennis, made possible by IOWN.

XR table tennis, here we go!

XR table tennis, using IOWN to link remote locations, enables smooth play due to the ultra-low latency.

It felt very natural to play!

The 'remote data center maintenance' project was developed to demonstrate next-generation remote maintenance using IOWN's unique digital twin computing and robotics.

Declining birthrates and aging populations are creating a labor shortage in society.

NTT Group also requires numerous technicians to maintain data centers 24 hours a day, and there is a need to reduce labor.

Remote maintenance enables 'visualization' of data center sites by reproducing equipment arrangements and operational status using a three-dimensional digital twin.

When an alarm is generated and a site needs to be checked, a robot linked to the digital twin automatically moves to the equipment generating the alarm.

Here, the digital twin is operating a robot to view an image of the equipment concerned.

IOWN enables smooth operation.

It also creates high-definition images for lamp inspections using AI image recognition.

Remote maintenance is applicable in a wide range of industries, plants and factories.

We also hold briefings and exhibitions to advertise the IOWN testbed.

Briefings held at our Shinagawa verification facilities allow visitors to view use cases.

NTT Group is also working to enhance IOWN's presence through exhibitions.

We also presented use cases overseas at the IOWN Global Forum held in Germany.

Through the IOWN concept, we will continue to work toward a sustainable future.