Impact Reporting (April 2024～March 2025)

Eligible Project	ICMA Project Category	Impact Reporting Item	Disclosure Information
①5G-related investment	Energy efficiency	■Number of 5G base stations installed	<As of March 31 2024(Final year of fund allocation)> ■Approx. 45,000 Stations <As of March 31 2025> ■Approx. 52,000 Stations
②FTTH-related investment	Energy efficiency	■Number of subscribers (units)	<As of March 31 2024(Final year of fund allocation)> ■23.65 Million Agreements <As of March 31 2025> ■23.79 Million Agreements
③R&D for the realization of the IOWN concept	Energy efficiency	■Explanation of the intended effects of the eligible R&D projects ■Introduction of the progress of the R&D and examples of services and products	■Attachment
④ Highly energy efficient and power-saving data center	Energy efficiency	■Amount of CO_2 emissions (t-CO_2)	■Not Applicable
⑤ Green Buildings	Green Buildings	■Name of the Green Buildings, certification level obtained, and the timing of acquisition and reacquisition ■Amount of CO_2 emissions (t-CO_2)	■Not Applicable
⑥ Renewable Energy	Renewable Energy	■Power generation capacity/ actual amount (GWh) ■Amount of CO_2 emissions reduced (t-CO_2)	<As of March 31 2024(Final year of fund allocation)> ■Power generation Actual Volume: 880GWh (Reference: Facility Capacity 2,150,000KW) ■Volume of CO_2 emissions reduced 423,057 tons-CO_2 (Buildings under construction excluded) <As of March 31 2025> ■Power generation Actual Volume: 1,113GWh (Reference: Facility Capacity 2,250,000KW) ■Volume of CO_2 emissions reduced 441,694 tons-CO_2 (Buildings under construction excluded)

【Attachment】

NTT as a Creator of New Value and Accelerator of a Global Sustainable Society

As a solution to the increasing power consumption associated with the spread and advancement of AI, we will accelerate the research and development, and commercialization of IOWN, including 6G, while promoting the early commercialization of photonic-electronic convergence devices that achieve low power consumption. At the Osaka Kansai Expo that opened in April 2025, we are providing IOWN APN between major facilities and co-creating future experiences with many partners. We also provide remote production facilities that can be jointly used by multiple broadcasters to promote the use of the IOWN APN. At the NTT Pavilion, we are implementing IOWN 2.0, which aims to achieve power efficiency eight times greater than conventional levels, and are preparing for commercialization in 2026.

To strengthen our personal business centered on individual customers, we will work to expand and upgrade services in finance, healthcare, medical, and other areas, as well as to provide more personalized services using a data-driven approach. With regard to corporate customers, we will leverage technologies such as AI, robots, IOWN, digital twin, and security to deploy solution services and platform services globally and transform the industries that support daily living and society. Regarding data centers, in addition to further expanding the NTT Group's data center infrastructure, we will promote the upgrading of the infrastructure through the introduction of IOWN technology.

We will contribute to industrial promotion and regional revitalization by promoting sustainability solutions that combine green energy and ICT, creating circular economy business that encourages waste reuse across industries, and working on the efficiency and value addition of primary industries through the utilization of IOWN, 5G/IoT, and AI/robots.

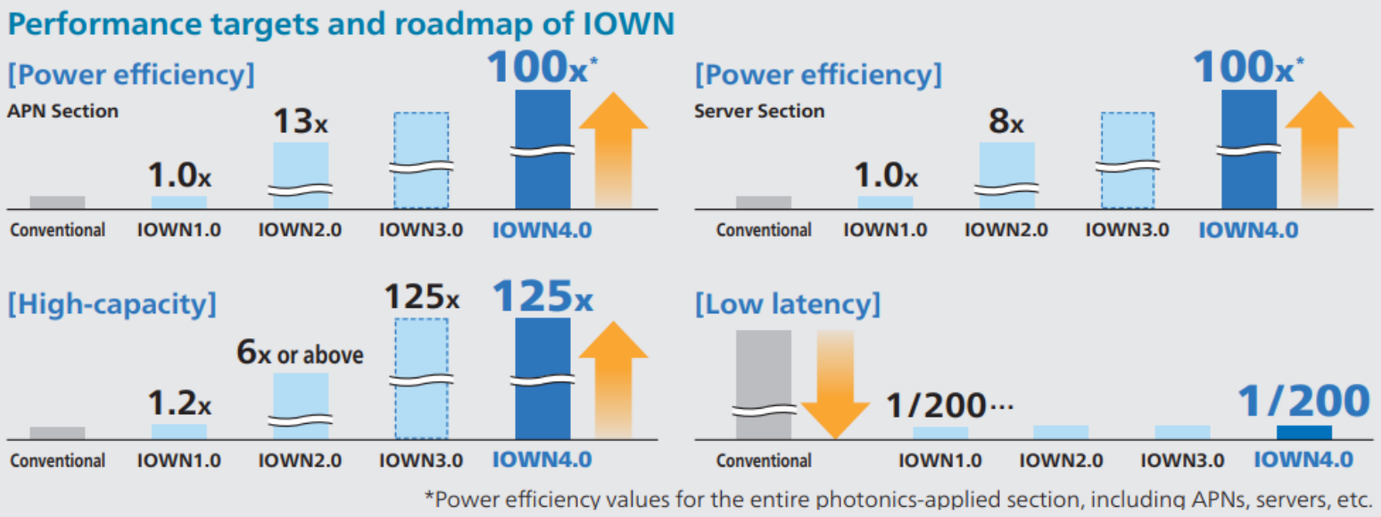
Status of Research & Development

We advanced initiatives to flesh out the IOWN concept and to roll out the technology and resolve issues in a range of industries.

Innovative Optical and Wireless Network (IOWN) Concept

Amid the accelerating digital shift in social and economic activities, the use of communication networks has expanded greatly, and we are approaching the limits of data volume, latency, and power consumption. The IOWN concept breaks this barrier with revolutionary photonics technology, with the goal of creating a sustainable world.

Performance targets and roadmap of IOWN



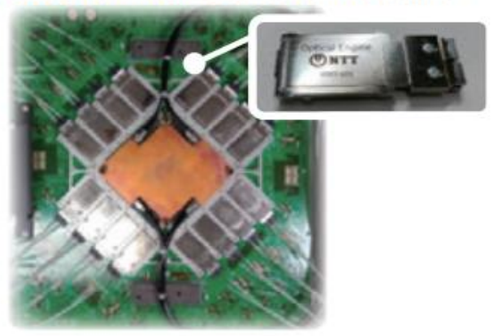
*Power efficiency values for the entire photonics-applied section, including APNs, servers, etc.

-Research and Development in Preparation for Making the IOWN Concept a Reality

・Photonic-electronic convergence devices under development for the realization of IOWN are being developed for short-haul optical connections (inter-board connections, inter-package connections, and inter-die connections) in addition to conventional long-haul optical communication applications.
IOWN Photonic DisaggregatedComputing with a maximum of eight times greater power efficiency is achieved by incorporating photonic electronic convergence devices that optically connect boards and technologies that efficiently utilize hardware resources.

・We are conducting research on a multi-core optical fiber, which is one of the elemental technologies for realizing high-capacity optical transmission infrastructure. We have succeeded for the first time in the world in combining optical signals of different optical types (modes) by utilizing optical coupling between three adjacent cores in a multi core structure. This technology makes it possible to achieve both spatial multiplexing and coupling of more than ten cores with a smaller number of cores while maintaining the outer diameter of the optical fiber, and provides a new option for multi-core optical fiber designs that can achieve ten times higher capacity than existing optical fibers.

Photonic-electronic convergence device for inter-board connections



-IOWN-Driven Creation of New Value (from concept to commercialization)

・In December 2024, NTT East and NTT West launched a commercial service, All-Photonics Connect powered by IOWN. This service utilizes IOWN APN technology that dedicates optical wavelengths throughout the entire communication network to achieve high-speed, large-capacity communications at speeds of up to 800 Gbps.

・In August 2024, based on a basic agreement with Chunghwa Telecom Co., Ltd. (headquarters: Taiwan), the Company achieved international connectivity between the data center in Taiwan (Taoyuan) and the data center in Japan (Musashino R&D Center) using APNs from both parties. Furthermore, in March 2025, the NTT DATA Leadership Event was held with a view toward the unification of operations through IOWN APN connections among three geographically separate data centers in Mumbai, India, as well as the commencement of connection to the submarine cable MIST, which connects India, Singapore, and Malaysia. We will continue to promote further international expansion by leveraging the ultra-high speed and ultra-low latency that are the characteristics of IOWN APN.

Press conference in Taiwan

IOWN APN and data center business expansion in India