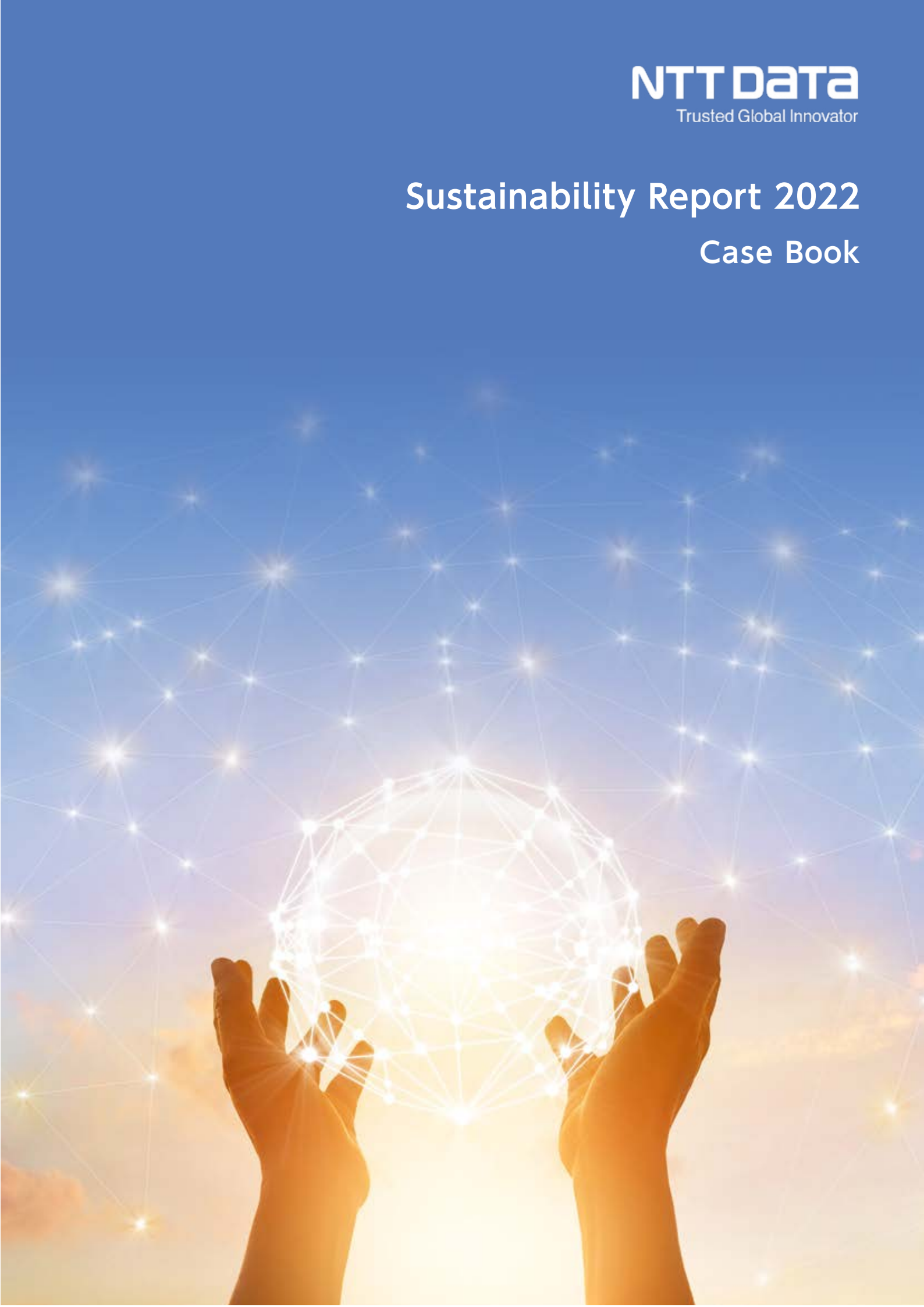
NTT DATA
Trusted Global Innovator

Sustainability Report 2022

Case Book



The NTT DATA Group Sustainability Management

As the environment surrounding society changes dramatically everyday, companies are required to solve various social issues and contribute to the global environment while promoting their business. Taking this situation as an opportunity for further growth, NTT DATA Group formulated the New Medium-Term Management Plan in May 2022 to promote sustainability management from a long-term perspective.

We will contribute to further growth and the realization of a sustainable society by addressing social and environmental issues from both our corporate activities (of IT) and our business activities for our customers and society (by IT) in the three axes of "Client's Growth," "Regenerating Ecosystems," and "Inclusive Society," with "Realizing a Sustainable Future" as our slogan, which means realizing a sustainable future by connecting people with technology.

Positioning of the New Medium-Term Management Plan

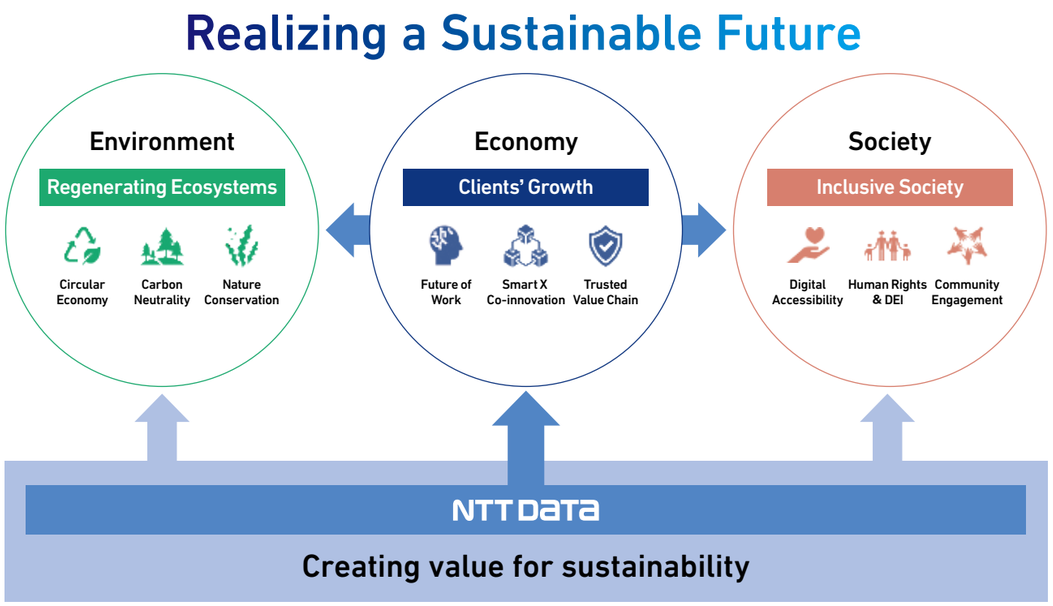
3 Stage — Realizing a Sustainable Future
Connect people with technology to create value and a sustainable future with our clients.

New MMP (2022–25)

Midpoint to Global 3rd Stage (2019–21)
Pursuing profitable global growth with the consistent belief and courage to change.
- Revenue: ¥2.55T
- Global Business: 41%
- Clients > $50M: 82

2 — Recognized Global Brand (2016–18)
NTT DATA: Ascend; Rise and grow our global brand
- Revenue: ¥2.16T
- Global Business: 41%
- Clients > $50M: 50

1 — Increased Global Coverage (2005–2015)
A global corporate group that provides IT services
- Revenue: ¥1.61T
- Global Business: 31%
- Clients > $50M: < 10



Nine Material Issues

NTT DATA Group has identified nine material issues that are management challenges critical to the realization of our slogan. The identification of material issues is periodically reviewed in light of changes in the external environment surrounding sustainability, including trends in the international community and expectations from stakeholders. NTT DATA Technology Foresight's list of social issues was the starting point for the selection of previous material issues. However, new material issues have been evaluated and verified by identifying issues in global standards organizations, etc. In our materiality assessment, the expectations and risks from society (stakeholders), as well as the magnitude of their impact, have been extensively examined across the entire company, including operating divisions and Group companies overseas. Based on the opinions of global NGOs and external experts, nine material issues have been identified by the Board of Directors.

Environment — Regenerating Ecosystems

Carbon Neutrality
Contribute to solving climate change issues by creating innovations to decarbonize society and clients.
- Okinawa IT Shinryo Park
- C-Turtle™
- Utilizing next-generation smart meters
- Strengthening the Green Business system

Circular Economy
Reduce waste and realize a society where the value of products and services continues to circulate
- Mitaka Data Center EAST

Nature Conservation
Generate sound global environment and contribute to people's well-being by conserving and recovering nature capital.
- Aisaku and inagri™

Economy — Clients' Growth

Smart X Co-innovation
Create new value through co-creation with various companies to achieve a smart and innovative society.
- Kashiwa-no-ha
- Resona Payment one stop service
- Grid Sky Way
- Regional Bank Integrated Services Center
- TradeWaltz®
- Ride Space

Trusted Value Chain
Uphold data privacy and security to ensure safe, secure and resilient corporate activities.
- pipitLINQ®

Future of Work
New ways of working that enhance employee experience and performance. Provide and promote work style reforms for society as a whole.
- Catch&Go®
- PIG LABO® Breeding Master

Society — Inclusive Society

Human Rights & DEI
Work to create an equitable society where a diverse range of people thrive and respect each other's human rights.
- Enhancing AI governance

Digital Accessibility
Deliver services that provide everyone with equal access to basic needs and improve people's quality of life.
- Digital Success® Academy
- Teaming
- MaaS platform
- OpenCanvas for Government®

Community Engagement
Understand the challenges and needs for the development of local communities and provide services that enrich people's lives.
- D-Resilio®
- Food & Wellness platform
- AI diagnostic imaging
- STO
- NTT DATA Academia

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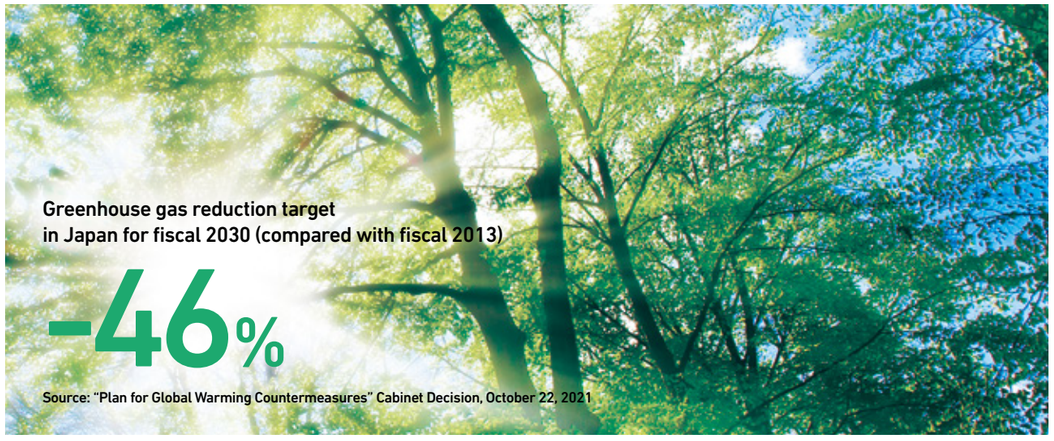
Carbon Neutrality

Case: Okinawa IT Shinryo Park

Promoting local production and consumption of energy through a public-private partnership; Contributing to the realization of a carbon-free society by fiscal 2050 in Okinawa

The NTT DATA Group is working to make Buildings 2 and 7 of the Okinawa IT Shinryo Park Corporate Cluster Facilities carbon-neutral. In addition to solar power systems, we have introduced an electricity rate menu that effectively reduces CO_2 emissions from electricity to 0 using resources produced in Okinawa Prefecture.



The Okinawa IT Shinryo Park is the prefecture's largest concentrated area of IT companies, with the aim of Okinawa becoming a bridge with Asia. It is being developed to become one of the major bases for information and telecommunications industries in Japan and overseas. It has 12 buildings on a site of approximately 174,000 m^2 and is used by 41 companies including those in the IT industry. The Group is also actively developing a BPO (Business Process Outsourcing) business in this area, focusing on administrative support, expense settlement, and auditing for the insurance industry and general companies.

At the same time, as part of our efforts to combat climate change, we are also promoting the use of renewable energy under the theme of "Green Power." We are working together with NTT DATA Smart Sourcing and The Okinawa Electric Power Company Group (The Okinawa Electric Power Company, Okinawa New Energy Development) to make our Shinryo Park corporate cluster facilities No. 2 and No. 7 carbon-neutral.

Through the installation of solar power systems facilities based on the Okinawa Electric Power Company Group's third-party ownership model of solar power, and the utilization of the electricity rate menu "Uchina~ CO_2-Free Menu," which effectively reduces CO_2 emissions from electricity to 0 with non-fossil certificates of wood biomass co-fired power generation using construction waste in Okinawa, and resources from Okinawa such as solar and wind power, we have achieved carbon neutrality through local production for local consumption for all energy used in the two buildings.

Through these efforts, we will contribute to the realization of a carbon-free society in Okinawa by fiscal 2050.

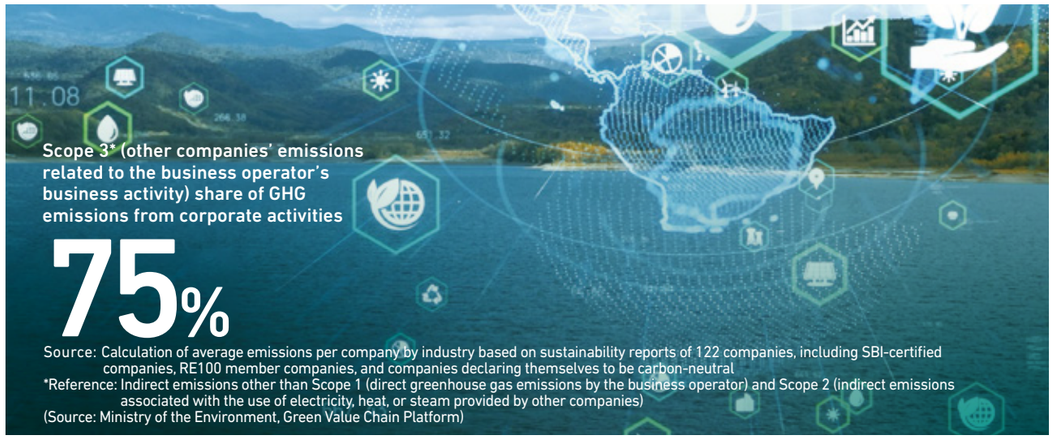
Solar panels installed on the roof of IT Shinryo Park Corporate Cluster Building No. 7

Carbon Neutrality

Case: C-Turtle™

Visualizing greenhouse gas (GHG) emissions using data held by international NGOs reduced emissions across the supply chain

**Amid growing interest in the visualization of company-wide greenhouse gas (GHG) emissions toward the realization of decarbonization, NTT DATA provides C-Turtle™, a platform for visualizing GHG emissions in response to the "Company-wide Emissions Allocation Method."
This platform also enables the use of data on global companies held by CDP, an international NGO.**



With the aim of achieving decarbonization, many companies are making efforts to visualize GHG emissions from their overall corporate activities, including Scope 3. However, Scope 3 generally calculates GHG emissions by multiplying the amount of activities (scale of corporate activities) by the basic emission unit (market average). This makes it difficult to reflect the reduction efforts of companies. On the other hand, with calculation methods that can reflect the reduction efforts of companies upstream and downstream in the supply chain by using the "Company-wide Emissions Allocation Method," consistent visibility and reduction of GHG emissions across the entire supply chain can be achieved.

We provide a GHG emissions visualization platform C-Turtle™ for the "Company-wide Emissions Allocation Method," which allows us to combine data from our own collection with data from global companies held by CDP, an international NGO. By expanding the volume of emission intensity per the entire sales of suppliers, companies can calculate emissions more efficiently using the "Company-wide Emissions Allocation Method."

CDP is a global standard for environmental information disclosure that collects information on the environment from companies and local governments around the world. As the only premium member of the CDP supply chain in Japan and as a CDP Gold Partner, we have contributed to CDP's efforts to promote the visualization and reduction of GHG emissions throughout the supply chain. In cooperation with CDP, we will continue to provide consulting and solutions that lead to the reduction of GHG emissions throughout the entire supply chain to realize carbon neutrality for society as a whole.

Three Features of C-Turtle™

Quick delivery of proven methods

- Investigates the amount of activity information that customers can obtain and selects an appropriate calculation logic.
- Responds to the TCFD disclosure. (Required Scope 3 Calculation for all categories)

Visualization platform for automatic emission calculations

- Provides a cloud platform that automatically calculates emissions from activity levels.
- This easy-to-use operation screen eliminates the need for spreadsheet software management. Automatically updates emission units.

Scope 3 formula that can be reduced

- It is possible to adopt the "Company-wide Emissions Allocation Method" based on the supplier-specific emission intensity for calculation of Scope 3 Category 1/ Category 2. The reduction efforts of other companies are reflected in our own emissions.
- Supplier-specific emission intensity is calculated at NTT DATA and managed on the platform.

Circular Economy　Carbon Neutrality

Case: Mitaka Data Center EAST

Mitaka Data Center EAST: Reduced environmental impact; safe and secure operation

We provide state-of-the-art data center services to customers while realizing sustainable operations, including by using natural energy to reduce power consumption.

The progressive digitization of corporate activities and the spread of remote work due to COVID-19 are leading to an increase in communication traffic. While the use of data centers is growing and their role is assuming greater importance, they consume enormous power, which is a key challenge.

In the global market, energy-saving measures to combat climate change and reduce greenhouse gas emissions are becoming important factors when selecting services, making it essential to provide environmentally friendly solutions.

Mitaka Data Center EAST, one of the largest and most advanced facilities in Japan, brings together NTT DATA's know-how in the construction and operation of systems and data center facilities and incorporates leading-edge technologies, such as AI and IoT.

With a total floor area of 38,000 m^2, the dedicated data center building features a seismic isolation structure, power backup, and other measures to ensure business continuity in the event of a disaster. It is one of Japan's largest data centers and boasts exceptional environmental performance. Natural light is used in common areas, and electric power is supplied from photovoltaic panels. Air-conditioning equipment needed to cool the machines uses an outside air-cooling system that utilizes natural energy to reduce operating time. The center's power efficiency is among the highest in the nation, and it is the first in Japan to receive Gold certification in the data center category of LEED, an environmental performance rating system operated by the U.S. Green Building Council.

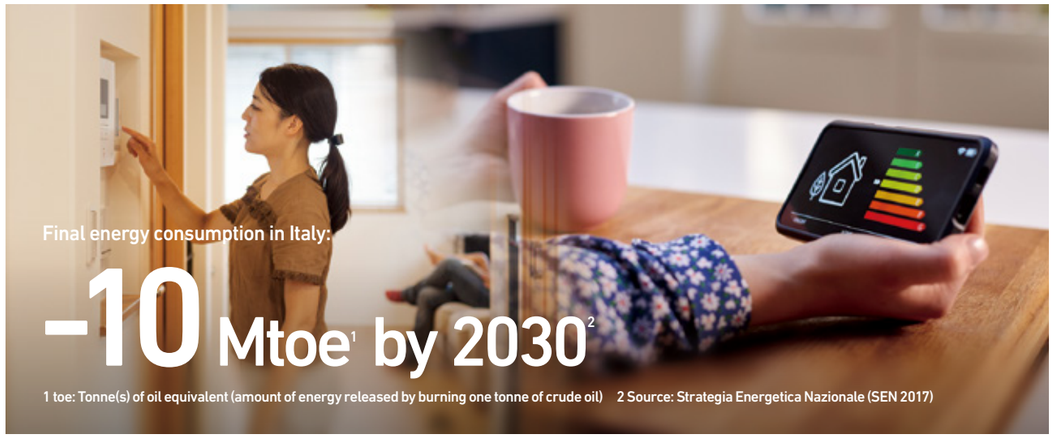
Going forward, we will increase procurement of power derived from renewable energy sources. At the same time, we will develop services to further reduce the total power consumption of our data centers. To this end, we will conduct field tests using energy-saving IoT and other technologies to visualize the operating environment of servers, with the aim of reducing the energy needed for cooling.

Carbon Neutrality

Case: Utilizing next-generation smart meters

Visualizing energy consumption to help improve energy efficiency in Italy

By developing various services using next-generation smart meters, we will improve the energy consumption awareness of consumers and businesses in Italy and help solve energy issues facing that nation.



The smart meter penetration rate in Italy is close to 100%, and it is now time to upgrade from the first generation to the next generation.

Italy is greatly dependent on energy imports, and energy prices remain high compared to the EU average. In addition to correcting price discrepancies, the government has announced Strategia Energetica Nazionale (SEN 2017), including conversion to renewable energy, to build a low-carbon society. Under these circumstances, the next generation of smart meters will be required to not only improve the quality of service but also provide new and innovative services to solve these energy issues.

In response, we have adopted a service design approach that takes the needs of users as a starting point for planning, demonstration testing, and developing services using all NTT DATA technologies. Under this approach, we are designing smart meter devices, developing firmware, and promoting data-driven digital businesses.

Once the system is operational, consumers will be able to check their daily power consumption by time zone on a display or smartphone, which we expect to improve their awareness of energy consumption. The Distribution System Operators (DSO) will reduce power loads by remotely managing and analyzing data on consumer energy demand and consumption behavior. The system will also enable swift power outage countermeasures and gauge the environmental impact of the electricity used in each residence. Furthermore, the collected data will be used to set flexible pricing for power generators and electricity retailers according to the amount of electricity consumed at different times of the day, which is expected to alleviate the price equality issue.

The next-generation system is expected to help resolve issues surrounding energy in Italy, such as the ratio of renewable energy and the need to raise that nation's energy self-sufficiency level.

Environment | Regenerating Ecosystems

Nature Conservation

Smart X Co-innovation

Case: Aisaku and inagri™

Improving productivity and sustainability by introducing new technologies in agriculture

Amid mounting social issues surrounding agriculture, we will contribute to the revitalization of local economies by providing services that contribute to the resolution of business issues and issues surrounding farmers, in line with local realities, in cooperation with Japan Agricultural Cooperatives (JA), centered on credit and food and agriculture.

Japan's agriculture faces a variety of challenges, including the aging of farmers and an increase in abandoned farmland. On the other hand, the stable supply of food is threatened by various factors such as increased demand for food due to global population growth and decreased production due to climate change, conflict, and other factors.

NTT DATA uses technologies such as agricultural management support platforms, AI and image analysis, and drones to connect everyone involved in the production, distribution, sales, and consumption of agricultural products; to increase productivity and sustainability; and to support Japanese agriculture.

"Aisaku"

"Aisaku" is a DX platform that supports business reform of producers and production areas as a whole. Advanced farming activities are possible by freely combining cloud services for the agriculture and food distribution industries, data analysis, automation, and digital technologies such as IoT. For example, by managing soil properties and data on agricultural chemicals and fertilizers for each farm, and by visualizing the risk of disease occurrence, it is possible to reduce the risk of crop loss while optimizing the amount of agricultural chemicals sprayed. In addition, based on environment-friendly cultivation guidelines that reduce the use of agricultural chemicals and chemical fertilizers, we are able to reduce wasteful purchases of agricultural chemicals and fertilizers, thereby stabilizing sales prices.

"inagri™"

"inagri™" supports all inheritance procedures, including credit, mutual aid, and farming. It is equipped with an office navigation function that shows the procedures and documents to be prepared for the JA contact person. By following the instructions on the screen, complicated inheritance procedures can be carried out accurately. An heir can go through inheritance procedures for all businesses with minimum documents at one window.

Carbon Neutrality | Circular Economy | Nature Conservation

Case: Strengthening the Green Business system

Using digital technology to promote green innovation and achieve a decarbonized society

As the movement toward carbon neutrality accelerates and the market scale of environmental businesses expands, NTT DATA has established a new dedicated green organization to spearhead efforts to make society greener.

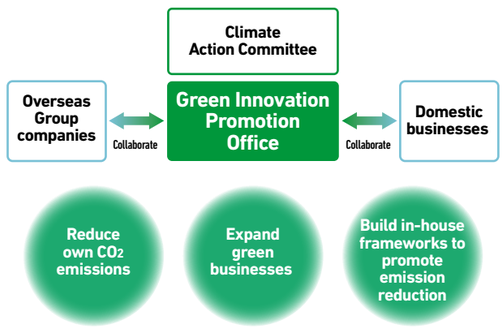
As the importance of addressing climate increases, economic activities based on the premise of CO_2 emission reduction, such as achieving carbon neutrality, need to change. Many countries and regions have positioned "green recovery" as a growth strategy, and both the market size and employment scale of environmental businesses are the largest in history.

NTT DATA established its Green Innovation (GI) Promotion Office on October 1, 2021. The new entity will establish a company-wide strategy for our green innovation business and promote that business in cooperation with our domestic businesses and overseas Group companies to help realize a decarbonized society.

To reduce CO_2 emissions in society as a whole, we will provide consulting services to support the CO_2 emission reduction plans of our customers. We will also promote energy conservation at our data centers, introduce renewable energy, and develop and install energy-efficient "green software."

To help visualize CO_2 emissions, meanwhile, we are conducting R&D centered on using forests as sinks that absorb CO_2. We are also working to establish satellite imagery and other remote sensing methods, deploy AI-based technologies to predict absorption amounts, and develop IT platforms.

In our supply chain, we will deploy a digital platform to help visualize CO_2 emissions across NTT DATA's businesses and build frameworks to promote the reduction of such emissions. By 2030, we aim to achieve the 1.5°C target (60% reduction from the fiscal 2016 level) recognized by the Science Based Targets (SBT), and by 2040 we aim to achieve the NTT Group's target of becoming completely carbon-neutral.



Trusted Value Chain | Smart X Co-innovation

Case: pipitLINQ®

Improving efficiency of society through secure and low-cost DX of bank deposit inquiry services

For many years, administrative organizations and financial institutions involved in taxes and welfare benefits have suffered from the enormous and complicated work. By digitizing these tasks, NTT DATA is realizing swift and proper business operations.

pipitLINQ® is a service that connects administrative organizations and financial institutions through a secure network and allows financial institutions to make inquiries about deposits and savings using electronic data in a uniform format. This service reduces the human burden of handling paper data, the cost and time lag due to mailing, and the complexity of processing due to differences in document formats at each institution. This service enables quick and appropriate business operations.

This service is built on OpenCanvas®, which has high reliability and security. In addition, by making the most of existing assets with proven track records, such as ANSER®, which has been providing banking services in Japan for more than 35 years, and "Insurance Company Common Gateway," a platform that has been connecting between insurance companies and agents for 20 years, we are able to provide secure, low-cost services. The format reflects the opinions of relevant organizations such as the central government, local governments, and financial institutions, and it is flexible enough to accommodate business rules that differ among organizations. By combining it with RPA (Robotic Process Automation) and linking it with core systems, it is possible to further improve the efficiency of bank deposit inquiry services. As of January 2023, the system was adopted (including planned) by 75 financial institutions, the National Tax Agency, the Japan Pension Service, and local governments (664 institutions including planned). The number of inquiries about the system has continued to increase, approximately 3.2 times that of the same period in the previous fiscal year.

pipitLINQ® is expected to be even more efficient as a wide range of financial institutions and administrative organizations become members. Therefore, we will promote the realization of a digital society by calling for financial institutions and government agencies to sign up for membership as well as by continuously expanding its services. The Group will continue to propose solutions based on its extensive knowledge of system construction in connection with various stakeholders.

Smart X Co-innovation　Community Engagement

Case: Kashiwa-no-ha

Challenging with Kashiwa-no-ha Smart City; New medicine based on patient's own "health data"

In "Kashiwa-no-ha Smart City," challenges have been launched for new medicine utilizing NTT DATA's health data management service at the "Mitsui Garden Hotel Kashiwa-no-ha Park Side" located on the premises of the National Cancer Center Hospital East.

The development of "Kashiwa-no-ha Smart City" (Kashiwa City, Chiba Prefecture) started in the 2000s. Houses, commercial facilities, offices, hospitals, universities, etc., are concentrated in the town centered on the Tsukuba Express "Kashiwa-no-ha Campus Station." In this town, the government (Chiba Prefecture and Kashiwa City), the people (residents living in Kashiwa-no-ha and private companies participating in town development), and academia (academia located in Kashiwa-no-ha such as the University of Tokyo, Chiba University, the National Cancer Center Hospital East, and the National Institute of Advanced Industrial Science and Technology) are working together on advanced attempts under the three themes of "health and longevity," "new industry creation," and "environmental harmony." In particular, as part of the "health and longevity" activities, we are cooperating with the initiatives of the National Cancer Center Hospital East and the "Mitsui Garden Hotel Kashiwa-no-ha Park Side," which opened in the premises of the hospital, by providing health data management services for cancer patients staying at the hotel.

Specifically, when an outpatient receiving cancer treatment at the National Cancer Center Hospital East stays at the hotel, medical devices such as thermometers, blood pressure monitors, and pulse oximeters that are compatible with "OMRON connect" can be rented from the hotel and, using "OMRON connect," measured data can be sent to smartphones via wireless communication. In addition, such data is recorded on the "Health Data Bank® for Medical," our health data management service, together with daily health data measured by wearable devices that can manage data of exercise, sleep, pulse, etc. Even after checking out of the hotel, patients can continue to use the service at home by preparing the same equipment themselves.

With the aim of providing better treatment and hotel service, with the consent of patients, we have enabled medical professionals and care staff who provide treatment at the National Cancer Center Hospital East to access the vital data accumulated. Up to now, medical professionals had to understand patients' conditions outside the hospital through patients' explanations during hospital visits. However, by viewing daily vital data, they can grasp patients' condition in more detail, which is expected to lead to better treatment. By sharing data with medical professionals and hotel staff, patients have gained a sense of security by being able to consult with them while accurately understanding their condition themselves.

Kashiwa-no-ha Smart City also plans to utilize the know-how gained through this initiative to conduct research on the use of health data in regional medicine and online medical treatment.

[Example of initiatives] Vital data management service at the hotel linked to the hospital

Developed services to support cancer patients in cooperation with the National Cancer Center Hospital East and the Mitsui Garden Hotel

VOICE

Rei Takekawa

Mitsui Fudosan Co., Ltd.
Project Manager
Kashiwa-no-ha
Community Development
Promotion Department

The hotel provides an environment that supports cancer patients and their families 24 hours a day. Together with the National Cancer Center Hospital East, we aim to create a new medical care model using this field. For example, 24-hour care staff will work with the hospital in case of emergency and respond quickly.

We will promote data utilization by providing health data management services using digital technology.

In addition, we will provide a unique hospitality service that sets us apart from other hotels by accommodating medical tourism, providing meal menus with consideration for cancer patients, and testing food delivery using robots.

VOICE

Toshihiko Doi

National Cancer Center Hospital East
Chief of Department of Experimental Therapeutics

If medical institutions and private companies can freely exchange health data with patients' consent, there is a possibility that patients will be able to access the latest medical care in the future regardless of time or place. I was hoping that there would be a mechanism such as the Health Data Bank® and "Kashiwa-no-ha Data Platform" that would serve as the basis for data collaboration among businesses to bring hospitals and patients closer together.

Going forward, we hope to obtain even more sensitive information on patients through the Health Data Bank® and improve the quality of medical services.

Smart X Co-innovation　Future of Work

Case: Resona Payment one stop service

Providing a one-stop approval platform; Contributing to the digitization of small and medium-sized companies

In the settlement operation in Japan, there has been a delay in digitization and a lot of analog work has occurred. To solve this problem, NTT DATA has built, maintained, and operated systems utilizing our technical capabilities and partnerships, and jointly developed a new service of Resona Bank.

In Japan's settlement operations, there are many analog operations and inefficient operations due to delays in the introduction of electronic systems. Aiming to solve the social problem of improving the efficiency of settlement operations by business operators, the Group launched the "Resona Payment one stop service," a new payment service for corporate and sole proprietors.

This service was jointly developed through Resona Bank using its own customer base to understand customers' issues and needs and us using our technical capabilities and partnerships to build, maintain, and operate the systems. This service will streamline the payment of paper, fax, and other invoices.

With this service, by using AI-based OCR (Optical Character Recognition/Reader) technology to read invoice information, and automatically creating information, you can make transfers seamlessly linked to Resona Bank's Internet banking "Resona Business Direct." When payment is completed, the invoice data is automatically stored and easily retrieved at any time.

Since February 2023, we have also been offering credit card payments as a means of payment. This enables us to improve our short-term cash flow by delaying actual cash outflows by approximately one to one and a half months.

By doing everything from uploading invoices to creating transfer data, actual transfer operations, and electronic storage, we are contributing to the digitization of business processes for small and medium-sized companies. We are also complying with the "Revised Law for the Preservation of Electronic Books" and will comply with the planned spread of electronic invoices through the invoice system and the obligation to keep electronic books. In addition, we will continue to examine various issues, such as the diversification of settlement methods for electronically recorded monetary claims (abbreviated as "densai"), toward the abolition of promissory notes in 2026. We will contribute to the improvement of productivity through the realization of efficient inter-company settlement.

Smart X Co-innovation

Case: Grid Sky Way

Propelling an industrial revolution in the skies through the expanded use of drones, solving labor shortages and even operating as disaster countermeasures

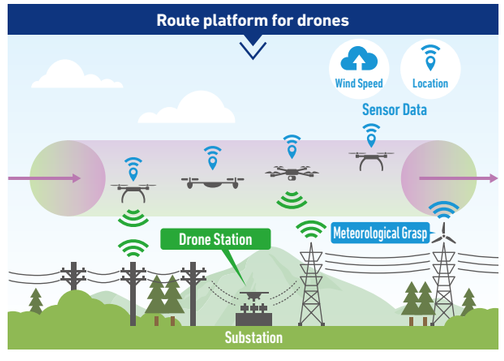
NTT DATA has drone operation management technology that will be used to build new infrastructure in the skies and create services that address social issues related to labor shortages, disaster management, and the like.

Small radio-controlled unmanned aircraft and drones are expected to find increased use as practical tools for solving labor shortages, surveying infrastructure facilities, and providing rescue operations in times of disaster. In addition, BVLOS* drone flights are permitted even over urban and other inhabited areas following the enactment of the revised Civil Aeronautics Act in December 2022. While this is expected to spark growth in services utilizing drones, such as urban-area cargo transport and wide-area security patrol, it also highlights the need to establish and manage operational routes and ensure the safety of aircraft.

In March 2020, NTT DATA established Grid Skyway Limited Liability Partnership in collaboration with TEPCO Power Grid Co., Ltd., and Hitachi, Ltd. The aim of the new entity is to build a common national air infrastructure "route platform" that can be used safely and easily to advance equipment inspections by drones and create new businesses. It has been conducting field tests in various locations with a focus on airspace above electric power facilities, which is considered promising for drones to safely fly over. For example, it performed Japan's first flight verification involving airspace more than 150 meters above the ground and demonstrated the applicability of drones to patrol inspections of power lines. Replacing humans with drones to conduct facility inspections and surveys is expected to result in safer inspections and improved operational efficiency.

Going forward, we will reach out to various businesses in the logistics, agriculture, forestry, and fisheries industries that are considering the use of drones, with a view to conducting field tests tailored to the needs of each sector.

*BVLOS (beyond visual line of sight) flight: A flight in which the pilot does not see the aircraft directly but operates it by remote control while watching a monitor.



Smart X Co-innovation　Carbon Neutrality

Case: Regional Bank Integrated Services Center

Regional Bank Integrated Services Center: Helping regional banks reinforce their business foundations through the integrated use of core systems

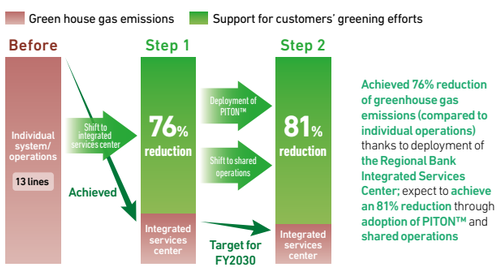
NTT DATA's Regional Bank Integrated Services Center provides a core system for multiple regional banks to share, thus supporting their efforts to reduce system costs, improve operational efficiency, and protect the environment.

Business conditions for financial institutions are becoming increasingly severe due to deteriorating profitability from deposit/loan services caused by low interest rates. Meanwhile, regional banks are being pressured to strengthen their profitability, stabilize their systems, and reduce costs in order to provide reliable services as local financial infrastructure providers. Moreover, declining regional populations are causing the demand for funds to fall, so it is difficult to assess the situation in isolation. Moreover, carbon neutral and other environmentally friendly initiatives have become indispensable for tackling climate change.

Since 2004, we have operated the NTT DATA Regional Bank Integrated Services Center, which provides a core system for multiple first- and second-tier regional banks to share. The center has helped participating banks improve their operational efficiency. In November 2021, we formed a working group with the five banks participating in MEJAR (another regional bank shared-use platform that uses NTT DATA's systems) and the 13 banks participating in the Regional Bank Integrated Services Center to collaborate across existing boundaries. Members of the working group will leverage their respective strengths to examine issues common to all banks, such as improving the efficiency of system operations, developing and procuring customer-interface equipment, and developing IT and digital human resources.

With respect to environmental initiatives, the Regional Bank Integrated Services Center has reduced greenhouse gas emissions by 76% (as of 2021 compared with the 2003 level), achieved through the shared use of systems and provision of an electronic reference service for documents addressed to corporate customers and a joint sending/receiving service for posted items. By fiscal 2030, moreover, we are targeting an 81% reduction through the deployment of PITON™* and shared operations, thereby contributing to decarbonization.

* PITON™: A framework provided by NTT DATA that enables applications developed for mainframes to run on open platforms.



Achieved 76% reduction of greenhouse gas emissions (compared to individual operations) thanks to deployment of the Regional Bank Integrated Services Center; expect to achieve an 81% reduction through adoption of PITON™ and shared operations

Note: Reductions in power consumption at the Regional Bank Integrated Services Center are simulated values based on sampling and other methods.

Smart X Co-innovation　Future of Work

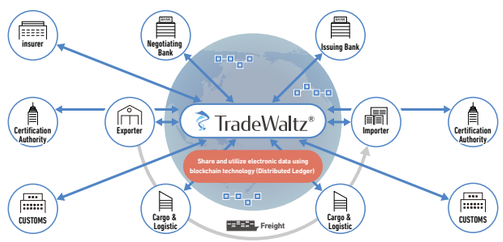
Case: TradeWaltz®

Using the TradeWaltz® trade information collaboration platform to digitize and streamline trade-related operations

Blockchain technology can be used to improve the efficiency and convenience of information exchange among multiple players involved in trade transactions. It can also facilitate remote work and support the sustainable growth of trade in general.

In trade operations, paper documents are the traditional prerequisite for exchanging transaction-related information, but this requires large amounts of manpower and incurs major costs. Meanwhile, the globalization of supply chains has caused the volume of transactions to grow, leading to an increasingly serious shortage of business operators. Therefore, it has become a common priority across multiple industries to establish an efficient mechanism for the accurate and safe transfer of information, achieved by digitizing business processes that are traditionally based on paper documents.

Benefits of using blockchain in trade operations (after introducing the platform)



In 2017, NTT DATA launched a cross-industry consortium with trading companies, banks, insurance companies, shipping companies, and others to discuss using digital technology to improve the efficiency and security of trade-related administrative processes. In 2020, we commenced full-scale operation of our TradeWaltz® trade information collaboration platform and established a company to operate it. TradeWaltz® uses blockchain technology to share trade documents among companies as reusable structured data and store them in a distributed ledger, rather than simply digitizing and storing such documents. It is expected to reduce workloads by up to 60% by streamlining procedures that have become cumbersome due to the centralized digitization of trade-related operations, while also reducing the risk of document loss and falsification. It also offers the potential to create new businesses by linking trade information and utilizing data. In addition, the reduction in the number of paper documents and their transportation and storage is expected to significantly reduce annual greenhouse gas emissions.

Going forward, we will roll out the service in Asia and link up with other trade platforms with a view to further expansion across APAC. As the first step, we start to link up with Thailand's trade platform, NDTP, in 2022.

Smart X
Co-innovation

Case: Ride Space

Leveraging AI to help people travel safely during the "COVID-19 era"

Throughout the world, the COVID-19 pandemic drove innovation to accommodate citizen concerns of infection. Fortunately for the city of Melbourne, Australia, NTT DATA's smart transportation team applied data analytics and artificial intelligence to keep the "myki" public transportation system operational.

The City of Melbourne in the Australian State of Victoria has an efficient public transportation system that runs throughout the city and extends to the suburbs. The system serve as a transportation foundation that supports the people of Melbourne and the economy. Known as "the world's most liveable city," Melbourne has a continuously growing population. To alleviate traffic congestion, the city encourages the use of public transportation and has developed a system that allows people to ride buses, trains, and trams using a smartcard. The system is called "myki." Following the outbreak of COVID-19, however, commuters became increasingly concerned about social distancing while using crowded public transportation. To keep the system running effectively, it was also necessary to protect public transport employees from exposure as they came in contact with many passengers.

In cooperation with Public Transport Victoria, which controls the public transport system in Victoria, NTT DATA Services conceived and implemented an AI-powered mobile application called RideSpace. We installed more than 24,000 scanning devices at 265 train stations and in 490 trams and 2,200 buses. Using our big data smart platform, we monitor more than 585 million trips and 28 million routes annually while collecting real-time data.

Riders of the "myki" system can check the real-time congestion status of public transportation and purchase tickets with a smartphone device containing the RideSpace application. Businesses that provide transportation can also use the statistical information to predict congestion and efficiently allocate employees. The result is a safe and secure transportation system, which uses technology to enable travel during the "COVID-19 era." The RideSpace application was so well received by the citizens of Melbourne that it was awarded the Intelligent Mobility Award by Australia's Intelligent Transport Systems, an organization that recognizes the nation's best work in transport technology.

Using smartphones to monitor the congestion status of public transportation

Future of Work
Community Engagement

Case: Catch&Go®

Realizing a new style of cashier-less shopping using digital technology

By using digital technology to create a new style of store without cashiers, we are working to solve social issues, such as labor shortages and waste-related loss, while increasing customer satisfaction.

In the retail industry, which includes supermarkets and convenience stores, labor shortages and long working hours have become major issues, highlighting the need to reduce employee workloads and increase labor productivity. In this COVID era, meanwhile, customers are increasingly demanding non-face-to-face, contactless, quick shopping solutions and asking for services that meet such demand.

NTT DATA already offers a cashier-less digital store service called Catch & Go® for the retail industry. In collaboration with Daiei Inc., in September 2021 we opened a new style of walk-through store in NTT DATA's headquarters that does not require a cashier. Users register for the Catch & Go® service in advance and enter the store by holding a two-dimensional code displayed on a smartphone application over the store entrance gate. Cameras attached to the store ceiling capture images of the user's line of sight and products selected, which are analyzed in real time using AI. Weight sensors built into the shelves detect changes in the number of products on the shelves. Users can take home their selected products without paying at a cashier, as payment is processed later by credit card.

Store operators can visualize product management and consumer movement and check data in real time on their smartphones, which facilitates improvements in product displays and other operations. They can also offer close-out sales in the evenings by inputting settings in advance. In addition, customers can use the smartphone app to receive notifications about reduced-cost products that are nearing the end of their shelf life, which is expected to improve sales and reduce waste-related loss.

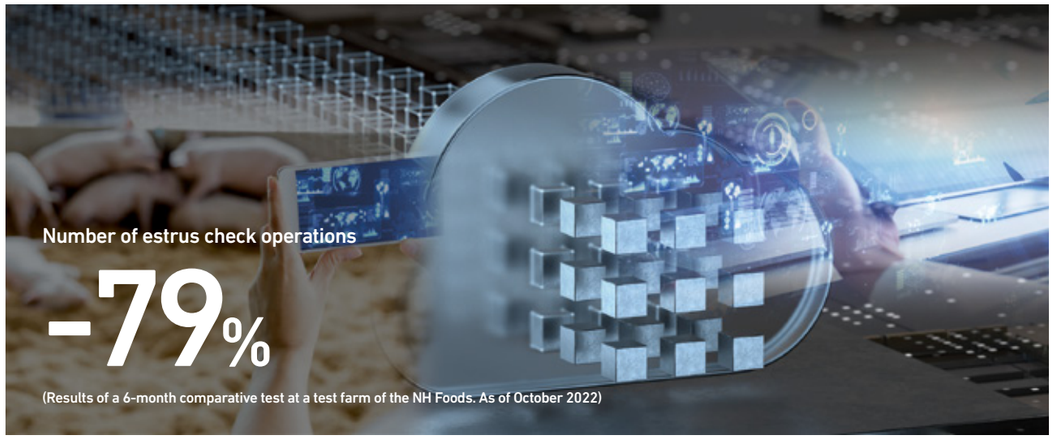
We will continue using digital technology to offer proposals for innovative store operations, including recommendations for products tailored to individual preferences. Through increased operational efficiency, we will help resolve social issues, such as labor shortages and the need to improve employee satisfaction.

Future of Work

Case: PIG LABO®

Realizing sustainable pig farming through "Smart pig farming" utilizing AI

As the stable supply of pork in Japan is required, the aging of pig farmers, as well as the reduction of the labor load and the transfer of breeding techniques have become issues. In response to these challenges, the NH Foods Group and the NTT DATA Group are jointly developing PIG LABO®, a pig farming support system, as part of the "Smart Pig Farming Project" utilizing AI and IoT, with the goal to complete it in 2029.



As the global population increases, demand for meat as a whole is increasing. In Japan, where about half of the domestic pork consumption depends on imports, the importance of a stable supply is increasing. On the other hand, the pig farming in Japan has become large-scale, and the number of pigs per household is increasing. However, the skilled and experienced pig breeders are aging, and due to this, the reduction of labor load and the transfer of breeding techniques are challenges. Against this background, the NH Foods Group and the NTT DATA Group have been jointly developing a pig farming support system "PIG LABO®" since 2018 as part of the "Smart Pig Farming Project" utilizing AI and IoT, with the goal of completion in 2029.

In the pig farming industry, there are various processes such as the breeding department, training department, and further shipment and distribution. Therefore, it is important to carry out optimum breeding and management.

"PIG LABO®" uses digital equipment to collect data on the piggery environment and pig behavior, and the data is analyzed by AI. We aim for high-precision breeding management navigation. Visualized data and high-precision breeding management navigation will reduce the labor load of breeding staff and create an environment where anyone can achieve the breeding techniques close to those of skilled workers.

It is also expected to reduce stress on pigs during the growing process and improve the efficiency of feed and energy consumption, thereby enhancing the sustainability of the pig farming industry.

"PIG LABO® Breeding Master", which is now on trial sale, is a service within "PIG LABO®" that provides an "estrus detection function" for breeding of female pigs. It reproduces the estrus judgment know-how of breeding staff with expert skill and experience using AI. Estrus can be confirmed through AI from a camera installed in the piggeries, and breeding staff can confirm the daily estrus probability for each sow from a PC or tablet terminal. This greatly reduces the monitoring of pigs by a person, which was required for a long period of time, and is expected to reduce the number of operations by breeding staff related to reproduction. It is also possible to maintain a stable and high production level that does not depend on the skill level of workers.

Through the "Smart Pig Farming Project", we will be able to change our conventional pig farming that relies on intuition and experience. Not only will we solve the challenges of reducing the labor load and the breeding techniques, we will also be able to raise pigs comfortably and efficiently, and we will be able to raise pigs in a way that is friendly to the global environment.

VOICE

Shin Sukegawa

NH Foods Ltd.
Research and Development Center
Promoter

Under the basic theme of "Joy of Eating," our company creates a culture that marks an epoch and contributes to society. Based on this corporate philosophy, we are developing various businesses, including meat production and food manufacturing and sales.

As our ideals for 2030, based on the vision "Unleash new potentials for protein," we are working to resolve important social issues such as stable procurement and supply of proteins. PIG LABO® is being developed as a system to support pork production to solve these important problems. Not only pig farming, but also the livestock industry, which is upstream of meat production, is often dependent on the intuition and experience of employees. As the number of workers in primary industries continues to decrease, securing human resources and passing on technologies that require experience are major issues. We believe that this system, which supplements the experience of workers and visualizes the behavior and data of pigs that humans have not been able to observe until now, optimizes breeding and leads to healthier rearing. At the same time, I expect that it will lead to improvements in farm production performance and profits, as well as human resources development and new ways of working.

PIG LABO® aims to create a new form of pig farming that is friendly to pigs, people, and the earth, based on the basic concept of "Unleash new potentials for pig farming." We hope that PIG LABO® will contribute to the livestock industry in Japan and realize sustainable livestock production.

Digital Accessibility

Case: Digital Success® Academy

Aiming to solve social issues that transcend industry boundaries through a co-creation program to develop digital human capital

In addition to the "Digital Success Program" aimed at companies in various industries to promote corporate digital transformation, NTT DATA is developing digital human capital. Through the"Digital Success® Academy," which accelerates DX promotion, we aim to solve social issues that transcend industry boundaries.

As customer needs diversify and social issues become more apparent, business continuity requires both economic efficiency and the resolution of social issues. A key factor in corporate success is the development of digital human resources, who are capable of reexamining existing businesses and aiming to create new value based on digital applications with a view to inter-company collaboration.

The Company has been providing the "Digital Success® Program" to companies in various industries that are aiming to promote DX and utilize data. The program covers a wide range of areas, from the formulation of strategies for "human resources and organizations" to support the implementation of development. It promotes digital transformation across the entire company. Furthermore, to further accelerate the promotion of DX by our customers through the development of digital human resources, we have started offering the "Digital Success® Academy," a place where customers and the Company can continue to develop and grow together, a place for co-learning and co-creation.

This service enables companies to promote DX themes by steadily improving their skills by repeating "input through training courses, output through workplace practices, and examination of practical issues" while working on actual DX themes. The outline (features) consists of the following three points. The biggest feature is that various human capital who are responsible for DX promotion gather from multiple companies. Therefore, not only the development of in-house DX human resources but also the creation and expansion of co-creation/cross-border business with the promotion of inter-company exchange can be expected.

Overview of the Academy (features)

(1) Mutual exchange among companies
[Business-to-Business Discussions and Communities]

- Human resources gathered from participating companies discuss with each other to solve problems on the ground, create ideas, and promote cross-border business expansion
- Provides opportunities for participants and ex-Academy members to exchange information on an ongoing basis and to conduct mutual improvement

(2) One-stop human resources development program
[Skill Assessment, Planning, Training, On-site Implementation]

- A one-stop training program is prepared in which students' skill levels are objectively evaluated and training plans are drawn up based on this evaluation. From providing training to supporting on-the-job training, learning and practice are repeated in a planned manner.

(3) Professional support
[Mentoring]

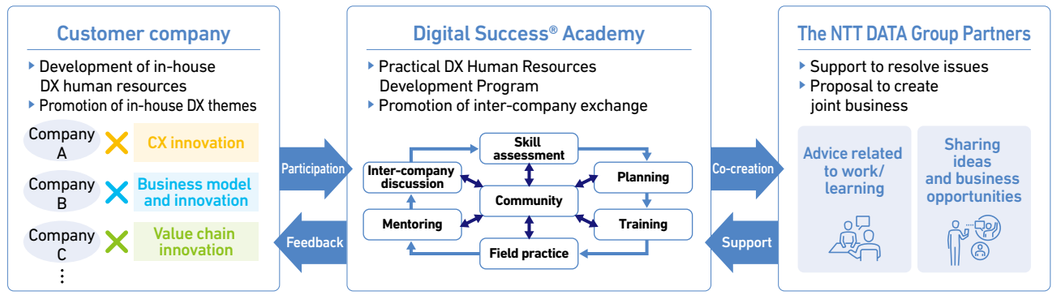
- Supports awareness and growth in field practice through support from our consultants who are active on the front lines of the field and continuous dialogue among participants with the same issues.

Through this initiative, we will train 1,000 people in 30 companies as of 2025 and support the transformation of our customers into a data-driven company. In the future, we will establish this service as a platform for the development of human resources and the creation of new businesses, with the aim of solving social issues across more participating companies and industries. We support the business transformation and creation of new value for our customers' companies by providing a total range of services from consultation for AI and data utilization to support for data science, technology, and human capital development.

Overview of the Digital Success Academy

Building a relationship of trust between our customers and NTT DATA or between our customers enables us to create and expand our businesses.

Co-creation business | **Inter-business** | **Multi-company business**



VOICE

Miki Yoshimura
Lion Corporation
Digital Strategy Department
Strategy Planning Group

Aiming to realize our management vision of "Becoming an advanced daily healthcare company," Lion is strengthening its initiatives toward materiality and pursuing growth strategies based on its purpose to "Make a difference in everyday lives by redesigning habits: ReDesign." We are facing the following challenges in promoting these activities.

- Clarifying the skill requirements and the number of personnel required to realize DX
- Clarifying the total amount of skills and skill status in organizations and divisions and formulating appropriate development plans
- Strengthening the acquisition of advanced technology knowledge and high technology for IT digital specialists

By solving these problems, we are assigning personnel who are well versed in both business and IT digital to each division. We will also build a system that can quickly solve business problems internally by utilizing data and digital technologies. We also aim to achieve steady results by having our IT digital specialists participate in projects in each organization.

We are taking on the challenge of solving the issues of decarbonization, plastics, and water resources at each stage of our product life cycles. We are also working to improve the efficiency and standardization of processes in the supply chain by digitizing logistics information in cooperation with related companies. We aim to build a sustainable and robust supply chain base for the entire industry by simultaneously achieving "improvement in labor environment," "increase in labor productivity," and "environmental impact reduction" through enhanced development of digital human resources.

Digital Accessibility　Community Engagement

Case: Teaming

Connecting social welfare and personnel by IT while resolving social problems

NTT DATA EMEAL (Spain) has developed the *Teaming.net* platform, which makes donations from personnel to social welfare organizations more efficient. This reciprocal cooperation also helps resolve various types of social problems.

Many social welfare organizations struggle to collect funding and lack the methods and human resources to engage in fundraising campaigns. At the same time, many people would like to donate but do not know which organizations to help and how to make such donations.

To address these issues, NTT DATA EMEAL (Spain), which manages NTT DATA's businesses in Europe, the Middle East, Africa, and Latin America, has developed the *Teaming.net* platform.

Featuring free, up-to-date technologies, the platform enables social welfare organizations to keep donors informed about their activities, financial status, and others matters with full transparency. Anybody can donate from €1/month and continuously monitor the status of their organization's activities, as well as their record of contributions. To continue monitoring their status, they must make donations on a monthly basis. In NTT DATA EMEAL, both *Teaming.net* professionals and other employees cooperated to make this project successful.

Through this platform, we have collected around €40 million over 10 years from 500,000 personnel, including €8.4 million in 2022. These donations are used to improve the nutrition status of children in Ethiopian hospitals, transfer Ukrainian patients to hospitals elsewhere in Europe, and other initiatives.

NTT DATA EMEAL will continue to work in small, incremental ways to change the world, where cooperation and technology will be the driving force.

Human Rights & DEI

Case: Enhancing AI governance

Strengthening "AI governance" to provide safe and secure AI-based solutions

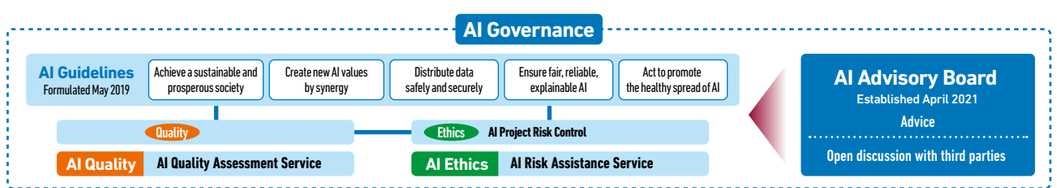
To develop, deploy, and provide AI-based IT systems and services, we are working to establish management systems and operations to ensure compliance with social norms and frameworks and control overall activities. Our aim is to ensure that our customers can enjoy reliable AI services.

Artificial intelligence (AI) is being introduced rapidly in various business and operational domains to address the shortage of workers and to improve the efficiency and sophistication of operations. While the deployment of AI is expected to bring considerable benefits, new risks specific to AI are also emerging. To address these issues, the Japanese government has discussed the concept of "AI governance" since around 2016 and compiled a set of AI principles and guidelines for dissemination around the world.

In May 2019, NTT DATA formulated its "AI Guidelines" based on the belief that the development of effective AI governance is essential to providing safe, secure, and reliable AI-based solutions. We have since continued and expanded our efforts in AI governance. For example, we formulated our "AI Development Process" and started applying it to our AI projects. We also launched our "AI Quality Assessment Service" on a trial basis in October 2020.

In April 2021, we established the "AI Advisory Board" to strengthen governance pertaining to AI-related research, development, operation, and deployment. We have also included external experts from various fields as team members, as well as NTT DATA management and frontline workers involved in AI projects. We are working with these members to discuss the ideal form of governance based on technological trends, as well as legal and regulatory developments related to the deployment of AI.

Through these activities, we hope to reduce the occurrence of problems in AI projects from various perspectives while improving safety, reliability, and other quality-related aspects of the AI solutions we provide. Our goal is to build environments where customers can use AI with confidence.



Digital Accessibility

Case: MaaS platform

Connecting customers with multiple transportation services to achieve seamless integration of travel and consumption

In Spain, a Mobility-as-a-Service (MaaS) platform is being rolled out that will unify seat reservations and ticket arrangements for multiple public transportation and mobility services, such as trains, buses, and metro. The platform promises to help improve the convenience of transportation in that nation.

The network of Renfe, Spain's national railway operator, serves as the main transportation artery connecting that country's major cities. Major metropolitan areas also have their own transportation networks, including metro and buses, controlled by different operators.

In cooperation with Siemens Mobility, NTT DATA EMEAL has started developing and operating a MaaS digital platform that connects various Renfe transportation services. This system allows users to set their own travel plans, search for seats in multiple transportation modes, make reservations, and make payments all in one place. Once completed, the platform will be available across all the country, including such major metropolitan areas as Madrid, Barcelona, Valencia, Bilbao, and Seville, and is expected to attract at least 650,000 new rail passengers. Despite the rise in user numbers, the efficiency of travel will increase, which we expect to reduce congestion and expand the range of travel, thus improving convenience for users.

In addition, Europe is encouraging greater use of railways, which produce relatively low CO_2 emissions, as a measure to combat climate change. The increased use of railways will also contribute to a significant reduction in greenhouse gas emissions. Going forward, we will deploy mobility-related data to provide new mobility services that help meet the needs of users and create more opportunities to go out.

Digital Accessibility　Trusted Value Chain

Case: OpenCanvas for Government®

Cloud service that promotes digitization of government services

By providing secure and reliable cloud environments, we support the digitization of public services and help realize a society where all citizens can enjoy administrative services easily and conveniently at any time and from any place.

Advances in digital technology are expediting our evolution into a digital society. In this context, national and local governments that provide administrative services are moving in earnest to utilize the cloud, taking advantage of the launch of Japan's Digital Agency.

NTT DATA offers OpenCanvas for Government®, a cloud service designed to help government information systems use the cloud safely and securely. The service is mission-critical (high availability/high reliability/high performance) and guarantees confidentiality. By also combining various cloud platforms with flexibility and advanced features, such as improved agility and scalability, OpenCanvas for Government® can provide optimal cloud computing solutions required for government information systems that support social infrastructure. It can also be connected to various cloud services provided by public and private organizations in a secure and reliable manner, paving the way for cashless and other new services—developed through collaboration between government and financial institutions—to emerge.

Going forward, we will promote cloud services and create new digital services, not only for governments but also for public institutions, in our quest to help realize a digital society where all citizens can easily access a full spectrum of government administrative services.

Best-mix cloud

Platform that can connect SoE domains (resistant to change) and SoR domains (emphasizing reliability and availability) within the premises

Connected cloud

Provides and expands SaaS functionality for the public sector and functionality for integration with other companies' clouds and banks that promote government digitization

Integrated management cloud

Provides optimal management services using advanced digital technology

Cloud that comes to you

Support for bringing in equipment necessary for customer requirements and patch control OS/middleware operation guarantee

Highly reliable/ available cloud

Transparent operations through information disclosure and audit support, as well as operational quality based on dedicated high-security zones and personnel

Community Engagement　Smart X Co-innovation

Case: D-Resilio®

A digital disaster prevention platform that promotes efficiency and information collaboration in disaster response operations

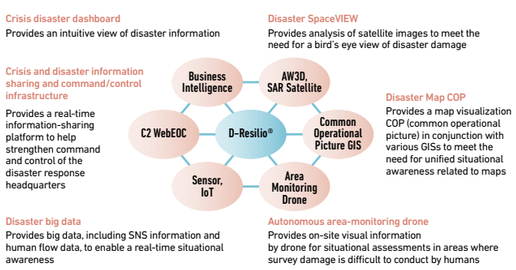
Digital technology supports the collection, analysis, communication, and coordination of information in disaster events and contributes to rapid and accurate disaster responses.

Natural disasters, such as typhoons and heavy rains, are increasingly frequent and severe. With the added threat of COVID-19 and large-scale power outages, moreover, such disasters are growing more complex and widespread in nature. To date, however, local governments and infrastructure providers handling disaster responses have collected and consolidated disaster information in non-digital formats, such as telephone and fax. The lack of information connectivity increases the time taken to compile information, making it a challenge to improve the efficiency of disaster countermeasure operations. Also, there is a growing need for real-time information coordination across organizations and companies as disasters become more complex and widespread.

In response, NTT DATA offers a digital disaster mitigation platform called D-Resilio®. The platform includes a line-up of solutions required for information gathering, decision-making, and emergency responses in the event of a disaster that can be freely combined and utilized. It uses digital satellite images and drones to monitor conditions over wide areas, collects real-time information from residents in the affected areas via Twitter, and visualizes and analyzes all the information collected, thus supporting decision-making at the task force headquarters and enabling rapid responses.

In addition, NTT DATA has a disaster mitigation communication system that is used to streamline operations by enabling batch distribution of information to a variety of communication media, such as outdoor speakers and smartphones, with a single operation. It can also be data-linked to existing systems, including wide-area disaster emergency medical information systems (EMISs) and related organizations, to share the results of local damage assessments, which were previously conducted individually. This will help speed up infrastructure restoration and assist disaster victims in rebuilding their lives.

Going forward, we will promote the digitization of disaster prevention operations and information linkage while expanding our solutions to include disaster prevention and post-disaster recovery and reconstruction, thereby contributing to the realization of a resilient society that can withstand disasters.



Community Engagement　Smart X Co-innovation

Case: Food & Wellness Platform

Using data to deploy our personalized “food and wellness services”

For companies looking to offer new services and engage in marketing activities related to food and wellness, we provide a platform that supports their data collection efforts and helps them verify the feasibility and effectiveness of their businesses.

The number of patients with diabetes and other lifestyle-related diseases is increasing worldwide, and in Japan lifestyle-related diseases account for one-third of total medical costs. Rising health consciousness of consumers has underscored the concept of “prevention instead of cure,” leading to a growing movement to curb diseases and medical costs by improving eating habits. As companies place more emphasis on health management, there is a need to provide “food and wellness” services that are tailored to each person’s age, constitution, medical history, and lifestyle.

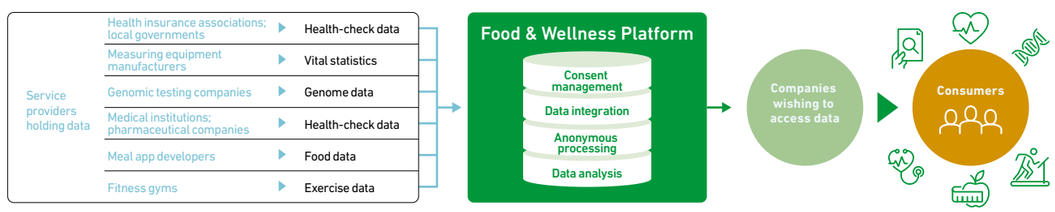
NTT DATA is working to build a “Food & Wellness Platform” that will support the collection and utilization of various health-related data and the launch of new businesses. Here, we approach individual food and health proposals from a technology-driven perspective. We believe that storing a wide variety of health data held by consumers and companies on the platform and enabling companies to utilize that data will lead to the provision of food and wellness services tailored to each individual consumer.

As a first step, we launched our “Food & Wellness 500-Person PoC* Environment Service” in November 2021. For proof of concept (PoC) monitoring, we provide an environment where the health-check data of 500 NTT DATA employees can be used. Companies wishing to access the data can handle their own monitoring and data utilization to measure and verify health awareness and purchasing activities without having to manage personal information.

In the future, we will expand the Food & Wellness Platform by increasing the number of monitors and accumulating various information, such as vital statistics and genome data, in addition to health-check data.

We also plan to add an e-commerce function to allow the swift verification of DtoC (direct to consumer) services. This will enable companies to connect directly with consumers and better understand their needs. Our aim here is to support the expansion of businesses related to food and wellness, the improvement of people’s health, and the resolution of social issues related to surging medical costs.

*Proof of concept (PoC): The process of verifying the feasibility and effectiveness of a new concept, theory, or idea before moving it to actual development.



Community Engagement　Digital Accessibility

Case: AI diagnostic imaging

Using AI imaging technology to support diagnoses in India with the highest number of tuberculosis cases in the world

In areas of India where it is difficult for people to receive adequate medical care, we are promoting the early detection, testing, and treatment of tuberculosis (TB) patients by operating screening vehicles equipped with AI diagnostic imaging technology.

Tuberculosis (TB) is one of the world's three major infectious diseases and one of the world's top 10 causes of death, so eradicating the disease is listed among the health-related objectives of the SDGs. TB is a treatable and preventable disease, but lack of diagnostic opportunities and delays in detection can lead to severe outbreaks and spread of the disease. For this reason, early detection of patients in areas where access to medical care is difficult is important for ensuring TB's eradication.

Amid a global shortage of radiologists who use medical images, such as X-rays and CT scans, to make diagnoses, NTT DATA has been working to develop diagnostic imaging technology that uses AI to analyze a wide variety of lesions from patient X-ray images, to help physicians with their diagnoses. We have also been field-testing the results of our R&D at hospitals around the world. Utilizing knowledge thus acquired, in January 2021 we started providing free TB diagnostic screening in India, which has the largest number of TB patients in the world, using screening vehicles equipped with AI diagnostic imaging technology. When screening, patients suspected of having TB identified by AI immediately after being X-rayed are encouraged to undergo further TB testing (sputum examination), which leads to early detection of the disease. By March 2022, we plan to offer testing to around 100,000 people in the Indian city of Chennai.

This initiative won NTT DATA the "PM Award 2021*" as "an innovative project implemented by an organization aimed at having a significant impact on society." NTT DATA will expand its support for TB diagnoses to more regions in the future. At the same time, we will improve our ability to handle more cases, including COVID-19 infections.

*A system in which PMI Japan Chapter, an organization that promotes project management awareness and popularization in Japan, recognizes outstanding projects in Japan and by Japanese companies.

Community Engagement

Case: STO

Developing "STOs" to promote the use of IT in support of NPOs

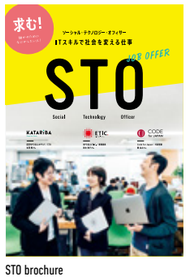
We help resolve social issues by developing human resources called Social Technology Officers (STOs).

The number of NPOs for which the mission is to resolve social issues is increasing every year. Due to human resource shortages and financial constraints, however, NPOs have been unable to properly utilize IT in their businesses despite understanding the effectiveness of IT.

NTT DATA has endorsed the "STO Creation Project," launched by the Japan NPO Center, Code for Japan, and Entrepreneurial Training for Innovative Communities (ETIC). To develop STO human resources, since fiscal 2019, we have been supporting the project by subsidizing activity expenses and encouraging employees to engage in pro bono and volunteer activities. STO is an abbreviation for Social Technology Officer. An STO is a human resource who thinks about utilizing IT by NPOs from the perspective of business strategy and creates solutions together with NPOs. After conducting a questionnaire-based survey of around 9,000 organizations in Japan and verifying the significant need for STOs, we proceeded with briefing sessions and training for STO candidates and NPOs/NGOs that accept STOs. This led to the development of more than 50 STOs in three years.

e-mobinet, an NPO in Kumamoto Prefecture, is spearheading a model initiative called the "Umiraku Project," which aims to create low-cost, sustainable transportation systems, including water taxi ride-sharing services, on remote islands. Five NTT DATA employees participated in the project to build a reservation site for water taxis and land transportation ride-sharing services that connect remote islands. This led to the creation of inexpensive, safe transportation services for islanders and people traveling to and from the islands, thus helping resolve social issues facing those islands.

NTT DATA will continue developing STO human resources to maintain its partnerships with local communities and NPOs to help resolve social issues, while at the same time raising the sensitivity and understanding of social issues among its employees. By creating businesses that address social issues in these ways, we aim to generate shared value for society and our company.



STO brochure

Community Engagement

Case: NTT DATA Academia

NTT DATA Academia: Using IT to nurture the inquisitive spirit of children

NTT DATA is working to pass on IT knowledge, one of its core business strengths, to the children who will lead the next generation in the form of IT education.

With the widespread use of digital technology in our daily lives and the emergence of new technologies, such as AI, it is believed that 10 years into the future people will be required to think in terms of programming (using logical thinking skills) to actively, rather than passively, utilize computers. Against this backdrop, programming education became compulsory at elementary schools nationwide in 2020. However, there is a noticeable lag in the development of ICT environments in the educational field, and many teachers feel anxious about their classes.

As part of our initiatives regarding our material issues "Community Engagement" aimed at promoting IT education, NTT DATA is rolling out NTT DATA Academia, an online programming class for elementary school students and their parents as a social contribution activity.

NTT DATA Academia has three important policy messages: "Staying close to children," "Fostering children's inquisitiveness about IT and society," and "Nurturing children's ability to take independent action through IT experiences." The class consists of two sessions: one on programming and the other on case studies of IT applications in society.

In fiscal 2021, we are offering the class to around 3,000 people in collaboration with 16 NTT DATA Group companies.

NTT DATA Corporation

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