

NTT Communications Corporation CSR Report 2018

Expanded Version

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Society



Contributions to Society

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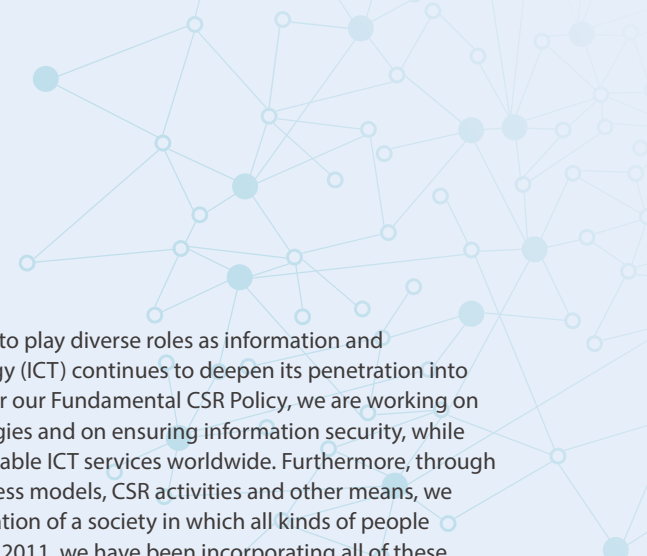
Our businesses have come to play diverse roles as information and communications technology (ICT) continues to deepen its penetration into social infrastructures. Under our Fundamental CSR Policy, we are working on improvements in technologies and on ensuring information security, while providing stable, highly reliable ICT services worldwide. Furthermore, through the provision of new business models, CSR activities and other means, we are contributing to the creation of a society in which all kinds of people can participate. Since fiscal 2011, we have been incorporating all of these efforts into the CSR targets (medium-term targets) of our CSR Priority Activity "Contributions to Society" and have sought to continue making improvements. In fiscal 2017, we were able to achieve solid results for each priority activity based on new medium-term targets that reflect the changing times. From fiscal 2018, we will strengthen our PDCA system while seeking further progress in our initiatives.

Our Ambition

Become an ICT company that leverages its innovation capabilities to continue supporting society globally

- ◆ A society free of constraints in time, distance, and language
- ◆ A society offering a consistently maintained network of safety and comfort

Targeted SDGs



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Fiscal 2017 Activity Results and Fiscal 2018 Targets

Actions Implemented in Line with CSR KPIs

We have been pursuing the sustainable development of society by providing stable and highly reliable services while also offering secure environments for communication with robust disaster countermeasures and information security. As a result of these efforts, we were able to attain our targets in the six areas of our Priority Activities: Innovation that supports a networked society, Ensuring stable and reliable services as mission-critical infrastructure, Robust network security for customers, Continuous improvement in customer satisfaction, Collaboration with suppliers, and Social contribution and fostering of communities. However, there remains some room for improvement in our activities for reducing the number of long-term malfunctions in our overseas services. Looking ahead, we will continuously strengthen our response to enhance quality by accumulating concrete examples and analysis in collaboration with local partners.

◆ Fiscal 2017 Activity Results and Fiscal 2018 Targets

Priority Activities	Initiatives	Medium-Term Targets Form We Want to Take in Five Years' Time)	Fiscal 2017 Targets	Fiscal 2017 Activity Results			Fiscal 2018 Targets	Scope	
				Specific Activities	Quantitative Results	Self-Assessment		Activities	Data
Innovation That Supports a Networked Society	Provision of new value that contributes to business transformation	Utilize IoT and cloud technologies to develop and seamlessly deploy a range of global services that meet the business needs of corporate customers	Contribute to the digital transformation of corporate customers by optimizing their hybrid ICT environments	<ul style="list-style-type: none"> Released the "Things Cloud" IoT Platform with functions required for adopting IoT, such as sensor connections, data visualization, and API Promoted the "service + solution" model to offer speedy service proposals based on the "Things Cloud" and provide value-added solutions that meet customer needs 	<ul style="list-style-type: none"> Number of IoT projects generated by "Things Cloud": more than 80 Number of press releases related to IoT: 10 Number of new IoT reference users and ecosystems: several companies 	★★★	Contribute to the digitalization of companies by offering end-to-end IoT solutions that meet individual needs	Within/outside organization	Group companies in Japan and overseas
	Realization of safe and secure daily lifestyles; bridging the digital divide	Bridge the digital divide inside and outside Japan, develop accessibility-enhanced services for individual users and a framework for delivering them	Launch new services for improving OCN services and continuously implement functional enhancements	<ul style="list-style-type: none"> Strengthen OCN Mobile ONE service functions by gathering information mainly via social media to identify market trends and needs Leveraged the link with NTT DOCOMO's customer system to quickly connect SIM cards in MVNO and significantly reduce time wasted on the commencement of the OCN Mobile ONE service Improved communication speeds and time taken to display content for OCN Mobile ONE during heavy data traffic Initiatives for enhancing communication quality for OCN Improved communication speeds for OCN Mobile ONE during heavy data traffic 	4 projects	★★★	Launch new services for improving OCN and continuously implement functional enhancements	Within/outside organization	Group companies in Japan and overseas

Achievement levels (self-assessment set at three levels) ★★★: Target achieved, ★★: Target almost achieved, ★: Target only partially achieved



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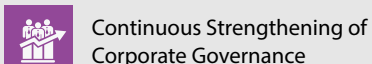
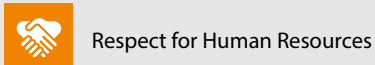
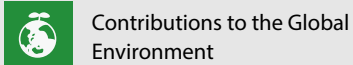
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Ensuring Stable and Reliable Services as Mission-Critical Infrastructure	Development of disaster-resilient networks	Preventing the loss of communications during disasters by constantly developing resilient ICT infrastructure (buildings, steel towers, electricity, power lines/public works)	<ul style="list-style-type: none"> Explore measures against flooding based on the latest hazard maps (flood prevention: Shirahige and Karagasaki; seismic reinforcement: Tenjinminami) Improve the reliability of power receiving equipment and engines (complete upgrades for power receiving equipment at 4 buildings) Improve seismic performance by reinforcing the linings of pipelines (complete remaining stages in Kawasaki and Nara) Submarine cable APG Improve the reliability of landing stations and strengthen building security measures for the Minami Boso Landing Station 	<ul style="list-style-type: none"> Flood prevention and seismic reinforcement Flood prevention: began construction at Karagasaki (to be completed in March 2019); considered plans for Shirahige (to be decided in April 2018); considered plans for Sakae and Nagoya (to be decided in April 2018) Seismic reinforcement: considered plans for Tenjinminami (construction to start in 1Q 2018) Improved seismic performance by reinforcing the linings of pipelines (remaining stages in Kawasaki and Nara) Improved the reliability of submarine cables <ul style="list-style-type: none"> Construction of the JUPITER cable (to be completed in FY2020) Separation of the ASE-Indonesia cable (completed in FY2019) Improved the reliability of landing stations <ul style="list-style-type: none"> Began construction at the Minami Boso Landing Station (to be completed in June 2019) Strengthened building security (face recognition trial in FY2018) 	<ul style="list-style-type: none"> Upgraded power receiving equipment and engines <ul style="list-style-type: none"> FY2017: completed power receiving equipment at 4 buildings FY2018: upgraded power receiving equipment at 17 buildings; plans for 6 engines Off-site maintenance <ul style="list-style-type: none"> FY2020 maintenance ratio for bridge-attached pipelines and manholes: 100% Improved seismic performance by reinforcing the linings of pipelines <ul style="list-style-type: none"> Completed work in Kawasaki and Nara in 2017 	★★★	<ul style="list-style-type: none"> Flood prevention and seismic reinforcement <ul style="list-style-type: none"> Flood prevention: decision on project and start of construction at Shirahige and Sakae, Nagoya; consider plans for Akita and Aomori Seismic reinforcement: rupture and start of construction at Tenjinminami; consider plans for the Otemachi head office Improve the reliability of power receiving equipment of 16 buildings and upgrade of 6 engines Improve the reliability of submarine cables (JUPITER and ASE-Indonesia cables) Improve the reliability of landing stations <ul style="list-style-type: none"> Minami Boso Landing Station (began construction), strengthen building security 	Within organization	Group companies in Japan and overseas
	Measures to address major natural disasters	<ul style="list-style-type: none"> Continuous strengthening of the planned response for hypothetical earthquakes in the Nankai Trough and directly under the Tokyo metropolitan area, conducting blind drill themes (drill format not made public to participants) Gathering disaster relief information for liaising with government and municipal bodies and making reporting processes faster and more operationally entrenched Enhance liaison within NTT Communications Group 	<ul style="list-style-type: none"> Reconfirm basic action/processes in the event of an earthquake directly under the Tokyo metropolitan area and take measures to reconfirm employee and emergency personnel familiarity with NTT Communications disaster equipment Rush drill that assumes an earthquake has struck directly under the Tokyo metropolitan area at night on a Saturday or national holiday, first initial response drill involving west Japan initial response headquarters Gather disaster information for personnel at west Japan initial response headquarters and entrench implementation of external report processes Opening of NTT Communications support bases for domestic Group companies 	<ul style="list-style-type: none"> April 2017: conducted field training at the Tokyo Rinkai Disaster Prevention Park, involving transport helicopters and mobile power stations for the purpose of mastering the use of NTT Communication's disaster equipment March 2018: conducted a desk training session through e-learning for all employees concerning basic actions to be taken in the event of an earthquake directly under Tokyo February 2018: conducted training for disaster response members to confirm basic actions to be taken in the event of an earthquake directly under Tokyo; members traveled from their homes to their offices on the assumption that an earthquake had occurred on a weekend or holiday. We also conducted field training simulating the establishment of the west Japan initial response centers to handover of command to the Disaster Response Headquarters. 	<ul style="list-style-type: none"> Participant survey response confirms drills and training were effective While no major disasters occurred during FY2017, we were able to establish processes for gathering information and reporting to entities outside the company in the event of major malfunctions 	★★★	<ul style="list-style-type: none"> Migrate to the new Disaster Response Headquarters environment following the relocation of the head office to Otemachi Reconfirm the basic action process and confirm the operational process for the new Disaster Response Headquarters to prepare for an earthquake directly under Tokyo Conduct an emergency assembly drill assuming the occurrence of an earthquake directly under Tokyo at night or on a holiday and conduct an initial response drill for west Japan Firmly establish processes for gathering information on damage and reporting to entities outside the company by members of the west Japan initial response centers Make NTT Communications support bases available to Group companies in Japan 	Within organization	Group companies in Japan
Robust Network Security for Customers	Network surveillance 24 hours a day, 365 days a year	<ul style="list-style-type: none"> Constantly monitor customer services, including networks, Internet, cloud, email, hosting, and voice-based services Construct a framework to monitor seamless global networks Ongoing reduction of the number of long-term malfunctions 	<ul style="list-style-type: none"> Reduction in the number of long-term malfunctions Networks in Japan (more than 3 hours): 86 incidents/year Overseas networks (more than 4 hours): 460 incidents/year Other (CL, A&C, and voice, more than 1 hour): 48 cases/year Regarding overseas networks, continue holding improvement GOC and individual event meetings as well as quality improvement meetings with carriers In other services, undertake measures to reduce malfunctions that include revamping monitoring/testing tools to address increases in equipment size and malfunctions accompanying the rise in the number of customers 	<ul style="list-style-type: none"> Maintained constant monitoring of customer services With regard to domestic networks, we will continue to provide stable quality With regard to overseas networks, we maintained weekly teleconferences with GOC/SA on individual improvements for UNO incidents caused by NTT Communications/Virtela and sought to raise awareness on quality enhancement at Virtela. With regard to malfunctions caused by carriers, we analyzed specific cases among carriers with high ratios of long-term malfunctions per line, in conjunction with carrier strategies for each country, provided feedback on analysis results to the carriers, and promoted improvements utilizing QRM and ACF. 	<ul style="list-style-type: none"> Reduction in the number of long-term malfunctions <ul style="list-style-type: none"> Networks in Japan (more than 3 hours): 71 incidents/year Overseas networks (more than 4 hours): 556 incidents/year Other (CL, A&C, and voice, more than 1 hour): 64 incidents/year 	★★	<ul style="list-style-type: none"> Reduction in the number of long-term malfunctions <ul style="list-style-type: none"> Networks in Japan (more than 3 hours): 67 incidents/year Overseas networks (more than 4 hours): 530 incidents/year Other (CL, A&C, and voice, more than 1 hour): 44 incidents/year Starting in FY2018, we will expand the scope of constant monitoring for customer services including networks, Internet, cloud, email, hosting, and voice-based services and pursue further initiatives for reducing long-term malfunctions 	Within/outside organization	Group companies in Japan and overseas

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Robust Network Security for Customers	Strengthening vulnerability response functions	Develop various measures for both domestic and overseas Group companies to strengthen their vulnerability response functions	Improve the quality of vulnerability assessment operations for Web apps and quickly fix any vulnerabilities that are discovered	<ul style="list-style-type: none"> Internal staff conducted vulnerability tests for Web apps Encouraged employees to deepen their knowledge of security by organizing security-themed training and events such as CTF Strengthened our software development capability by internally constructing a storage system for assessment records Incorporated know-how on security gained from vulnerability assessments into rules and guidelines Raised the standard of vulnerability assessments conducted before service releases 	<ul style="list-style-type: none"> Completed the assessment of 128 systems planned for FY2017 Source code revisions: 14 Completed the development of a management system for assessment records 	★★★	<ul style="list-style-type: none"> Incorporate security measures into the design and manufacturing processes so we can address security issues during development Conduct a vulnerability assessment of Web apps owned by the NTT Communications Group and overseas Group companies Strengthen our software development capability through continuous improvements to the system for managing assessment records 	Within organization	Group companies in Japan
	Rapid and reliable responses to security threats	Continuously enhancing and strengthening services that contribute to safe and secure corporate and national information systems	<ul style="list-style-type: none"> Expand the scope and upgrade professional services that support the strengthening of risk management with regard to security measures Upgrade managed security services that visualize as well as support the rapid and accurate handling of security threats Upgrade security measures related to SDx and IoT 	<ul style="list-style-type: none"> Sought to expand the scope and upgrade professional services through efforts that include the launch of an advisory support service acting as an agent to conduct research on ICT and security issues to enable CSIRT response at corporate customers to in-house inquiries Sought to upgrade managed security services through efforts that include the launch of the "Active Blacklist Threat Intelligence" service, which creates a black list of current cyberattacks in Japan and delivers the information every 10 minutes to enable users to strengthen their defenses by preventing access to malicious sites Conducted a PoC trial for monitoring the security of operational technology as part of the security upgrades for SDx and IoT 	New services provided: 10	★★★	<ul style="list-style-type: none"> In professional services, strengthen solutions for supporting CSIRT operations, including solutions for visualizing vulnerabilities and endpoint cyber hygiene management In managed security services, enhance collaborative defense functions between networks and terminals based on EDR (Endpoint Detection & Response) and promote collaboration in SECaaS (Security as a Service) projects 	Within/outside organization	Group companies in Japan and overseas
Continuous Improvement in Customer Satisfaction	Ongoing CS surveys	Continuous improvements in customer satisfaction level scores	<ul style="list-style-type: none"> Expand the scope of the customer survey (inside and outside Japan) Thoroughly implement "Kaizen (Improvement) Activities" and PDCA cycles at domestic and overseas Group companies 	<ul style="list-style-type: none"> Launched the VOE (Voice of Employees) system Held a Group-wide meeting to confirm commitment to expanding the scope of services and companies covered by the survey, and the next steps of "Kaizen Activities" 	<ul style="list-style-type: none"> Survey responses - Domestic: 2,641 (up 97% on the year) - Overseas: 113 (up 181% on the year) - VOE: 227 	★★★	<ul style="list-style-type: none"> Further expand the scope of the customer survey (inside and outside Japan) Continue to thoroughly implement "Kaizen (Improvement) Activities" and PDCA cycles at domestic and overseas Group companies 	Within/outside organization	Group companies in Japan and overseas

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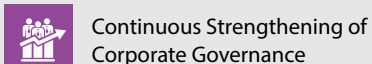
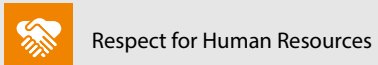
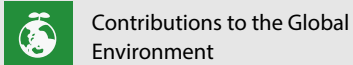
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Collaboration with Suppliers	Dissemination of CSR and green procurement	<ul style="list-style-type: none"> Promoting procurement of environmentally sound products through measures such as having individual suppliers assess products Preventing complicity in anti-social behavior across the supply chain, as typified by the conflict minerals issue 	Continue to conduct the annual supplier survey on promoting CSR procurement	Conducted the annual supplier survey on promoting CSR procurement	Survey conducted for 10 companies	★★★	Continue to conduct the annual supplier survey on promoting CSR procurement	Within/outside organization	NTT Communications
Social Contribution and Fostering of Communities	Contributions to communities	Promoting social contribution activities, in a variety of fields, based on social contribution principles such as sustainability, efficiency, due diligence, global perspective, and skills	<ul style="list-style-type: none"> Continue local cleanup activities and introduce cleanups by individual Group companies Continue holding sales events for breads, snacks, and other goods, in cooperation with local organizations supporting people with disabilities 	<ul style="list-style-type: none"> Conducted a cleanup activity around the head office; local cleanup activities were also conducted individually at other business bases and Group companies Held sales events at the head office building as well as at other facilities and individual Group companies 	<ul style="list-style-type: none"> Head office area cleanup activities: held twice (June and November); 513 participants Head office sales events: held 4 times (July, November, February, and March); gross sales of 395,430 yen 	★★★	<ul style="list-style-type: none"> Continue local cleanup activities and introduce cleanups by individual Group companies Continue holding sales events for breads, snacks, and other goods, in cooperation with local organizations supporting people with disabilities 	Within/outside organization	Group companies in Japan and overseas
	Fostering communities and the next generation	Developing a strategic social contribution framework that leverages our business characteristics to support community development and contribute to fostering youth	Continue promoting initiatives for the sound development of children by providing social education opportunities such as workplace visits that offer firsthand experience of the latest AI and IoT technology, and by organizing rugby classes by our sponsored rugby team	<ul style="list-style-type: none"> Held family days and conducted woodland preservation activities Teamed up with the educational boards and other municipal organizations of Ichikawa, Urayasu, and Warabi Cities to organize rugby classes at elementary schools in each area; both current and past players actively participated in tag rugby classes 	<ul style="list-style-type: none"> Family day: held 3 times in August; 71 children participated Woodland preservation activity: 7 children participated Rugby classes: held at 15 schools, about 1,500 children participated 	★★★	Continue promoting initiatives for the sound development of children by providing social education opportunities such as workplace visits that offer firsthand experience of the latest AI and IoT technology, and by organizing rugby classes by our sponsored rugby team	Within/outside organization	Group companies in Japan and overseas

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Innovation That Supports a Networked Society

Our Approach

As the pace of ICT and digital technologies quickens, we are also seeing ever wider opportunities that will enable us to contribute to society through innovative ICT products and services.

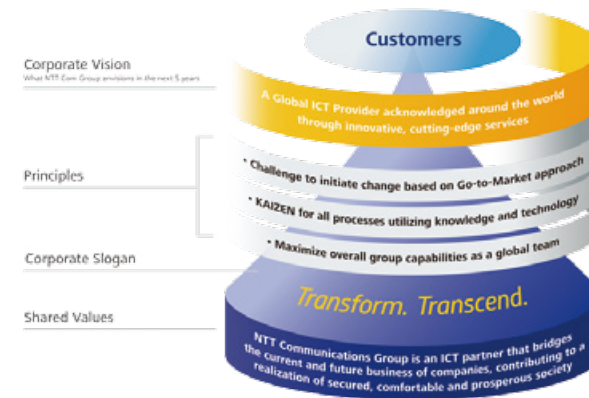
The use of cloud services has spread to general applications for daily lives and business, and the development of various types of cloud services and the advances being made in data center service networks have become a major thread in the contributions we have made through our businesses over the past few years.

With IoT also having rapidly gained attention in recent years, we are actively facing the challenges of developing innovative ICT services to provide secure and convenient everyday lifestyles to people in all walks of society. We believe SDG 9 "Industry, Innovation and Infrastructure" holds great significance for our stance and activities in these areas. Going forward, we will examine CSR targets based on this while continuously seeking to contribute by bringing to fruition innovative products and services.

Primary Concept

The CSR Committee reviews activities under the key CSR activity "Innovation That Supports a Networked Society," verifies achievements, and pursues initiatives for further improving activities in conjunction with the department charged with implementing each initiative. Key activities are closely connected to the global growth strategies that we are currently promoting. Our corporate vision, "Vision 2020," is intended to generate new social value by providing advanced technologies and services to ensure global connectivity, and it plays a major role as a guideline for implementing CSR that leverages our business characteristics and strengths anticipated by society.

◆ NTT Communications Group Vision 2020



Main Achievements in Fiscal 2017 and Goals for the Coming Years

Our actions under our key CSR activity "Innovation That Supports a Networked Society" are intended to produce innovative solutions to social issues through our business. They also include the "provision of new value that contributes to business transformation" and "realization of safe and secure daily lifestyles; bridging the digital divide."

In fiscal 2017, we facilitated the installation of IoT platforms in shorter periods by offering templates for the required processes, such as visualizing, analyzing, and managing data obtained through connected sensors, resulting in the creation of more than 80 IoT platforms.

We also sought to increase the convenience of our OCN service by improving the functions of our popular OCN Mobile ONE service for higher communication. We will continue to provide services based on innovative technologies that contribute to addressing social issues through our business.



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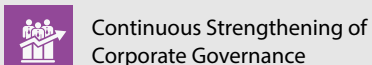
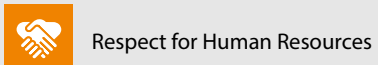
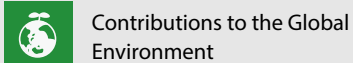
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Providing Services That Help Advance the Evolution of an ICT Society

> Reforming Operations by Pursuing the Business Vision

The NTT Communications Group corporate slogan "Transform. Transcend." expresses the message of providing pioneering technologies and services to "transform" customer businesses, society and markets, as well as creating new value that "transcends" expectations and imagination along with a world that "transcends" all barriers.

In this era of Big Data utilization, we aspire to be trusted by our customers as a reliable partner who can bring about their digital transformation. We formulated the "Transform. Transcend. Service Strategy 2018" with this goal in mind and will strive to strengthen and expand our capabilities for supporting the ways our customers utilize data.

Specifically, we divided the data utilization by corporate customers into collection, accumulation, and analysis. In this process, data generated by various IoT devices are collected and transmitted into a storage area, the collected data is accumulated for safekeeping and formatted to facilitate processing in the next stage, in which various accumulated data are combined and analyzed using AI to produce new knowledge.

We will seek through this approach to eliminate concerns surrounding the handling of personal data to realize our future vision of creating a society in which highly convenient services based on data utilization can be safely and securely depended on.

> Promoting Digital Transformation to Create Value through the Use of IoT

In August 2015, NTT Communications established its IoT Office and created the Business Innovation (BI) Office in October of that same year in an effort to promote value creation and business co-creation through innovation with customers based on the concept of design and the use of IoT.

In fiscal 2017, we promoted the digital transformation of our customers by reinforcing our integrated system for providing IoT services through measures such as helping solve specific management problems for construction companies, industrial equipment manufacturers, and logistics firms based on the ThingsCloud® IoT application platform, and establishing a system for recommending devices for ThingsCloud® to form an ecosystem with manufacturers of various sensors and leading-edge devices. In fiscal 2018, we will seek to advance the digitalization of our customers by strengthening our end-to-end IoT solutions, which integrate sensor devices, networks, cloud services, and applications. We will also support our customers' businesses by applying our conventional strengths in multi-faceted, multi-layered, security measures that protect customer assets and the provision of networks offering flexible options, to IoT services. The new BI Office will focus on achieving advanced business innovations with customers through API collaborations with existing external systems and cooperation on value-added proposals based on the distribution and use of data.

> Providing the Benefits of ICT to All

As ICT gains in importance as social infrastructure, the bridging of the digital divide, which will allow people all over the world to benefit from its use free of any constraints in the areas in which they live, their age and economic standards, is being looked at closely as a challenge confronting the entire human race. While collaborating with Group and partner companies and deploying high-quality communication networks across the globe, we will continue to build systems that provide highly convenient services at reasonable prices and contribute to the elimination of the digital divide.

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Ensuring Stable and Reliable Services as Mission-Critical Infrastructure

Our Approach

In tandem with the advancement of ubiquitous computing across society, economic and social damage caused by telecommunication breakdowns in the event of emergency is becoming incalculably serious. As we are entrusted with managing networks and vital data associated with the globalization of many companies, we are absolutely required to fulfill our responsibility to maintain network connections at all times.

As a corporate group that provides global telecommunications services by utilizing the network technologies that underpin advanced ICT societies and maintenance systems, we have set “the ensuring of highly stable and reliable mission-critical infrastructure” as a key initiative for the essential CSR area of “contribution to society.” We are making constant efforts to improve the communication environment that allows for the confident use of networks even in the event of a disaster or other emergencies. Specifically, we have been expanding the capacity and enhancing the reliability of our communication routes, ensuring redundant and decentralized equipment and facilities, and maintaining year-round, 24-hour monitoring throughout the network while also pursuing initiatives throughout the Group. We will further develop our approach from the added perspective of contributing to continual expansion and improvement in ensuring access to high-quality, sustainable living environments emphasized by SDG 11 “Sustainable Cities and Communities.”

Primary Concept

Activities based on the priority activity of “ensuring stable and reliable mission-critical infrastructure” involve implementing reviews and setting CSR targets on the basis of internal and external circumstances, while the CSR Promotion Office and the departments charged with being responsible for each activity cooperate with each other.

With natural disasters occurring with increasing frequency both in Japan and overseas, it has become more important to maintain and strengthen accurate emergency response systems with the aim of steadily implementing counter-measures. From this standpoint, we focus on the Three Disaster Policy Fundamentals to Address Disasters and are taking steps to thoroughly apply this throughout the Group.

Three Disaster Policy Fundamentals to Address Disasters

1. Improvements in networks reliability

We are working to improve reliability so that partial damage to telecommunications systems does not have a great effect on others.

2. Maintaining of mission-critical communications

We have secured means of communication to allow important communications in a disaster situation.

3. Swift restoring of disrupted communication services

We will restore to service damaged telecommunications equipment as soon as possible.



For more information on the Three Disaster Policy Fundamentals to Address Disasters, see:

<http://www.ntt.com/about-us/cs/saitai.html>

Main Achievements in Fiscal 2017 and Goals for the Coming Years

All CSR activities based on the priority activity of “ensuring stable and reliable mission-critical infrastructure” are configured in a variety of ways relating to making information infrastructure more disaster resilient, including “the development of disaster-resilient networks” and “measures to address major natural disasters and similar events.”

In fiscal 2017, we held inspections to review our operations in line with each target. We specifically returned to square one and inspected every service offered by NTT Communications to review our preparedness against major disasters, including a BCP for maintenance and management of operations. We will act on the results of the inspections to continuously implement the required measures and improvements. As part of the emergency drills for fiscal 2017, we used actual disaster-related equipment, such as helicopters for transporting emergency supplies and mobile base stations. Under the assumption that public transportation will be out of service in the event that an earthquake strikes directly under metropolitan Tokyo, we also conducted realistic recovery drills in which employees traveled to the office from their homes either on foot or bicycles. We were able to record “achieved” or “almost achieved” for each initial target. In fiscal 2018, we will continue to promote activities set as ongoing targets.

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The Development of Disaster-Resilient Networks

> Keeping Networks Reliable Following Disasters

NTT Communications has adopted the Three Disaster Policy Fundamentals to address disasters. With these policy fundamentals, we work to maintain mission-critical communications and swiftly restore disrupted communication services.

During the Kumamoto Earthquake that struck in April 2016, the main relay cable between Oita and Kumamoto was damaged by the second earthquake, which registered a seismic intensity of 7.0. As the scale of disruption from landslides was extensive, the recovery of the same route was beset with difficulties. We locally examined a recovery plan for a new 23-kilometer disaster route that skirted around the former route, and the cable restoration work was completed 12 days after the disaster.

Torrential rain from Typhoon No. 28, which struck in August 2016, caused landslides that damaged relay routes in central and eastern Hokkaido. As a result of numerous areas being damaged mainly by landslides and collapsed bridges, we constructed new routes approximately 220 km long to bypass damaged routes and completed cable reconstruction work in around six weeks.

We work on a daily basis to raise awareness about disasters among employees and employees of partner companies, so they can rapidly respond to disasters. Specifically, we conduct training that makes use of "Safety Confirmation/Notification," one of the services offered by NTT Communications as well as regular training exercises that simulate large-scale natural disasters.

 For more information on our disaster countermeasures, see:
<https://www.ntt.com/about-us/cs/saitai.html>

> Providing Services That Underpin Corporate Business Continuity

Offering a range of services to respond to such crises as major earthquakes and pandemics, NTT Communications supports the continuity of its customers' businesses. For example, earthquake early-warning information is a service that delivers earthquake information, including seismic intensity and arrival time, before tremors are felt. Enabling initial damage prevention and ensuring personal safety, this is said to be an effective service in formulating a BCP, since business restoration can be expected soon after an earthquake. A service that simultaneously reports personal safety confirmations both verifies and gathers information on the safety of employees during times of natural disaster, including outbreaks of new-strain influenza and earthquakes. Available on a routine basis via communications networks, this service is also effective in confirming the safety of school contact networks and elderly persons as well as in simultaneously contacting employees dispatched to client companies.

Moreover, we are expanding services to 15 countries worldwide on Enterprise Cloud, a global cloud service consisting of robust, disaster-resilient data centers for companies that leverage outstanding technological capabilities as telecommunications carriers, and connect high-quality/high-volume networks between Japan and overseas bases. Consequently, this optimal service provides BCP measures that ensure the timely backup of data at remote locations.

Cloud[®] provides an environment that enables flexible changes of resources even during periods of rapidly increasing levels of access at the time of a disaster. This service has a variety of applications, including as a personal safety confirmation system.

> State-of-the-Art Cable-Laying Ship Kizuna

Receiving favorable evaluations for the effectiveness of ships used in restoring telecom equipment during disasters, we are examining various ways of using ships not only for NTT Communications but also throughout the NTT Group.

In order to rapidly transport disaster reconstruction materials, we completed work on the cable laying ship Kizuna in March 2017. Kizuna carries disaster recovery equipment in cable tanks and six 20-foot containers, which enables it to transport NTT Group vehicles used for disaster reconstruction. In addition, Kizuna is equipped with an onboard emergency mobile base station that uses dynamic positioning functions, making it possible to restore on an emergency basis regional telephone services disabled during disasters.

Specifically, the ship's upper bridge deck is equipped with spaces that enable the installation of numerous satellite communication parabolic antennas that keep 360-degree communications from being impeded. This design allows for the installation of more telecom equipment during disasters.

In addition, the ship features unique living quarters that can be equipped with lodging and support equipment (including meal provision) for disaster relief workers and is equipped with switchboards and water intake ports that enable ship-to-shore energy and water supply.

◆ Cable-Laying Ship Kizuna



Total tonnage: 8,598 tons; deadweight capacity: 4,098 tons, total length: 108.64 meters; width: 20 meters; designed load draft: 6.0 meters; sea speed: 13.2 knots; maximum passenger capacity: 60; cruising distance: 9,500 nautical miles (around 30 days); registry location: Japan (Tokyo)



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Robust Network Security for Customers

Our Approach

As the adoption of ICT becomes more widespread and as more information on companies and individuals is being accumulated on networks, as an ICT business operator we are responsible for ensuring that the information we receive from our customers remains confidential and for securely retaining and managing that information. Focusing on SDG 11 "Sustainable Cities and Communities," the realization of advanced, safe, secure, and sustainable living environments is a management issue closely connected to ICT.

To meet society's expectations for the development of "Industry, Innovation and Infrastructure," as stated in SDG 9, we continue to enhance our efforts toward robust network security for our customers. In compliance with the set of security regulations maintained and shared by the entire Group, we are advancing the continuous monitoring and operational systems of the ICT systems and networks entrusted to us by our customers more robust and enhancing their vulnerability response functions with regard to unknown threats. Moreover, we are planning to enhance our vulnerability response functions to include overseas Group companies. In view of the materiality analysis and review of the CSR medium-term targets conducted in fiscal 2016, we regard these issues as independent priority activity areas and are working to strengthen our initiatives.

Primary Concept

Regarding the priority activity "robust network security for customers," we are currently undertaking measures that are positioned as important initiatives consisting of "network surveillance 24 hours a day, 365 days a year," "strengthening vulnerability response functions," and "rapid and reliable responses to security threats." Given that, no matter what the issue, we implement reviews and set CSR targets on the basis of current problems and issues of social concern, while the CSR Promotion Office and the departments charged with being responsible for each activity cooperate with each other.

These multifaceted activities are all necessary for steadily building on and implementing robust security systems. Positioning our NTT Communications Security Declaration as a priority activity common to all of these initiatives, we will take steps to thoroughly implement them.

◆ NTT Communications Security Declaration

At NTT Communications, we believe that our most important mission is to provide our customers with services which they can use with the assurance that their critical information is being protected and to contribute to improving the security of our customers. We view security as the single most important issue to be addressed in providing services, and we pledge to work together with our customer to provide the best in security for their needs.

To achieve this end, we do our utmost to ensure security throughout all aspects of the value chain, from the development of technologies and services to the construction and operation of systems. As ICT professionals, all of us at NTT Communications are committed improving our capability to ensure security.



For more information on our security management declaration and policy, see:

<https://www.ntt.com/en/about-us/we-are-innovative/obp/support-obp.html>

Main Achievements in Fiscal 2017 and Goals for the Coming Years

CSR activities based on priority activities in the area of "Robust Network Security for Customers" are intended to protect customer networks against social concerns including security risks and various disasters by "network surveillance 24 hours a day, 365 days a year," "strengthening vulnerability response functions," and "rapid and reliable responses to security threats."

In fiscal 2017, we devised ongoing improvements in line with each target. Specifically, we reduced long-term malfunctions in our increasingly diversified services, including cloud and hosting services. We also launched a service for researching ICT and security issues and another for reinforcing defensive measures against cyber-attacks and malicious websites while enhancing the vulnerability response functions of domestic and overseas Group companies, thereby contributing to ensuring the security of the networked society.

As we strive to ensure robust network security for customers, we will continue to promote activities for achieving our targets in fiscal 2018.



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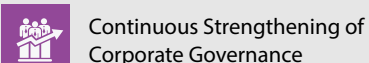
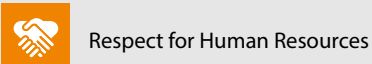
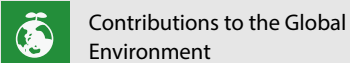
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Around-the-Clock Efforts to Protect Customer ICT Systems

> Providing Stable Enterprise System Network Monitoring/Operating Services

NTT Com Solutions has been operating its Management Solutions Center (Sapporo), which has been constantly monitoring and stably operating ICT system networks since June 2008. In addition to monitoring and operating customer ICT systems 24 hours a day, 365 days a year, the center is responsible for customer inquiries, malfunction rectifications, and BCP management support.

ICT systems and stable operation centers have recently become essential components of business continuity, and therefore operation centers, as the underlying infrastructure protecting customer ICT systems, must be highly reliable. Characteristically, Sapporo is an area that suffers relatively few lightning strikes or large-scale natural disasters, such as earthquakes and typhoons, and is some distance from Tokyo. Therefore, the operation center itself is unlikely to be affected by any widespread major disasters or pandemics, which would allow the facility to take the place of the operation centers in the Tokyo area.

The center has introduced and firmly established an IT Service Management System (ITSMS). The aim of the system, which is based on ITIL[®]*, is to enhance service quality, increase value for customers, and boost customer satisfaction levels while improving efficiency and productivity. As a result, the center acquired ISO 20000 certification, the international standard for ITSMS, in December 2009. Being configured to utilize services that include the cloud, customer systems are also undergoing major changes in terms of their technologies and data. The center will continue working to enable it to keep pace with these changes and to effectively deliver ongoing

operational support services which offer high quality at a low cost as part of its drive to increase customer satisfaction.

*UK-formulated guidelines compiled in multiple volumes covering the operation and management of computer systems. ITIL[®] (IT Infrastructure Library) is a registered trademark of the Office of Government Commerce (OGC) of the UK.

Rapid and Reliable Threat Responses

> Monitoring Enterprise Network Security

As digital transformation drives change in the market environment and diversifies customer needs, ICT considerations have become inseparable from overall business strategy. Safeguarding business continuity in the face of both foreseeable and unforeseeable risks in the ICT environment as well as risks associated with external attacks or internal foul play has become a major management concern.

NTT Communications established the Security Operation Center (SOC) in 2003 and began offering corporate security management services. To that end, we brought a company that specialized in overseas security into the Group. In June 2013, in collaboration with NTT Secure Perspective Laboratories we launched WideAngle, a service which provides comprehensive research and monitoring of security risks as well as providing remedies, and we began offering the service globally.

In fiscal 2017, we sought to support companies in maintaining secure governance systems, such as CSI-RTs (Computer Security Incident Response Teams), which are required to respond to risks arising from changes in the market and ICT environments as well as increasingly sophisticated cyber-attacks. To this end, we have sought to expand the scope and further enhance our business by pursuing initiatives that include research outsourcing services on ICT and security issues, services for quickly sharing risk information and

blocking cyber-attacks, and ICT surveillance at production sites that are increasingly open to external access.

We will continue to help companies achieve digital transformation by providing solutions that support the generation of new value through the safe use of data.

> Countering Malware

Malware can allow leakage of personal information. In February 2016, NTT Communications began providing free of charge to individual and corporate customers its Malware Unauthorized Transmission Blocking Service, which protects users from malware-related information leaks, starting with domestic IPS.



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Continuous Improvement in Customer Satisfaction

Our Approach

Our business covers the full gamut, from the building of global telecommunications networks to the provision of Internet service provider operations. The customers with whom we are in contact through business, ranging from corporations to individuals, are just as varied.

Our key responsibilities for attentively listening to feedback from this varied customer base and developing and enhancing the mechanisms for flexibly utilizing that feedback directly and continuously boost customer satisfaction. They are also prerequisites that guide us as we seek to grow alongside society as a leading global ICT company and continue to provide highly reliable quality services.

These initiatives are intended to increase the high added value of the global economy, improve productivity, and in turn contribute to sustainable economic growth in alignment with SDG 8 "Decent Work and Economic Growth." Following this concept, we will continue to enhance and upgrade mechanisms that are reflected in our businesses, incorporating the opinions of a wide range of stakeholders.

Primary Concept

We have designated "continuous improvement in customer satisfaction" as a top priority to ensure customers' needs are always met. Accordingly, we are committed to taking customer satisfaction surveys on a regular basis and proactively utilizing points of contact with our customers. The CSR Promotion Department and divisions in each business cooperate while implementing these initiatives.

Regardless of the area they oversee or the products and services they provide, every employee must always consider customer service as the foundation of our corporate integrity. From this perspective, we have established "Our Approach," which all employees must strictly adhere to and is not only shared via our internal intranet but also disclosed to customers and other stakeholders.

◆ Our Mindset

At NTT Communications, employees work together to provide services that satisfy all customers. Listening closely to customers' daily feedback, we will pursue improvements to our services. For this reason, we start by bearing in mind the following approaches as our customers' ICT solution partner.

1. Find solutions to customer concerns and problems
2. Boost customer business growth
3. Help consolidate customer core operations

With these focused concerns, we provide one-stop end-to-end services extending from marketing to construction/operations as well as rapid solutions in order to be the trusted partners of our customers.

Main Achievements in Fiscal 2017 and Goals for the Coming Years

Regarding priority activities, we established "continuous improvements in customer satisfaction" as a medium-term target and are promoting multifaceted activities based on the core initiative of conducting customer satisfaction surveys. Having expanded the scope of the content in fiscal 2016, we continued conducting customer satisfaction surveys in fiscal 2017, targeting customers in Japan as well as overseas. We have established a PDCA cycle for service improvement, comparing the satisfaction scores for each service over the years and reviewing the impact of improvements implemented in the previous year, while also planning new improvement measures based on the customer feedback received in fiscal 2017 with the intention of raising the scores in the subsequent fiscal year. Customer satisfaction scores have risen or fallen, depending on the service, and we will work toward raising the scores higher to achieve the above-mentioned medium-term targets by consistently pursuing PDCA cycles for service improvement based on the results of the ongoing customer satisfaction surveys.

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Ongoing Customer Satisfaction Surveys

> Efforts That Utilize Feedback from Customers at Affiliates

If we are to remain the service provider of choice for customers around the world, daily contact with customers cannot be limited to sales personnel. All employees consider customer interaction as a top priority and make every effort to increase customer satisfaction through innovative services and daily improvement efforts. One such initiative is the annual VOC (Voice of the Customer) survey on customer satisfaction. The variety of feedback we receive is taken seriously and earnestly incorporated into further enhancing our operations.

In the VOC survey for fiscal 2017, we received valuable feedback from 2,091 customers in Japan and abroad. We disclose our efforts in response to this feedback on our website.

Looking ahead, we will continue to pay close attention to feedback from our customers as we strive to make permanent improvements that will increase customer satisfaction.

For more information on customer feedback received through the VOC survey, see:
<https://www.ntt.com/about-us/cs/cs/qa/hojin.html>

Efforts That Utilize Feedback from Individual Customers

> Operation of OCN Technical Support for Individual Customers

Under the OCN provider service, we set up OCN Technical Support as a point of contact for receiving questions from and advising individual OCN members as well as for undertaking various kinds of support work.

In order for our customers to use the ISP service securely and comfortably, we place great importance on detailed customer support preparations. We have consequently assigned contact center and home visit staff and respond to inquiries on a daily basis. Also, we are focusing on operator training and continuing our efforts for realizing high-quality support, such as mandating both Web-based and practical training.

> Sharing through the Dedicated OCN Customer Feedback Website

To further improve the quality of the OCN service, we set up the dedicated OCN Customer Feedback website, and we are implementing service improvements. We receive numerous comments and requests from customers concerning OCN services. Moreover, we provide case studies of improvements based on this feedback on our website. We will naturally continue to reflect OCN Customer Feedback with improvements in our services, incorporating enhancements leading to more convenient Internet access for our customers.



For more information on "OCN Customer Feedback," see:
<https://www.ocn.ne.jp/cs/>



Collaboration with Suppliers

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Our Approach

In recent years, there have been calls for companies to implement CSR activities along entire supply chains. Those demands have naturally necessitated not only Groupwide CSR activities but also the building of honest, sustainable relationships with suppliers. These initiatives are indispensable for realizing "fair trade practices and decent labor practices" globally and in line with the basic premise of achieving SDG 8 "Decent Work and Economic Growth."

As a responsible international ICT company, we established the Supply Chain CSR Promotion Guidelines and focus on developing mutual understanding and relationships of trust with our suppliers as well as on promoting CSR and green procurement. At the same time, we are pursuing the development of a procurement system based on the concept of "CSR Procurement," which extends beyond environmental issues to thoroughly consider humanitarian and social issues as well.

Primary Concept

Maintaining a focus on value creation through business, we have a particular need to procure high-quality services and products in an economical and timely manner. On the basis of its following three-point policy on procurement for steadily implementing its aforementioned supply chain CSR promotion guidelines, NTT Communications therefore engages in fair and competitive procurement activities within the global market, conducting its procurement activities from the perspective of the broad global marketplace and in an effort to make Group management more competitive. The Procurement Department supervises the procurement activities of all Group companies and works closely with each organization to promote CSR procurement throughout the Group.

◆ Summary of Supply Chain CSR Promotion Guidelines

Human Rights, Labor	• Prohibition of forced labor and child labor	• Respect for the right to organize and conduct collective bargaining
Health and Safety	• Factory safety measures	• Measures targeting occupational injury and illnesses
Environment	• Management of hazardous chemicals	• Effective use of resources and energy
Fair Trade	• Prevention of corruption and bribery	• Respect for intellectual property rights
Quality and Safety	• Ensuring product safety	• Creation of a quality management system
Information Security	• Prohibition of leaks of personal information	• Information system protection measures

Basic Policy on Procurement

1. NTT Communications will strive to provide competitive opportunities with fairness to both domestic and foreign suppliers, and to build mutual trust and understanding.
2. NTT Communications will conduct economically rational procurement of competitive goods and services that meet its business needs, deciding suppliers based on quality, price, delivery times and stable supply in a comprehensive manner.
3. NTT Communications will conduct procurement in a manner that follows laws and regulations as well as social norms, and takes the environment, human rights and other issues into account to contribute to society.

Main Achievements in Fiscal 2017 and Goals for the Coming Years

In order to realize the CSR procurement concept, we will thoroughly promote the procurement of products with minimal impact on the environment by conducting product surveys with the cooperation of suppliers. We will also encourage the worldwide adoption of supply chains that do not engage in the trade of conflict minerals or in any way intensify social and humanitarian problems. Under this concept, we continued to conduct CSR procurement promotion surveys of suppliers that began in the previous fiscal year and also strive to identify related risks. We are also focused on providing better explanations to companies considering NTT Communications as a supplier. In addition, we consistently provide supplier information to EcoVadis, an international sustainability rating agency.

In fiscal 2018, we will continue to enhance supplier surveys while simultaneously taking steps to promote the exchange of opinions with suppliers and further increase information disclosure.

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Strengthening Relationships with Our Partners

> Development of the ACF Partner Forum, Designed to Enhance Ongoing Collaboration

The Arcstar Carrier Forum (ACF) is an international conference we have sponsored since 2000, attended by partner carriers from around the world to Japan, with the intention of improving and enhancing the quality of delivery and maintenance of global network services. Held on a regular basis every year, the focus at the ACF has been on expanding discussions of initiatives aimed at improving the quality of essential infrastructure, such as ways to deal with malfunctions and construction issues, infrastructure design and construction processes to prevent issues from arising, and operational support systems that enable rapid issue analyses and resolutions.

The ACF 2017, on the occasion of its 14th meeting, was held in September in Tokyo to discuss "Operational Excellence on Mutual Recognition." Participants exchanged views on topics such as meeting customer needs for global network services, shortening down time, and reducing the incidence of failures while ensuring smooth delivery and providing timely and accurate information to customers toward enhancing the quality of network services that lie at the backbone of customer businesses. In fiscal 2017, we invited customers to participate in the discussion, explored improvements to actual on-site issues, and introduced solutions for business needs.

Through initiatives such as the ACF, we will improve operational quality in international network services while also building extensive operational know-how.

◆ Arcstar Carrier Forum 2017



CSR and Green Procurement

> Promoting CSR Procurement

We have formulated the supply chain CSR promotion guidelines, which encourage procurement policies for respecting human rights and protecting the environment, ensure the quality and safety of products and services, and recognize the overall needs of society. In addition to the credit screening required for prospective business partners, we added initiatives on human rights and labor issues as essential criteria starting in fiscal 2017. When we determine that a company has failed to meet our criteria and thus represents a risk, we refrain from trading with them. Each trade agreement includes articles from our Supply Chain CSR Promotion Guidelines, and we have requested the compliance of our business partners.

To promote CSR procurement, we conduct a survey targeting major suppliers to confirm the management status of the Supply Chain CSR Promotion Guidelines. Survey results are compiled and analyzed, and we consider measures for improvements in light of high risk concerns. In fiscal 2017, we received responses from 10 companies (response rate: 100%), and we found no high-risk issues. Looking ahead, we will continue to work with our business partners to promote CSR procurement.



For more information on the Supply Chain CSR Promotion Guidelines, see:

<https://www.ntt.com/en/about-us/procurement.html>



For more information on green procurement, see:

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> UK Modern Slavery Act Statement

The NTT Communications Group has released a statement on slave labor and human trafficking in accordance with the UK Modern Slavery Act 2015. We report on initiatives for preventing slave labor and human trafficking that are being implemented by the Company and throughout its supply chain. As a business group with a base in the United Kingdom, we strive to procure high-quality services and products and prevent slave labor and human trafficking as we develop honest and sustainable relationships with a broad range of suppliers in Japan and abroad.

Looking ahead, we will focus on further strengthening our system of cooperation with our suppliers, implement human rights impact assessments, and determine the risks and current status.



For more information on the NTT Communications Modern Slavery Statement (FY2017), see:

<https://www.ntt.com/en/about-us/csr/modernslavery.html>

> Response to Conflict Minerals

NTT Communications and NTT Communications Group companies will conduct procurement activities in accordance with the NTT Group's Response to Conflict Minerals.

> Disclosure of Supply Chain through EcoVadis

Rising public expectations for CSR activities that also encompass the supply chain have further increased the importance of companies knowing the status of their suppliers' CSR activities and disclosing that information to clients. Since fiscal 2016, we have reported supply chain information with EcoVadis* and have been proactively disclosing information to our clients as well as companies considering doing business with us. We received a "Silver" rating in response to undergoing our first sustainability survey in March 2017.

Evaluating on a global basis our activities in such areas as the environment, fair labor and human rights, ethics, and sustainable procurement, all of which have been positioned as benchmarks, we will work to further improve our CSR performance going forward.

*An organization that evaluates supply chain sustainability. Providing platforms for evaluating the sustainability of companies related to policy and achievements, EcoVadis conducts surveys and evaluations of suppliers in 110 countries and 150 industries from the perspective of four areas: the environment, labor conditions, business activities, and the supply chain.

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Social Contribution and Fostering of Communities

Our Approach

NTT Communications has been implementing social contribution activities across a number of fields, encompassing international cooperation, environmental conservation, health, medical and welfare, and regional development, toward realizing an affluent society. In areas affected by the Great East Japan Earthquake, we are continuing our support to reconnect the bonds in those regions and do all we can to assist in rebuilding lives.

Companies are increasingly expected to play a role through their social contribution activities to support the development of dynamic communities that bridge regions and generations. We will broaden the scope of our social contribution activities with an emphasis on developing such vibrant communities.

◆ Social Action Principles

- Sustainability.....We conduct lean but lasting activities over the long term.
- Efficiency.....We engage in cost-effective activities to ensure continuity.
- Due Diligence.....We carefully assess the relative benefit to society of prospective donations.
- Global Perspective.....We contribute to Japan and the international community.
- Skills.....We utilize services developed for information distribution markets as well as employee abilities gained in those markets for the benefit of society.

Serving Local and International Communities

The NTT Communications Group promotes activities to serve local and international communities by designating six pillars of social contribution: Preservation of the Natural Environment, Social Welfare, Promotion of Education and Culture, Regional Development and Exchange, International Exchange, and Promotion of Sports.

In fiscal 2017, we conducted 75 projects, which were attended by a total of 3,280 employees. Expenditures for social contribution activities totaled 48.85 million yen.

◆ Social Contribution Activities in Fiscal 2017

	Number of Projects	Number of Participants	Activity Expenditure (Yen)
Preservation of the Natural Environment	16	1,376	17,449,529
Social Welfare	34	1,495	5,899,112
Promotion of Education and Culture	9	29	5,500,650
Regional Development and Exchange	5	8	548,000
International Exchange	0	0	0
Promotion of Sports	6	287	3,203,200
Others	5	85	16,257,851
Total	75	3,280	48,858,342

> Cleanup Activities

NTT Communications has participated in cleanup campaigns in Tokyo's Chiyoda Ward since 2008. In fiscal 2017, cleanups took place around Hibiya Park on June 6 and November 9, 2017, with the participation of 281 and 232 employees, respectively. Players from the Shining Arcs corporate rugby team also conduct monthly cleanups in the area surrounding the headquarters building and home rugby field in Ichikawa City.

> Providing Nationwide Employment Opportunities for Women at Home

NTT Com CHEO engages in businesses centered on technical support including technical support for users of the OCN ISP service; contact centers offering support via telephone, email, chat, and PC remote control; on-site support for setting up ICT devices such as PCs and routers and providing operating instructions; and operational management of corporate ICT equipment. These businesses actively provide opportunities for women in different regions of Japan to work from home. For example, our contact centers and on-site support visits across Japan are staffed by women working from home, from Hokkaido in the north to Okinawa in the south. As part of this drive, we are also pursuing initiatives for developing women's careers, revitalizing regional communities, and offering new employment opportunities.

Over the years, we have received numerous awards recognizing our contribution to developing women's careers, rebuilding local communities, and supporting employment, such as the grand prize in the Third Service Hospitality Awards presented by the Japan Institute of Information Technology.

In addition, since 2017, we have been participating as a "special supporting organization" in Japan's Telework Days campaign, an initiative for implementing and promoting telework as part of the workstyle reforms being pursued through a collaborative effort by the national government (Ministry of Internal Affairs and Communications, Ministry of Health, Labor and Welfare, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure and Transport, Cabinet Secretariat and Cabinet Office), Tokyo Metropolitan Government, and industry.



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➤ Environmental Contribution Activities at Group Companies in Japan

For some time, we have been encouraging Group companies to develop their own social contribution activities. As a result, employees have formed volunteer groups in each company and remain actively engaged in environmental conservation activities, including natural woodland preservation. As a corporate citizen, we will continue to promote low-profile yet meaningful activities that help local communities.

◆ Major Environmental Contribution Activities at Group Companies in Fiscal 2017

Company Name	Activity	Outline	Period	Number of Participants
NTT Com Marketing NTT Com Solutions	Cleanup in the Shiroy natural woodlands	Environmental preservation activities in the natural woodland in Shiroy City, Chiba Prefecture	May, July, and October 2017	95
NTT BizLink	Cleanup around the head office building	Cleanup of area around Sumitomo Fudosan Korakuen Building	Once a week throughout the year	10
NTT Com Solutions	Donation of emergency food supplies	Emergency food supplies are donated and delivered overseas to relieve countries where people are suffering from starvation	Year-round	—
NTT Communications Group	Cleanup around the head office building	Cleanup of area around Hibiya Building	June and November 2017	513
	Cleanup of beaches	Cleanup of Enoshima Beach, Kanagawa Prefecture	April 2017	137
	Rugby classes	Employees are dispatched to elementary schools in Chiba Prefecture to hold rugby classes toward popularizing the sport and nurturing youth	Year-round	100

➤ Providing Local Support for ICT Adoption through Our Overseas Businesses

In Asia's emerging countries, the accelerated pace of economic growth has been accompanied by a rapid penetration of ICT throughout society, creating an urgent need for upgrading the information and communication infrastructure and developing human resources. As ICT is fast becoming a cornerstone of corporate activities in every country, we launched a telemarketing business in January 2016, hired and trained local operators, and are proposing and helping to install state-of-the-art ICT solutions, including cloud technologies and data centers that meet the diverse needs of companies in the Asian region. Through our overseas businesses, we will continue to accelerate the building of sustainable relationships from the perspectives of both the knowledge we have gained as an ICT company and job creation.

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Activities of the Corporate Rugby Team

> Youth Development

NTT Communication's rugby team, the Shining Arcs, is actively promoting the sound development of youth and engaging with local communities through sports. In April, the team relocated its headquarters to Urayasu City in Chiba Prefecture, and it has been holding rugby classes in elementary schools and pursuing community-oriented initiatives for boosting the health of the city's residents under a mutual cooperation and support agreement. Since there are few rugby competitions with rankings for elementary school pupils, we have been hosting the Shining Arcs Cup to boost the level of rugby. The fourth tournament was held in fiscal 2017, and heated battles took place among 18 teams—the largest number of participants to date—from Chiba Prefecture as well as Tokyo and the surrounding Kanto region.

We hope to contribute through these activities to the healthy development of young people who will lead the next generation as well as to the development of rugby as a sports culture, and thereby generate excitement toward the Rugby World Cup tournament that will take place in Japan in 2019.

◆ Fourth Shining Arcs Cup



> Initiatives Supporting Reconstruction from the Great East Japan Earthquake

NTT Communications sought ways to support those affected by the Great East Japan Earthquake of March 11, 2011, through rugby. We began collecting donations from all the Shining Arcs players and staff at games based on points scored (10 yen per point) to keep alive the memory of the disaster and support the reconstruction efforts in affected areas. Having extended the Shining Arcs activity to all the Top League teams in Japan, we were able to significantly expand the scale of the initiatives. Furthermore, we invited rugby schools in Iwate Prefecture, which was affected by the Great East Japan Earthquake, and from Kumamoto Prefecture, which was affected by the 2016 Kumamoto Earthquakes, to take part in the fourth Shining Arcs Cup tournament and in special classes offered by Shining Arcs players.

In addition to activities related to the Great East Japan Earthquake, members of the Top League's Leaders Council took the initiative to collect donations for areas affected by the record-breaking heavy rains in northern Kyushu in 2017 and torrential rains in western Japan in 2018.

◆ Japan Rugby Top League Fundraising Led by Shining Arcs (NTT Communications)

	Participating Team(s)	Money Donated	Use of Funds Raised
2011–2012 Season	NTT Communications	366,525 yen	Donated to Japanese Red Cross Society
2012–2013 Season	NTT Communications	404,800 yen	Donated to Miyagi Rugby Football Union
2013–2014 Season	All Top League teams	Approx. 2 million yen	Invited children from disaster-affected regions to a Japanese national rugby team game held in June 2014
2014–2015 Season	All Top League teams	2,306,040 yen	Held charity event for children from city of Kamaishi, Iwate Prefecture (October 24, 2015) Invited children from Kamaishi to LIXIL CUP 2016 rugby game
2015–2016 Season	All Top League teams	2,270,170 yen	Held rugby classes in areas affected by the Kumamoto earthquake
2016–2017 Season	All Top League teams	2,252,561 yen	Provided career education and rugby classes in the Tohoku region
2017–2018		2,229,698 yen	To be decided



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Our Approach

Toward the creation of a better society, companies are expected to actively participate in progressive public and private sector initiatives as well as industry-wide efforts. Extolling the importance of these activities based on SDG 17 "Partnerships for the Goals," we are continuing to enhance their social value. We collaborate with a variety of organizations and take in industry-leading actions.

Membership in External Organizations

NTT Communications actively participates in external organizations and shares information so that initiatives for addressing social issues can be shared beyond corporate boundaries.

Participation in External Organizations (Major Groups Only)

- Okinawa Open Laboratory (Member of the Board)
- Advanced IT Architect Human Resource Development Council (Member of the Board)
- Internet Content Safety Association (ICSA) (Member of the Board)
- The Green Grid
- Made in Japan Software Consortium
- Security Promotion Council (SPREAD)

Assisting in Preventing Internet Crime

> Efforts to Safeguard Internet User Safety and Security

While damage associated with Internet security breaches is declining, unauthorized Internet banking remittances, a cyber-crime for which malware is used, resulted in financial losses of about 1.08 billion yen in Japan in 2017, according to the National Police Agency. Avoiding such damage requires individual users to implement security measures. However, many types of malware conceal their behavior from users who may not realize their computers have been infected, increasing the difficulty of applying countermeasures.

NTT Communications is proactively addressing the creation of systems that will increase the safety and security of using the Internet, and we have been the first Japanese ISP to provide an anti-malware service that customers can use free of charge without having to apply or set up a system. We also participate in the Advanced Cyber Threats response Initiative (ACTIVE), a support project designed to thwart cyberattacks that target the vulnerabilities of Internet user terminals. The project was launched in November 2013 by Japan's Ministry of Internal Affairs and Communications to realize a safe and secure Internet environment for citizens through public-private collaboration. We specifically seek to increase the accuracy of identifying malicious sites by sharing and utilizing an ACTIVE-compiled list in addition to the list of malicious sites used by NTT Communications in its Malware Unauthorized Communication Blocking Service, so we can prevent the spread of damage and alert users to take action to eradicate malware infections.

Contributing to the Welfare of Children

> Industrywide Countermeasures against Child Pornography

Blocking child pornography on the Internet is an important issue that must be addressed, not only to protect the human rights of children but also to prevent children from falling victim to human rights abuses and to ensure the provision of a safe Internet environment. In particular, since the Japanese government launched a national campaign against child pornography in 2010, an ongoing private-public initiative has established a proactive system that includes the voluntary blocking of access to child pornography websites by Internet service providers. In 2011, the NTT Communications Group joined other ISPs, search engine service providers, filtering service providers, and related businesses to form the Internet Content Safety Association (ICSA). Since April, the ICSA has been effectively compiling and managing information for forcibly blocking access to child pornography images and providing member companies with the list of addresses for websites that publish child pornography.

Specifically, the NTT Communications Group's "goo," "plala," and "OCN" services restrict access based on child pornography website address lists provided by the ICSA. Since 2011, individual ISPs began blocking child pornography images based on the website address lists provided by the ICSA. In response, NTT Resonant has implemented measures on the search engines it offers.