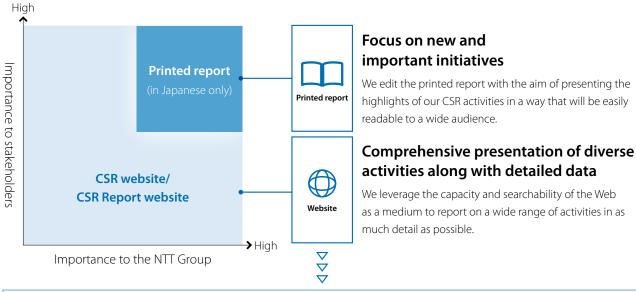


We publish this report in both printed and Web versions according to the respective features of these media so as to better address the needs of our stakeholders.





CSR Report 2011

Cor

Providing an easily readable PDF edition of the content of the CSR Report 2011 website

Based on the content of the NTT Group CSR Report website that provides a comprehensive account of our CSR activities (available in Japanese only), we publish a printed report that we position as a digest edition (available in Japanese only), and this PDF version, CSR Report 2011.

This CSR Report 2011 contains more detailed information than the printed report, packaged in an easily readable PDF format. In addition to detailed environmental data, we have included as many examples of activities as possible.



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Reporting scope

Period: April 1, 2010 to March 31, 2011

• Certain activities implemented after March 31, 2011 and outlook for the future are also included.

Organization: NTT and the NTT Group companies (756 companies)

- The figures given for the NTT Group in fiscal 2011 are tabulated from figures for NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, and their group companies (756 companies).
- The scope of specific reports is noted in relevant areas.
- Organization names are current as of March 31, 2011. However, some organization names are from fiscal 2012.

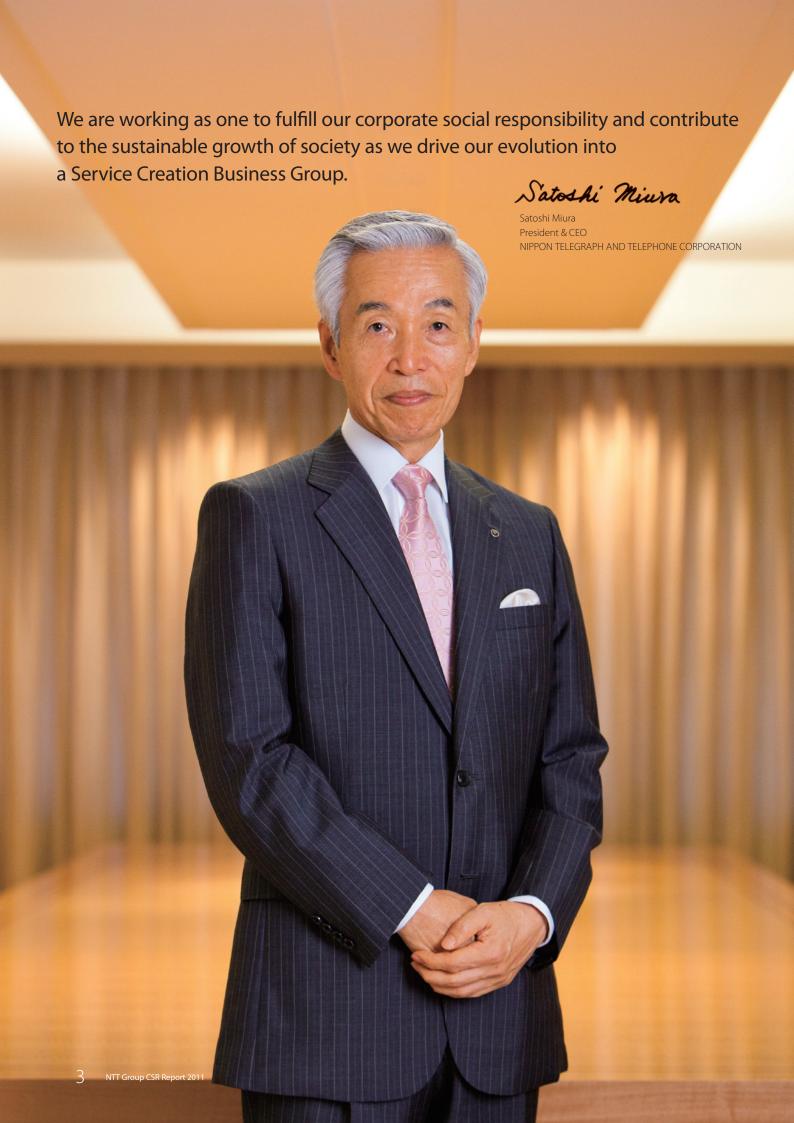
Month published: December 2011 Previously published: December 2010 Next report: December 2012 (provisional)

Reference guidelines:

This report has been created with reference to the GRI (Global Reporting Initiative) Sustainability Reporting Guidelines 2006 and the Ministry of the Environment's Environmental Reporting Guidelines FY2007 Version.

About the contents

- In this report, NTT refers to NIPPON TELEGRAPH AND TELEPHONE CORPORATION, NTT Group refers to NTT and its group companies, and NTT [name] refers to individual companies within the NTT Group. For the subsidiaries of major group companies other than NTT, the name of the major group company to which they belong is shown. (For example, NTT Resonant is shown as belonging to NTT Communications.)
- Should any errors be found in this report after publication, a report and table of errata will be provided on our website.
- The contents of this report refer not only to past events, but also cover future plans and forecasts at the time of publication. Such descriptions include assumptions and judgments based on information that was available at the time of printing. Please note that actual future activities and results may differ from those described herein.
- The names of services and products appearing in this report are the registered trademarks or trademarks of NTT and NTT Group companies.



I first wish to extend my greatest sympathies to all of the victims of the Great East Japan Earthquake. I would also like to express my heartfelt thanks to the many people throughout the world who offered kind words of encouragement.

This unprecedented disaster caused extensive damage to NTT Group communications facilities, as a result of which some services became unavailable. Please accept our apologies for any inconvenience caused. We put together a team of over 10,000 and pooled all of our resources to carry out repairs. As a result, we managed to rehabilitate almost all communications buildings and mobile phone base stations by the end of April. We are doing our utmost to restore services in areas where the damage was so serious as to prohibit complete restoration until roads and other infrastructural components are repaired. We pray for the earliest possible recovery from the disaster, and for the well-being of everyone affected by it.

Working to connect people

The development of broadband and ubiquitous communications and spread of smartphones, tablets, and other high functionality devices is driving major transformations in the world's information and communications technology (ICT) markets, including the explosive growth of social media such as Twitter and Facebook. By enabling people to share information instantly (as these IP-based social medias did after the Great East Japan Earthquake, greatly helping affected people to check on each other's safety), ICT is now able to influence events in society, and its roles are changing dramatically on a global scale as a result.

The spread of cloud services also enables customers to use a wide variety of services without requiring their own facilities, and has triggered a paradigm shift in the form taken by telecommunications services.

Leveraging world-class R&D capabilities attuned to these global trends, we will continue to provide a diversity of convenient, reliable, and secure services as a global telecommunications leader.

Leveraging ICT to help address social issues

We believe that it is our mission and the basis of corporate social responsibility of the NTT Group to contribute to the resolution of social issues both within Japan and in the world at large through leveraging our core ICT business.

To fulfill our responsibilities with respect to the Great East Japan Earthquake, we called on all of our capabilities not only to restore telecommunications infrastructure damaged by the disaster, but also to support recovery efforts in affected areas through ICT, including the provision of emergency message services, and lending of satellite mobile phones and public Wi-Fi services at no charge. Moving forward, we will endeavor to further enhance our disaster preparedness by building even more disaster-resistant networks, providing new disaster services, and improving existing services. Moreover, in the light of power shortage issues triggered by the disaster, we are striving as one to fulfill our responsibility as a telecommunications provider whose operations consume great amounts of electricity by implementing energy-saving measures across the whole Group.

In November 2010, we drew up THE GREEN VISION 2020 as our new vision for addressing global environmental issues. Under this vision, all of our employees will work to reduce environmental impacts through initiatives focused on the three themes of creating a low carbon society, implementing closed loop recycling, and conserving biodiversity. We are already implementing Green NTT, a groupwide initiative to expand solar power generation as a source of renewable energy that can contribute to the creation of a low carbon society, and we plan to deploy a generation capacity of about 5 MW by the end of fiscal 2013.

We are also exploring the use of ICT to resolve present-day social issues related to healthcare, education, declining birthrate, and the aging of society. For example, we think that labor shortages caused by the declining birthrate and aging of society can be addressed by creating more flexible work options through the use of teleworking and other means that take advantage of ICT, and we ourselves employ about 2,000 women, senior citizens, and others as teleworkers to help with call center operations.

If we can build up a portfolio of such examples of ICT utilization and promote them overseas as initiatives that succeeded in Japan, we believe that we can make a very meaningful contribution to the sustainable development of society

Working with our stakeholders

In November 2010, the ISO 26000 international standard for social responsibility was published, and we have accordingly revised the NTT Group CSR Charter that sets forth our CSR commitment and goals to bring it in line with the new standard.

In addition to continuing and enhancing our initiatives in the important areas of human rights and the environment, we will intensify our efforts to fulfill all aspects of our corporate social responsibility as a global enterprise. To this end too, we consider communication with our stakeholders to be an important matter, and have accordingly included dialogues with our employees for each CSR goal in this report. We hope that you will not hesitate to offer your candid views and suggestions regarding our activities.

The NTT Group's response to the Great East Japan Earthquake









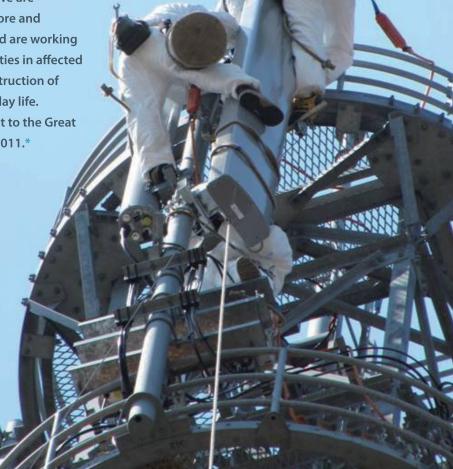
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At 2:46 p.m. on March 11, 2011, an M9 earthquake — the strongest since Japan started measuring such events — struck off Miyagi Prefecture's Sanriku coast, shaking much of Japan's Tohoku and Kanto regions with tremors of a seismic intensity of 5 or more. The quake also triggered huge tsunamis that took many thousands of lives and caused immense destruction along Japan's Pacific coast.

We extend our sincerest condolences to all of the victims of the Great East Japan Earthquake, and pray for the safety of survivors and rapid restoration of normalcy in the affected areas. We are marshaling our groupwide capabilities to restore and reconstruct telecommunications networks, and are working with the central government and local authorities in affected areas to assist in the rehabilitation and reconstruction of public infrastructure and restoration of everyday life.

We report here on our efforts with respect to the Great East Japan Earthquake up to the end of June 2011.*

*See group company websites for the latest information.





Damage caused by the earthquake

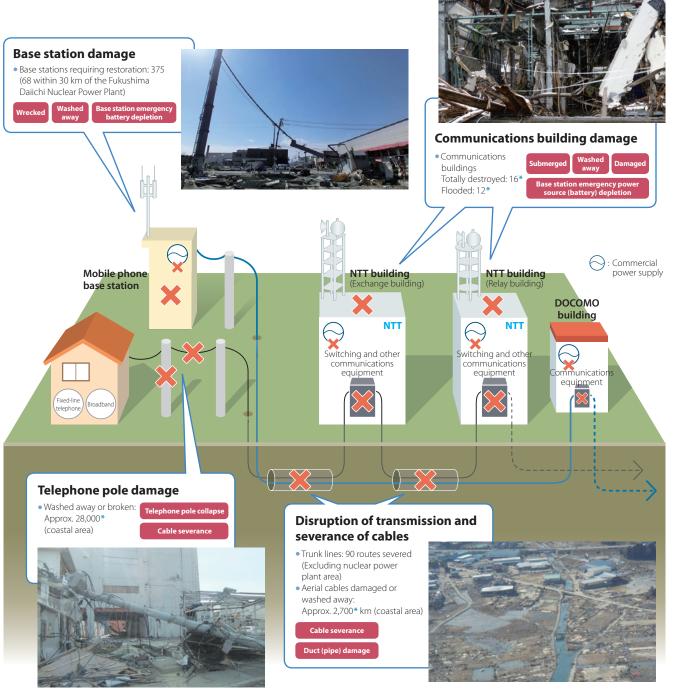
Extensive destruction of telecommunications buildings and equipment

The powerful earthquake and tsunamis caused extensive damage to NTT Group communications buildings and equipment.

NTT East, which provides fixed-line communications, data communications, and other regional communications services in eastern Japan, suffered the total destruction of 16* communications buildings in coastal locations where they were engulfed and some even swept away by the tsunamis, as well as the loss or breakage

of over 20,000* telephone poles. Trunk line aerial cables were also severed and other assets damaged.

Many mobile phone base stations operated by NTT DOCOMO, which provides nationwide mobile communications services, were also wrecked or washed away, or suffered battery depletion due to prolonged power outages, as a result of which transmission by 375 base stations was disrupted at the peak of the disaster.





Efforts to restore communications



 Working with group companies and government to provide backup for restoration of services in line with disaster readiness plans

First ever Disaster Countermeasures Office established to work with other organizations

After the earthquake struck, NTT declared a 1st level emergency situation in line with the disaster readiness plans that it drew up and discloses as a designated public institution under the Basic Act on Disaster Control Measures, and established a Disaster Countermeasures Office on the 6th floor of its Otemachi Teishin Building, gathering a team of about 30 under the president.

The Disaster Countermeasures Office identified the damage suffered by group companies and served as NTT's interface with the central government's Emergency Disaster Response Headquarters³ (headed by the prime minister), the cabinet, and other relevant ministries and agencies, centralizing coordination functions and ensuring the smooth and appropriate execution of disaster readiness plans.



Accompanied by the presidents of NTT East and NTT DOCOMO (designated public institutions), NTT Corporation President and Chief of NTT's Disaster Countermeasures Office Satoshi Miura announced the current status of NTT Group damage and restoration efforts, and outlook for the future on March 30, 19 days after the earthquake.

- 1. As designated public institutions, five NTT Group companies (see 2 below) are required under the Basic Act on Disaster Control Measures to draw up disaster readiness plans for establishing and implementing a disaster preparedness system and countermeasures to maintain telecommunications services as far as is possible and secure critical communications, and to conduct stipulated disaster drills.
- 2. In addition to independent administrative agencies, Japanese Red Cross Society, Japan Broadcasting Corporation (NHK), and other public institutions, companies supporting critical infrastructure such as suppliers of electricity, gas, transportation, and telecommunications services are designated by the government as public institutions. Six telecommunications companies five NTT Group companies (holding company NTT Corporation, NTT East, NTT West, NTT Communications, and NTT DOCOMO) and KDDI are designated public institutions.
- 3. Official name: Headquarters for Emergency Disaster Response for the 2011 Tohoku-Pacific Ocean Earthquake

VOICE





Satoshi Sasakura Manager, Disaster Prevention Planning Office Technology Planning Department, NTT

In the wake of the Great East Japan Earthquake, the government established Japan's first ever Emergency Disaster Response Headquarters based on the Basic Act on Disaster Control Measures that was revised following the Great Hanshin-Awaji (Kobe) Earthquake. NTT followed suit, establishing its first ever Disaster Countermeasures Office since the NTT Group assumed its current structure in 1999 under its disaster readiness plans. It was almost surely thanks to unstinting repeated practice of disaster drills that we were able to create the Office immediately after the earthquake and soon had an accurate picture of the extent of damage suffered throughout the Group

The fact that we were able to announce the prospects for restoration of NTT Group services only 20 days after our facilities were struck by a once-in-a-

despite this being the first such situation since the Great

Hanshin-Awaji Earthquake.



Masaki Yamazaki Manager, Disaster Prevention Planning Office Technology Planning Department, NTT

thousand-years disaster demonstrates that the Office performed outstandingly as the NTT Group's coordinator in handling demands from central and local governments, other designated public institutions and organizations as well as those from group companies involved in actual restoration efforts while the situation changed with every passing minute.

In its days as a government-owned corporation, the NTT Group saw its mission as being to provide services to people in every part of Japan, and this of course continues to be our mission as a publicly owned company seeking to forge stronger ties with a diversity of stakeholders. The Great East Japan Earthquake has compelled us to reflect on our mission and reminded us of our duty to secure critical communications and strive to restore services as soon as possible no matter what the circumstances are.

Carrying on NTT's tradition of providing services to every part of Japan

Providing backup to group companies endeavoring to secure critical communications

In addition to checking on the safety of group employees and identifying extent of damage in the initial phase immediately after the earthquake, the Disaster Countermeasures Office gathered information on the fuel requirements of group companies and reported these requirements to relevant government agencies in order to maintain group company telecommunications building functions in the face of likely fuel supply exhaustion as a result of prolonged wide-area power outages. We also provided group companies with whatever backup they needed to secure critical communications.

In relation to the planned blackouts in Tokyo Electric Power Company's supply area as a result of the Fukushima Daiichi Nuclear Power Plant accident, we submitted requests regarding groupwide fuel requirements to relevant government agencies to ensure the maintenance of communications services.



Fuel tankers and power supply vehicles used to secure power

NTT Group (group companies

O Driving restoration efforts with the help of over 10,000 support staff

Restoration of telecommunications infrastructure

To fulfill their public mission and social responsibility as providers of the telecommunications infrastructure that was so vital to the affected areas, NTT Group companies such as NTT East, which provides fixed-line communications in eastern Japan, and NTT DOCOMO, which provides mobile communications services, devoted themselves to restoring communications facility buildings and equipment in affected areas with the help of over 10,000 NTT Group and telecommunications construction company* personnel.

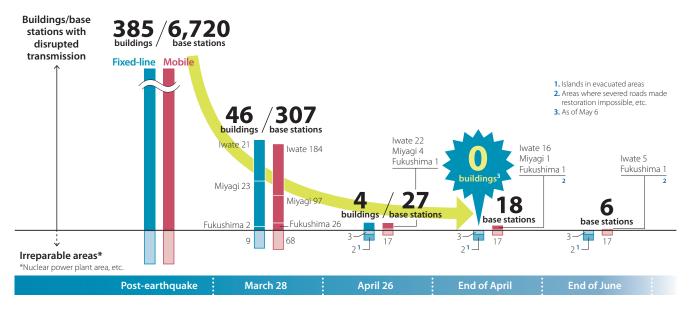
With respect to the Fukushima Daiichi Nuclear Power Plant accident, we restored electricity supply with the cooperation of the power company and then restored communications buildings in areas designated at the time as evacuation areas so as to restore fixed-line, mobile phone, and other communications services to customer residential areas.

At the peak of the disaster, 385 communications buildings were unable to function, and about 1.5 million customer lines were cut off. NTT East examined the damage at each building to decide on the speediest possible means of restoring them, and with help from NTT West and other group companies, succeeded in rehabilitating almost all of them by the end of April.

NTT DOCOMO also restored about 90% of the 6,720 mobile phone base stations damaged by the earthquake and tsunamis by the end of April, using various means including expanding the range covered by functioning base stations.

The earthquake damaged parts of international submarine cable linking Japan with the USA and other parts of Asia, but NTT Communications managed to maintain transmission for its international services by using other routes.

*Partner companies that build and maintain communications facilities



Protecting telecommunications infrastructure

The endeavors of key group companies



Restoring trunk lines*

A total of 90 routes (outside the nuclear power plant area) were disrupted, but NTT East restored communications by switching routes, reconnecting cables, and erecting provisional aerial bypass routes to patch trunk lines.

*Cables, cable ducts, and poles covering sections between communications buildings

NTT West



Wide area support

NTT West lent its support to NTT East from immediately after the earthquake, its employees helping to re-erect poles and restring cables in affected areas, and moving power supply vehicles to required locations and setting them up. A total of about 2,000 employees from the NTT West Group and telecommunications construction partners* had participated in restoration work in affected areas up to April 30.

*Partner companies that build and maintain communications facilities

NTT East

O Restoring communications buildings

The tsunamis completely destroyed 16* buildings and flooded a further 12*. Completely destroyed buildings that could be re-used were provisionally repaired and new telecommunications equipment and power supply equipment installed. Buildings washed away by the tsunamis were replaced by container-like temporary exchanges to aid the rapid restoration of communications.



*As of November 2011. Changed from figures announced on March 30, 2011 (preliminary figures) as a result of detailed field audits.

Restoring access lines*

NTT East put priority on restoring access lines for local governments, public infrastructure, and other critical sites. After the Japan Self-Defense Forces and others had cleared debris, the company then restored services to customer residential areas by erecting poles, and stringing and connecting cables.

*Cables, cable ducts, and poles covering sections between communications buildings and customer sites



NTT DOCOMO

Expanding base station coverage

Undamaged high-elevation base stations were used to cover coastal plain areas where many base stations were destroyed. By changing antenna angle and output, DOCOMO was able to expand the zone covered by single base stations to include those of affected stations, restoring transmission to an area equivalent to that normally covered by 67 base stations.





Use of satellite circuits

DOCOMO used satellite circuits to fill in for base stations and optical fiber transmission routes knocked out by the tsunamis, deploying mobile base station vehicles equipped with satellite links to connect base stations to exchanges and restore 36 base stations.

NTT Communications

Restoring relay networks

About 15,000 IP-VPN, e-VLAN, and other corporate data communications lines became unavailable in the Tohoku region at the peak of the disaster, NTT Communications put together a 600-strong team immediately after the earthquake to identify damage and carry out restoration work, and about 90% of the downed lines were back in operation by March 30.





Restoring submarine cables

The earthquake damaged parts of international submarine cable linking Japan with the USA and other parts of Asia, but NTT Communications managed to maintain transmission for its international services (data communications and Internet services, etc.) by using other routes.

NTT DATA

Restoring customer systems and maintaining their operation

Systems in some of the affected areas were temporarily affected by power outages caused by the earthquake, but they were quickly restored and kept in operation through the use of on-premise emergency generators and other means.



NTT FACILITIES

Securing power supplies

NTT FACILITIES immediately mobilized about 40 power supply vehicles from western Japan, Kanto, and other regions to secure power supplies, and worked through the night to restore power to facilities.



NTT COMWARE

Restoring network equipment and systems

NTT COMWARE restored damaged NTT Group exchanges, transmission routes, and devices, using undamaged facilities to remotely reboot systems as well as providing facilities to which power had been restored with instructions in

system reboot procedures and helping to restore services when system malfunctions occurred after rebooting.





Providing assistance to affected areas

Securing communications and helping to restore living environments

Restoring public infrastructure

In areas affected by the earthquake, NTT Group communications buildings and equipment suffered extensive damage, resulting in widespread connection problems and total loss of both mobile and fixed-line communications in some areas. Both to victims themselves and to everyone else praying for the recovery of affected areas, nothing is more important in an emergency situation than information on missing people and the restoration

of essential services.

The NTT Group accordingly endeavored to fulfill its social mission by securing mobile, fixed-line, Internet, and other means of communication, assisting local authorities in affected areas by leveraging ICT, providing supplies to support living environments, and various other activities in addition to providing emergency services such as Disaster Emergency Message Dial.

Main activities for securing means of communications

		Deployment of specially installed public telephones using portable satellite equipment: approx. 3,600 phones			
	Fixed-line	Deployment of mobile base station vehicles: approx. 30 units			
	and mobile	Free use of satellite mobile phones: approx. 900 units			
		Free use of mobile phones: approx. 2,100 units			
		Installation of free battery recharging stations: approx. 410 stations			
	Internet	Deployment of free Internet booths: 336 locations Cooperation with other businesses in providing broadband Internet as a means of obtaining information			
		Free use of tablet devices: approx. 670 units			
Securing means of		Provision of free access to public wireless LAN services (FLET'S SPOT, etc.) Free for earthquake victims and persons engaged in volunteer activities			
communications and use of ICT		Provision of portal sites to provide livelihood support information to affected persons (operational status of evacuation centers, water supply locations, stores, etc.)			
		Government- related	 Free provision of pre- and post-earthquake/tsunami map data and aerial photographs to government agencies, etc. 		
		Healthcare- related	 Free provision of videophones, etc. for remote health consultations at evacuation centers Provision for Minamisoma City in Fukushima Prefecture and Tono City in Iwate Prefecture to support the activities of volunteer organization Great East Japan Earthquake Disaster Area Continuous Care and Cure Network Project (C3NP) 		
		Education- related	 Free provision of mass notification systems for schools to communicate with parents/guardians Support for the creation of student learning environments Collaboration with education experts and education industry partner companies to provide learning drills for tablet devices, etc. 		
	Disaster Eme	ergency Message	e Dial: approx. 3.3 million messages		
Safety confirmation	Disaster Emergency Broadband Message Board: approx. 260,000 messages Disaster Message Board Service: approx. 4.47 million messages				
Commination	Message handling Saving and passing on messages from earthquake victims				
Life support	Provision of company housing (54 premises, approx. 3,400 homes) and land (12 premises) Provided as living space for disaster victims at the request of local authorities				
	Provision of free telephones to temporary housing, etc.: initially 30,000 phones				
	Donation of ¥1 billion from the NTT Group				
	Donations of approx. ¥1 billion through an affected area support charity site and member service point exchange program				
Other	Waiver of basic monthly charges, etc. for the periods that communications services were unavailable				
	Use of agricultural products grown in the affected areas at company cafeterias				
	ose or agrice	artarar products	grown in the uncered dreas at company careterias		

• Taken from press materials issued on April 27, 2011



NTT Communications

Using ICT to support the sharing of information in affected areas

NTT Communications addressed the information needs of earthquake victims by building information sharing sites integrated with Twitter. It launched six sites within a few days of the earthquake, including ChiiTwi, a site providing up-to-the-minute information on affected areas, and SOS from Twitter for the real-time display of SOS messages.



NTT East

Provision of videophones for remote health consultations at evacuation centers, etc.

NTT East provided hardware and professional support at no charge to implement mental health support systems and remote health consultations aimed at helping to alleviate health and emotional concerns of earthquake victims by using videophones to link them with doctors and public health nurses in the Greater Tokyo area.

NTT East

NTT East provided company housing and land to Miyagi Prefecture's Natori City and Fukushima Prefecture's litate Village as part of its support for earthquake victims. It made part of the Natori Sports Ground. which is company property, available to Natori City as land for 150 temporary homes. and provided litate Village with the use of 18 apartments in its Omori company housing premise in Fukushima City as housing for earthquake victims.





NTT Group

Use of agricultural products grown in Fukushima, Ibaraki, and Tochigi Prefectures at company cafeterias

As one way of supporting recovery efforts, NTT East has since April 27, 2011 been preferentially buying agricultural produce grown in Fukushima, Ibaraki, and Tochigi Prefectures and not subject to shipment restrictions* for use at its company cafeterias

Fukushima: leeks, snow peas, mitsuba, peas, etc. Ibaraki: lettuce, green peppers, Chinese cabbage, mizuna, lotus root, bok choy, Chinese chives et

Tochigi: tomatoes, cucumbers, aubergines, etc.

NTT Resonant

NTT Resonant launched a Great East Japan Earthquake Information corner on its goo News site within just 40 minutes after the earthquake to provide up-to-date information on the disaster, later adding content such as Messages from Evacuation Centers and a Nationwide Radiation Map to address the information needs of both earthquake victims and people throughout Japan.





NTT DOCOMO

Free use of mobile phones, etc.

NTT DOCOMO lent approximately 900 satellite mobile phones, 2,100 mobile phones, and 670 tablet devices at no charge to local authorities, evacuation centers, and other facilities, and set up about 410 free battery recharging stations to secure communications and support recovery efforts in affected areas. It also sent new employees to help out in affected areas as part of their initial training.

The NTT Group's efforts to save electricity

To address the likelihood of power shortages over the summer stemming from the damage caused by the Great East Japan Earthquake, in May 2011, the government invoked Article 27 of the Electricity Business Act to implement restrictions on electricity consumption. Under this measure, large-lot users (500 kW or more) in the service areas of Tokyo Electric Power Co. and Tohoku Electric Power Co. were in principle required to reduce electricity consumption by 15% compared with the previous year on weekdays from 9:00 a.m. to 8:00 p.m. from July 1 to September 9.

The communications equipment that accounts for most of the electricity consumed by the NTT Group constitutes important public infrastructure supporting services that are required to run uninterrupted around the clock throughout the year. While we have long endeavored to reduce our electricity consumption by introducing direct current supply and improving the efficiency of our air conditioning, the extent to which we can reduce consumption while maintaining the quality of our services is limited.

As such, we saw a need to implement even bolder reductions in our electricity consumption for uses other than communications equipment, such as offices. We set a groupwide target of reducing office electricity consumption by at least 30% compared with the



Holding company NTT, for example, saved power by implementing floor-based morning or afternoon teleworking for about 300 of its employees. NTT Group laboratories too switched weekly holidays from Saturday and Sunday to Wednesday and Thursday, and NTT DOCOMO to Monday and Tuesday for employees in the DOCOMO Chuo business area. Implementation of such weekly holiday rotation by group companies helped to reduce groupwide peak electricity consumption on weekdays.

teleworking environments and otherwise review work styles.

Other power saving measures implemented by Group companies to stay within consumption limits include shorter work hours (NTT East), and closing of floors by sharing offices and teleworking (NTT DATA).

NTT Resonant has also created a special webpage featuring useful information on power saving on its goo portal to support the power saving efforts of consumers.



R&D aimed at building a robust communications infrastructure

ommunications networks represent lifelines that are indispensable to the functioning of society, business activities, and public safety. Particularly in view of the important role that communications infrastructure performs in protecting human life when disasters strike, the NTT Group endeavors to build long-term resilience into its communications equipment, and maintain and operate it in a way that ensures its proper functioning at all times, based on the three goals of improving network reliability, securing critical communications, and promptly restoring communications services. As the organization responsible for overseeing a broad swath of R&D related to the NTT Group's ICT foundations, holding company NTT Corporation works with other organizations both within and outside the Group to drive R&D aimed at building a robust communications infrastructure from a medium- to long-term perspective, based on the demands of its group companies and stakeholders. In this section, we introduce major NTT Group R&D initiatives that are being accelerated in response to the Great East Japan Earthquake.

Building communications infrastructure that is resilient to disasters

13 NTT Group CSR Report 2011

01 Building disaster-resistant infrastructure

Responding to disasters

Securing communications when disaster strikes

Effective use of network resources in disaster situations

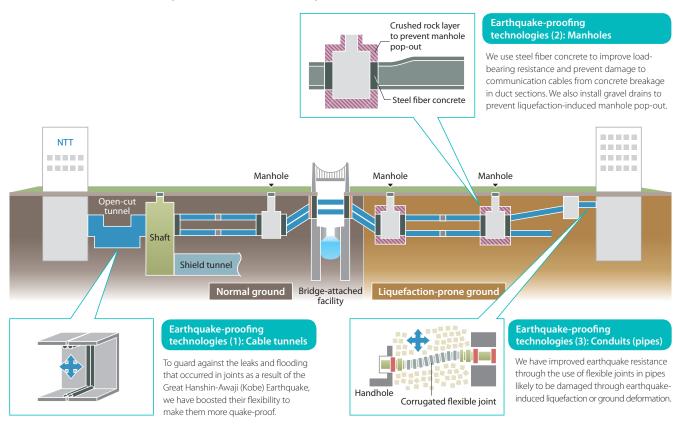
Providing critical communications services when disaster strikes

D 1 Building disaster-resistant infrastructure

Analyzing earthquake damage to continuously improve earthquake resistance

Ever since it laid Japan's first underground tunnels for communications cable in 1925, the NTT Group has strived to refine its analysis of damage to equipment caused by earthquakes and improve the earthquake resistance of cable pipes, manholes, and other infrastructure. Particularly since the Great Hanshin-Awaji

(Kobe) Earthquake of 1995, we have focused on the development and effective deployment of earthquake-proofing technologies complying with the new standards set by the Japan Society of Civil Engineers.



TOPICS

Development of occupied pipe renovation technologies that improve durability and earthquake resistance

The NTT Group has about 620,000 km of underground conduits nationwide. About 70% of these conduits were laid over 30 years ago, and inspections have found that about 60% are suffering from rust, corrosion, and other defects, making them prone to damage from earthquake-induced liquefaction or subsidence. However, renovating these conduits by conventional means would require large-scale road excavation and other works involving huge costs and time expenditures, as well as traffic congestion, noise, and other environmental problems.

To address this issue, NTT Access Network Service Systems Laboratories (NTT ANSSL) has developed cable conduit renovation technologies that dramatically improve the durability and earthquake resistance of existing conduits by forming flexible but self-supporting plastic conduits within a manhole, and then inserting these conduits inside existing ones. NTT ANSSL is now working with group companies on the practical implementation of these technologies.

These cable conduit renovation technologies consist roughly of two types. One is a high-pressure cleaning technology for removing rust and earth from the inside of existing metal conduits (photo 1), and the other, a technology for forming plastic conduits within these conduits. The 3000-core type of occupied pipe renovation technology involves on-site assembly of plastic components fitted with three spaces, each capable of accommodating one 1000-core



fiber optic cable (photo 2), followed by their insertion into occupied pipes (photo 3). These technologies enable the renovation of conduits into a corrosion-free, maintenance-free form.





O Securing communications when disaster strikes

Use of satellite and Wi-Fi communications systems

The Great East Japan Earthquake triggered huge tsunamis and extensive power outages that, together with the tremors themselves, caused widespread damage to facilities and depletion of batteries and fuel, knocking out both fixed-line and mobile services over a very wide area.

To remedy this situation, the NTT Group provided satellite communications systems to effect the early restoration of communications services to local governments, evacuation centers and other facilities in affected areas. Survivors in affected areas were relieved to be able to contact family members as a result, but demand was so high that there were not enough devices to go around. We are accordingly working on the early practical implementation of compact, lightweight, and easily

deployable new satellite communications technologies already in the process of development.

The earthquake damaged transmission lines, cutting means of communication to some remote islands. The NTT Group restored communications to such islands using portable wireless systems and setting up wireless routes, and is working in this area too on creating even smaller and lighter systems that will enable speedier restoration of services.

Another issue is the way telephones using optical fiber access lines become unusable during power outages. The NTT Group is tackling this issue by developing new optical network units (ONUs), and other means.

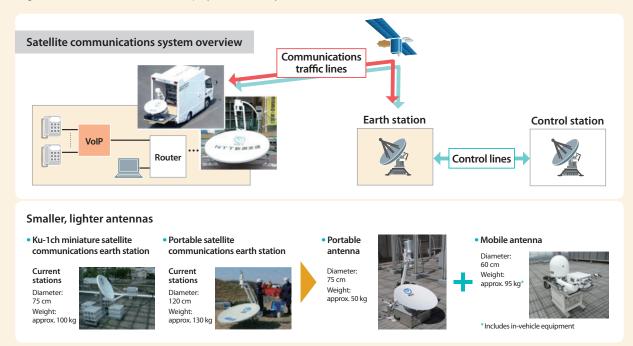
TOPICS

Developing new satellite communications systems that greatly reduce deployment time

When disaster strikes, the NTT Group immediately deploys satellite communications systems to secure communications over a wide area while it restores optical networks and other infrastructure. After the Great East Japan Earthquake too, we endeavored to secure communications in affected areas by deploying about 130 Ku-1ch miniature satellite communications earth stations to enable connection of phone lines at key evacuation centers, as well as about 3,600 free temporary public phones in evacuation centers that were hooked up to about 40 portable satellite communications systems that can handle both phone and Internet traffic.

However, these existing satellite communications earth stations were designed over 15 years ago, and even veteran engineers need about one hour to deploy them and adjust antenna angle. Moreover, they have very large antenna units and lack the mobility to enable speedy restoration of communications infrastructure over an area as large as that affected by the Great East Japan Earthquake.

Anticipating such issues, NTT Access Network Service Systems Laboratories (NTT ANSSL) started to develop a new generation of satellite communications earth stations in fiscal 2011. The new stations can be easily deployed even by personnel without any experience of wireless systems through the use of an automatic uplink access testing tool that enables adjustment of signal output from a remote base station. NTT ANSSL has also developed much smaller, lighter, and thus far more portable new satellite communications earth stations, and we aim to equip group companies with these systems by the end of fiscal 2013.





TOPICS

Use of a portable wireless system to restore communications to Oshika Peninsula and two islands

Satellite communications systems that can cover a wide area and be set up in a few hours are ideal for initial securing of communications, but due to their narrow bandwidth, they can provide only limited services. In this respect, portable wireless systems that can patch through routes from nearby NTT buildings systems take about a day to deploy and cover only

limited distances, but with their broad bandwidth, they can provide stable communications to islands and other affected locations where the provision of optical services is difficult. NTT East used such a portable wireless system to secure communications for the islands of Ajishima and Tashirojima after the Great East Japan Earthquake.



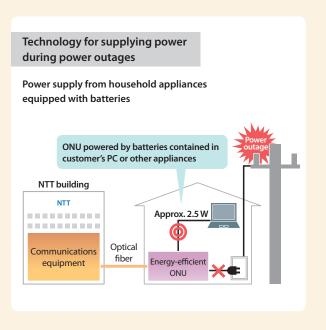
TOPICS

Developing optical network units capable of operation during power outages

After the Great East Japan Earthquake, a great many customers complained that the widespread power outages made their optical access telephone lines and Internet connections useless, since they require electricity. To remedy this situation, NTT Access Network Service Systems Laboratories (NTT ANSSL) is working on reducing the power consumption of the optical network units (ONUs) that connect PCs and other devices to optical networks, and on enabling ONUs to continue to function during power outages.

NTT ANSSL predicts that it will be able to more than halve ONU power consumption to about 2.5 W, and is aiming for practical implementation in 2012. It will also enable ONUs to be powered by PCs or other household appliances equipped with batteries so as to continue functioning during power outages.

NTT ANSSL will continue to drive innovation at the basic research level to effect further substantial reductions in ONU power consumption and to ensure uninterrupted communications.



O3 Effective use of network resources in disaster situations

Securing critical communications by sharing network resources

The NTT Group guards against damage to trunk lines as a result of earthquakes or other causes by building in multi-routing functionality so that traffic can be instantly diverted through other routes.

However, because we build and operate separate networks for each service, we are unable to respond flexibly to contingencies by sharing network resources. If, for example, the network for a certain critical service is downed by an earthquake, we cannot at present divert its traffic to a different and undamaged network

with sufficient resources to handle that traffic and keep the critical service going.

We have been developing network virtualization technologies to prepare for future increases in network traffic, and we will now also conduct research in the utilization of this technology to respond to large-scale disasters based on the concept of sharing network resources.

TOPICS

Developing network virtualization technologies

NTT Network Innovation Laboratories and NTT Network Service Systems Laboratories are developing network virtualization technologies that can be used at times of increased network traffic and during disasters to dynamically reassign network resources being used for voice, video, and Internet traffic so as to

enable as many people as possible to use critical communications services.

Network resource assignment

Shared network resources can be assigned flexibly according to communications traffic and changes in demand, much like reversible middle lanes on busy roads are used to cope with heavy traffic by switching directions according to time of day.



Physical network resources divided between multiple virtual service networks

Disaster area government network (critical communications) A network linking chosen government sites to respond to a wide-area disaster spanning multiple municipalities Disaster area support network (critical communications) A network linking the disaster area with government agencies and relief organizations to provide comprehensive support Failure-adapted network A network that has been put together to circumvent communications equipment affected by disasters and provide communications services Physical network

O4 Providing critical communications services when disaster strikes

When a disaster strikes, the telephone system of the affected area is inundated with calls, causing network congestion. Under such conditions, we control phone traffic volume so as to maintain the Disaster Emergency Message Dial (171), Disaster Message Board Service, Disaster Emergency Broadband Message Board (Web 171), and other services for checking on the safety of relatives and friends in affected areas. We are also focusing on the development of new services and improvement of existing services that can be

used by anyone for emergency calls regardless of their level of ICT literacy.









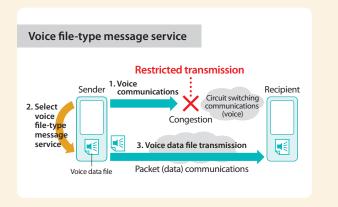




TOPICS

Development of voice file message service that uses packet communications

Immediately after the Great East Japan Earthquake, voice communications were limited, prompting people to use e-mail to check on the safety of family and friends because it was relatively easier to get through. NTT DOCOMO has accordingly developed a voice file-type message service that makes sending messages easier by enabling senders to create voice data files on their mobile phones that are then sent by packet (data) communications to DOCOMO servers and stored there before being forwarded to recipients. NTT DOCOMO plans to launch this service before the end of fiscal 2012.



TOPICS

Development of systems that anyone can use to easily check on the safety of others through various means

After the Great East Japan Earthquake, many people used Disaster Emergency Message Dial (171) and other safety status checking services, but some were also confused by the multiplicity of such services, and complained that entering information on the Web 171 service was difficult and so forth.

To address this situation, NTT Cyber Communications Laboratory Group (NTT CCLG) is currently conducting R&D to develop simpler and more convenient safety status checking services.

This R&D includes research on user interfaces that even first-time users will find easy to enter or check safety status

information, and the development of face recognition technology for extracting status information from photos or videos shown on television or other media.

NTT CCLG is also endeavoring to further improve services by conducting R&D on new features such as one-touch registration of safety status through utilizing mobile phone positional information.



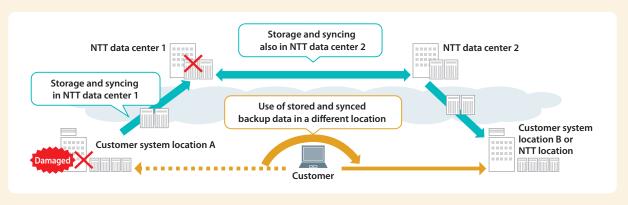
TOPICS

Developing backup technologies for prompt restoration of services after large-scale disasters

Most businesses back up their data to guard against disasters, but in the event of large-scale disasters like the Great East Japan Earthquake, there is a risk that backup data will also be lost if kept at the same company premises. It thus makes sense to keep backups in a geographically separated data center.

NTT's various laboratories are accordingly developing cloud

services for storing and periodically updating customer IT system images and data backups in multiple geographically separated data centers. They are also aiming to enable prompt restoration of such services by using network virtualization to make it possible for customers to access and use backed up systems and data without requiring any reconfiguration of settings.



Under our "Road to Service Creation Business Group" vision, we are creating and deploying customer-oriented ubiquitous broadband services on a full IP network infrastructure.



Overview of corporation (as of March 31, 2011)

Name: NIPPON TELEGRAPH AND TELEPHONE CORPORATION (NTT)

Head office: 3-1, Otemachi 2-chome, Chiyoda-ku, Tokyo

100-8116, Japan

Date of establishment: April 1, 1985 Common stock: ¥937.95 billion

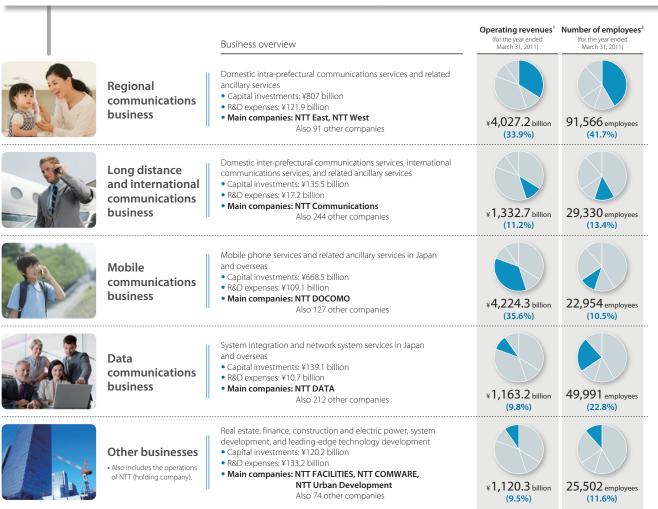
Number of employees: 2,922 (219,343 employees on a

consolidated basis)

Number of consolidated subsidiaries: 756

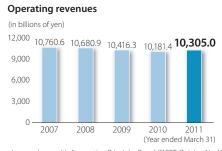
Website: http://www.ntt.co.jp/csr_e/

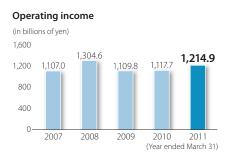
(For additional information including details of management strategy: http://www.ntt.co.jp/about_e/)

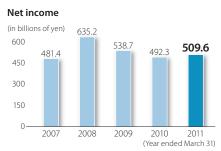




1. Percentage of the simple sum of all segments (Includes intersegment transactions) 2. Percentage of total NTT Group employees







[•] In accordance with Accounting Principles Board ("APB") Opinion No. 18 "The Equity Method of Accounting for Investments in Common Stock", NTT has retroactively applied the equity method of accounting to prior years for an investment in an affiliate, following the acquisition by the NTT Group of additional shares of the affiliate during the fiscal year ended March 31, 2008. Accordingly, figures for the fiscal year ended March 31, 2007 have been retroactively adjusted from previously announced figures



Regional communications business

NTT East provides individual and corporate customers in its East Japan region with a wide range of telecommunications services including fixed lines and Internet access for personal and business use. It aspires to provide stable, high quality universal services, and is actively expanding

its fiber optic services and other broadband business, while also pursuing solutions business in fields such as government, healthcare, and education.





Regional communications business

NTT West provides individual and corporate customers in its West Japan region with a wide range of telecommunications services including fixed lines and Internet access for personal and business use. It aspires to contribute to regional development by providing stable, high quality

universal services and an ever greater range of access line services, application services, and solutions centered on its fiber optic-based broadband business.





Long distance and international communications business

In addition to domestic long distance and international communications services, NTT Communications is a global provider of ICT solutions and services. Based on Vision 2015, its new corporate vision, the company vows to become a global ICT partner connecting the present to the

future by providing innovative, reliable ICT services that seamlessly link people and businesses throughout the world.





Mobile communications business

As a mobile communications operator, NTT DOCOMO provides Xi (crossy), FOMA, international, satellite phone, and other services. Based on its corporate philosophy of creating a new communications culture, it aspires to making maximum use of its employees' potential and satisfying its customers by developing even more user-

friendly communication services.





Data communications business

NTT DATA develops, provides, and maintains a variety of information systems and services that support individuals, business, and society both within Japan and overseas and span a wide range of industries from the public sector to financial and other enterprises. NTT DATA aims to serve as

a global innovation partner providing total support for the transformation that its customers seek, and contributing to the creation of value and further development of society and business.





Other businesses

NTT FACILITIES aspires to become its customers' most trusted partner as a provider of comprehensive eco-conscious engineering services that include solutions in six areas combining IT, energy, and construction, as well as one-stop planning, design, construction, and maintenance of

buildings and equipment.





Other businesses

NTT COMWARE supports system aspects of building next-generation network (NGN) communications infrastructure through its three core competencies of network technology, systems and applications, and support and maintenance services. Leveraging technological capabilities and

expertise that have long driven the evolution of Japan's communications infrastructure, NTT COMWARE will continue to contribute to the creation of a communication-rich society through pursuing system quality and reliability under its slogan of "Connecting hearts, connecting society".





Other businesses

As the NTT Group's only general real estate company, NTT Urban Development aspires to create ideal environments that balance the needs of people and communities with the natural environment in line with its "We create harmony" vision. While focusing principally on the two areas of

office space leasing and sales of its WELLITH brand of condominiums and other real estate, it is also involved in a diversity of other real estate business including commercial facilities, rental housing, and real estate asset management.



Guided by the NTT Group CSR Charter, NTT is committed to promoting CSR activities across the Group that meet the expectations and interests of its stakeholders.

NTT drew up the NTT Group CSR Charter in June 2006 as a basic guideline for the more active implementation of CSR activities by Group companies. It revised the Charter in June 2011.

The NTT Group CSR Charter consists of a statement of our commitment to corporate social responsibility, and the four CSR goals that outline specific priority aspects of our CSR activities.



NTT Group CSR Charter

Our Commitment

As a leader of the information and telecommunications industry, the NTT Group is committed to providing reliable, high-quality services that contribute to the creation of a safe, secure and prosperous society through communications that serve people, communities, and the global environment.

Our CSR Goals

Communication between people and

their communities

 We shall strive to create a richer and more convenient communications environment, and utilize our technology to contribute to the resolution of the various issues faced by societies with aging and declining populations.

CSR Priority Activities

 Activities that contribute to the further evolution of ubiquitous communications



2. We shall strive both to reduce our own environmental impacts and build environment-friendly forms of communications, and to provide information and communications services that help to reduce the impact of society as a whole on the global environment.

- Creating a low carbon society
- Implementing closed loop recycling
- Conserving biodiversity



Safe and secure communication

- 3. While striving earnestly to ensure information security and resolve telecommunications-related social issues, we shall do our utmost to provide a safe and secure user environment and contribute to the creation and future development of communication culture.
- 4. Fully recognizing the role that telecommunications plays as critical infrastructure supporting society and protecting our livelihoods, we shall strive to offer secure and reliable telecommunications services fortified to withstand disasters and capable of connecting people irrespective of time, location, and other circumstances.
- 5. As Team NTT, we pledge to apply the highest ethical standards and awareness of human rights to our business duties, striving to fulfill our mission to society by working for the creation of pleasant workplaces, personal growth, and respect for diversity, and for the further development of a flourishing and vibrant community.
- Team NTT comprises all NTT Group employees, including temporary employees, contract employees, employees of our corporate partners, and also former employees who endorse the NTT Group's CSR activities.

- Ensuring information security
- Ensuring stable and reliable services as critical infrastructure
- Activities that contribute to respect for diversity and equal opportunity
- Corporate citizenship activities

Team NTT communication

CSR management structure

Managing PDCA cycles with group companies according to the NTT Group CSR Priority Activities and Guidelines for NTT Group CSR Activities

NTT created a CSR Committee chaired by a Senior Executive Vice President in June 2005 to ensure the sustained and appropriate implementation of NTT Group CSR activities under two internal committees — the Global Environmental Protection Promotion Committee and Social Contribution Promotion Committee. Group CSR Liaison Meetings are also held periodically to coordinate CSR activities across the whole Group through discussing common issues related to the practical implementation of activities, sharing information on successful initiatives and other means.

In fiscal 2009, we established our NTT Group CSR Priority Activities and drew up our Guidelines for NTT Group CSR Activities. Based on these guidelines, we work with group companies to monitor progress on the implementation of activities with respect to PDCA cycles and further promote a sense of unity in CSR activities across the Group.

In fiscal 2011, we started to coordinate the PDCA management of NTT Group CSR Priority Activities with business planning management so as to enhance the effectiveness of PDCA management. We are also endeavoring to integrate our CSR activities with business goals in line with the ISO 26000 CSR standard published in November 2010.

NTT Group CSR organization







Group CSR Liaison Meeting

Further enhancing CSR management

Implementing management based on global standards

In June 2006, the NTT Group drew up and published a CSR Charter that laid out its CSR commitment and goals. In the charter, we promised to contribute to the creation of a safe, secure and prosperous society through communications — in other words, through our core competence of ICT that serves people, communities, and the global environment. Since then, we have sought to develop our CSR management and steadily fulfill our CSR commitment through working groups spanning the whole group.

In fiscal 2009, we drew up our CSR Priority Activities to provide greater directionality to group company CSR initiatives based on the CSR Charter. Each year, group companies set CSR activity targets in line with the CSR Priority Activities, and use PDCA cycle management to reach them. We are seeking to coordinate and drive progress in CSR implementation across the Group through these steady efforts.

In November 2010, the ISO 26000 international standard for social responsibility was published. Responding to this development as a globalizing enterprise, we reviewed our CSR Charter in fiscal 2011 to bring our CSR management in line with the international standard, and rephrased parts of it to more clearly express our stance with respect to human rights and work practices, two central themes of the ISO 26000 standard. We are also planning to revise our basic policy on human rights with the same intentions.

We are working sincerely to fulfill our social responsibility as a member of the international community, both in the actions of each and every one of our employees, and as an organization made up of those employees.



Kaoru Kanazawa Senior Executive Vice President

Progress of NTT Group CSR Priority Activities

Continuing to implement the NTT Group CSR Priority Activities

	Initiatives aimed at providing ubiquitous communications	Related pages				
	Leveraging ICT to address social issues, including health care and education	▶ pp. 33-43				
Communication between people and	 Developing and providing services to expand work opportunities and contribute to the resolution of issues faced by an aging population 					
their communities	Developing new markets with the launch of services that include infrastructure and applications	▶ pp. 39-40				
	• Promoting the further spread of the broadband networks that constitute the infrastructure for ICT services	▶ p. 43				
	Creating a low carbon society (mitigation of global warming)					
	• Achieving CO ₂ emissions reduction targets in both telecommunications carriers and other group companies					
	 Groupwide implementation of the Total Power Revolution (TPR) campaign to reduce electricity consumption through the deployment of energy-efficient communications equipment and construction and operation of energy-efficient facilities 					
	Further deployment of solar power generation facilities to generate a groupwide total of 3.8 MW from about 160 sites	▶p.51				
Communication between people and	Development and provision of products and services for reducing power consumption and environmental impacts	▶ pp. 53-55				
the global environment	Implementing closed loop recycling (waste reduction/paper consumption reduction)					
	Implementing the 3Rs (reduce, reuse, recycle) to achieve final disposal waste reduction targets	▶ p. 57				
	 Achieving virgin pulp consumption reduction targets through the proactive implementation of e-billing and other initiatives 					
	Conserving biodiversity					
	Conservation of biodiversity added as a basic policy to the NTT Group Global Environmental Charter in November 2010, and specific policies set	▶ p. 60				
	Ensuring stable and reliable services as critical infrastructure					
	Marshaling groupwide resources in the wake of the Great East Japan Earthquake that struck on March 11, 2011 to restore and rebuild communications networks and assist in the recovery of affected areas					
	Maintaining, repairing, and operating communications services, and continued implementation of disaster drills					
Safe and secure communication	Ensuring information security					
communication	Continuing safety classes for trouble-free Internet and mobile phone use by children	▶ p. 77				
	Continuing R&D for maintaining and improving information security	▶ pp. 74-75				
	Protecting customer information through the implementation of information security management and other measures	▶ pp. 75-76				
	Promoting respect for diversity and equal opportunity					
	Creating workplaces where all people can realize their full potential through expanding disabled employment opportunities and other means	▶ pp. 85-87				
	Promoting teleworking and support for childrearing and family care	▶ pp. 87-88				
Team NTT communication	 Expanding openings for overseas researchers, and boosting employee motivation through training and other programs for nurturing human resources 					
	Citizenship activities					
	• Uniting under the Green with Team NTT banner to further drive activities for protecting the environment	▶ p. 62, 93				
	Continued implementation of corporate citizenship activities throughout the country as Team NTT	▶ pp. 93-94				

Ensuring compliance

The NTT Group runs its businesses in compliance with its Corporate Ethics Charter.

Recognizing that it is imperative to conduct business in compliance with laws and regulations, and maintain the highest ethical standards in order to promote sound corporate activities, NTT drew up the NTT Group Corporate Ethics Charter in November 2002.

The Charter, which applies to all officers and employees of the NTT Group, lays out the basic principles of corporate ethics and provides specific guidelines for ethical behavior. To ensure that the Charter is effective, NTT strives to raise employee awareness of its goals by providing training in corporate ethics and conducting

annual employee attitude surveys.

To prevent dishonesty and misconduct, each company has in place a system for employees to report and consult on ethical issues. The NTT Group has also established a groupwide Corporate Ethics Help Line to enable employees to go outside their company for help if required.

In line with Japan's Whistleblower Protection Act and other laws, the NTT Group also accepts reports from companies outside the Group that do business with the NTT Group.

Implementation of measures to prevent the recurrence of improper provision of information regarding other carriers to sales agents



In fiscal 2010, employees at NTT West Group sales subsidiaries (NTT West-Hyogo and NTT West-Hokuriku) were found to have been improperly providing certain NTT West sales agents with information regarding customers using other carriers.

With respect to this incident, NTT West was issued by the Ministry of Internal Affairs and Communications (MIC) with a business practice improvement order under the Telecommunications Business Act, and in February 2010 submitted a business practice improvement plan to MIC that it has since been implementing.

Business practice improvement plan: overview and implementation status

- Restrictions on the extraction of information regarding other carrier services from all customer information management systems (January 2010)
- 2. Restrictions on the viewing of information regarding other carrier services on customer information management system terminals (May 2010)

- 3. More thorough checking of audit logs* (from January 2010)
 - * Checking on who accessed what information, and when
- 4. Revision of the handling of information regarding the services of other carriers by sales sections (March 2011)
- 5. Revision of order processing and other work processes (May 2010)
- 6. Establishment of the Information Security Department (April 2010)
- 7. Initiatives for enhancing work ethics (from May 2010)
- 8. Revision of work rules, etc. (March/April 2010)
- 9. Revision of service agreements with group companies, etc. (March 2010) 10. Expansion and enhancement of self-inspection measures (from April 2010)
- 11. Audits by head office Internal Audit Office (by February 2011)
- 12. Reporting to MIC on status of implementation of the business practice improvement plan (by March 2012)



Status of recurrence prevention measures related to bribery by a former NTT DATA employee



In June 2010, a former NTT DATA employee was arrested on suspicion of bribing a former Japan Patent Office employee.

NTT DATA responded by setting up an internal investigation committee headed by the president to check facts and launch an internal investigation, and a separate review committee made up of outside experts to objectively review the findings of the internal investigation committee and its proposed measures to prevent recurrence. The company also established a committee to monitor and manage the implementation of measures to prevent recurrence, and has been working on the early and assured implementation of these measures, and their integration into work processes.

NTT DATA will continue to implement measures to prevent a recurrence of such incidents, and monitor the assimilation of those measures through its Corporate Ethics Committee.

Key measures to prevent recurrence: overview and implementation status

- 1. Intensification of education regarding compliance and corporate ethics
 - Study through e-learning (for all employees) (September/October 2010)
- Group training to ensure corporate ethics (for all managers) (by May 2011)

- Revision of the NTT DATA Group Ethics Guide, and distribution to all employees (by May 2011)
- 2. Revision of personnel assignment and compensation
 - Enhancement of the transparency of how bribery-related disciplinary actions are determined (September 2010)
 - Formulation of personnel rotation plan to eliminate long-term placement in the same posts (by June 2011)
- 3. Revision of taxi fare tickets and entertainment expense-related processes
 - Elimination of taxi fare tickets used by employees, stronger IT-based measures to prevent unauthorized operations (from April 2011)
 - Stricter measures for checking entertainment-related expenses through the revision of rules and electronic payment systems (from October 2010)
- 4. Enhancement of internal audits, etc.
 - Addition of measures designed to detect unauthorized operations (October 2010)



Corporate governance

The NTT Group constantly strives to earn the trust of its customers.

Basic philosophy

As the holding company of the NTT Group, NTT believes that raising the effectiveness of corporate governance is an important management issue for maximizing corporate value and meeting the expectations of its various stakeholders.

Accordingly, NTT Group is working to strengthen corporate governance based on its fundamental policies of ensuring sound management, conducting appropriate decision-making and business activities, clarifying accountability, and maintaining thorough compliance.

Board of Directors and Board of Corporate Auditors

NTT maintains a Board of Directors with 12 members, including two outside directors. In principle, the Board of Directors meets once per month to make decisions and report on important management issues. NTT also maintains a Corporate Auditor system, including a Board of Corporate Auditors with five members, three of whom are outside corporate auditors.

Executive Officers Meeting and committees

In principle, important company matters are deliberated and decided by NTT's Executive Officers Meeting, which is made up of the President, Senior Executive Vice Presidents, directors with management responsibilities, and the heads of staff organizations. The Executive Officers Meeting members held 26 meetings in the year ended March 31, 2011. Under the Executive Officers Meeting, committees have been created to discuss specific issues related to the management strategies of NTT Group companies. In principle, each committee is chaired by either the President or a Senior Executive Vice President, with other directors and senior executives involved in relevant areas participating as occasion demands.

Audits by the corporate auditors

NTT's corporate auditors audit the performance of NTT's directors in the execution of their duties from the viewpoint of appropriateness. The corporate auditors work to bolster the audit system through regularly sharing information on audit plans and audit results with the Independent Auditor, in addition to conducting audits in partnership with the corporate auditors of group companies.

Internal control systems

NTT is working to strengthen the Group's internal control systems with the Board of Directors adopting a Basic Policy on the Maintenance of an Internal Control System to ensure the appropriate execution of duties within each group company.

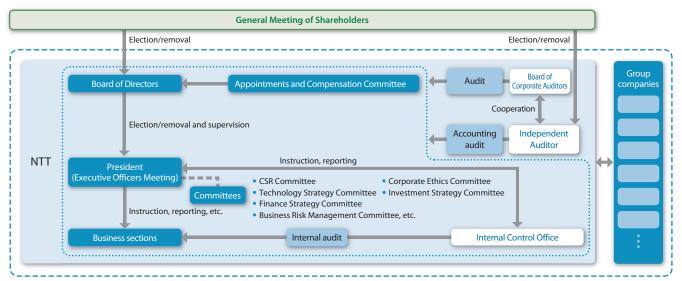
In line with the U.S. Public Company Accounting Reform and Investor Protection Act (Sarbanes-Oxley Act) and Japan's Financial Instruments and Exchange Law, the NTT Group is working to document business processes and conducts repeated tests to confirm the effectiveness of its financial reporting internal control system.

NTT's Internal Control Office monitors the status and operating effectiveness of internal controls across the Group as a whole through such measures as conducting standardized audits that target all group companies and checking the work of internal auditors in each group company, as well as implementing improvements to the Group's internal control systems.

Defining accountability

NTT strives to maintain appropriate, timely, and fair information disclosure and is aware that obtaining proper corporate valuations in the market through such disclosure is essential. It accordingly holds meetings to announce financial results, discloses information promptly on its website, and otherwise does its utmost to address accountability.

Corporate governance structure (including an outline of the internal control system)



TOPICS

Establishment of an advisory board to reflect the opinions of outside experts in management

döcomo

In addition to an Advisory Board composed of experts in various fields, NTT DOCOMO established its fifth U.S. Advisory Board in fiscal 2010 to receive advice from the global viewpoint of overseas experts. The company incorporates the objective opinions and proposals of these advisory board members regarding the issues it faces into its management.

To ensure that it receives a diverse range of advice, the Company invites people from various walks of life, including business leaders, university professors, and commentators, to serve as Advisory Board members.

The Advisory Board met three times in fiscal 2011. At the meeting held in August 2010, board members commended

DOCOMO for its Mobile Phone Safety Program classes and other initiatives aimed at protecting young people from social issues that have emerged in conjunction with the spread and increasing convenience of mobile phones, and advised the company to actively communicate with the public on safe mobile phone use.

The U.S. Advisory Board met twice in fiscal 2011. Board members provided a global perspective on issues that NTT DOCOMO should address, as well as offering their opinions and insights on global economic trends, frequency allocation and other aspects of communications policy and regulatory trends in the USA, and the latest developments in smartphones, smart grids, and other aspects of mobile communications.

Risk management system

The NTT Group has a framework to prevent risks and to minimize the impact of any risks that do emerge.

Functioning as they do in a rapidly changing business climate marked by increasingly fierce competition in the fields of information and communications, NTT Group companies face a wide variety of business risks.

We make efforts to anticipate and prevent potential risks at hand and minimize the impact should they emerge. As part of these efforts, we have prepared a standard manual for distribution to all group companies to ensure a unified approach to risk management. Each group company also prepares its own manual

or other mechanisms tailored to its specific business activities and environment to manage and mitigate business risks.



Risk management manual

Human rights awareness

We make groupwide efforts to raise human rights awareness and create a corporate culture that respects human rights and is free of any discrimination or harassment.

The NTT Group considers the creation of a corporate culture free of prejudice and discrimination to be essential to the formation of a well-adjusted society where human rights are respected.

We also regard this as a prerequisite for fulfilling our corporate responsibility to all of our stakeholders, and we are accordingly tackling human rights issues on various fronts as an organization.

More specifically, we encourage employees to regard human rights as a personal issue, and work to deepen their awareness and understanding so that they show respect for human rights in their day-to-day business activities and take a firm stand against discrimination by others.

To this end, we provide a broad range of human rights education focused on such issues as prejudice against specific social groups, people with disabilities, the elderly, and foreign residents in Japan, sexual harassment, and power harassment, as well as on ISO 26000, systems for redressing human rights violations, and other developments in human rights standards and legislation in Japan and overseas.

Furthermore, all NTT Group companies provide workshops, e-learning courses, and other programs that enable employees to learn about these issues on a multifaceted continuing basis. Other activities to boost and establish awareness of human rights include soliciting slogans and ideas for posters promoting awareness of human rights from NTT employees and their families, the best of which are compiled into calendars and distributed around the workplace.

The NTT Group is also a member of the Industrial Federation for Human Rights, Tokyo*, an organization that provides basic knowledge and the latest information on human rights issues on its website to cultivate awareness of human rights. NTT edits, maintains, and manages the website.

*Industrial Federation for Human Rights, Tokyo

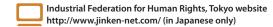
A voluntary organization made up of 124 companies (as of June 2011) headquartered in Tokyo. Since its founding in November 1979, it has worked for the resolution of a wide range of human rights issues.



 ${\it NTT} \ Group \ human \ rights \ awareness \ booklet$



Poster calling for submission of candidate slogans for 2011 human rights awareness (NTT East)



TOPICS

Group company educational activities to promote respect for human rights

NTT Group

The NTT Group is focusing on education regarding human rights issues based on a shared awareness of the issues. Group companies survey employee awareness of human rights issues, and plan and implement educational activities tailored in content and methodology to current circumstances.

NTT East

NTT East calls on its group company employees and their families to create human rights posters and slogans. In fiscal 2011, 487

posters and 67,221 slogans were submitted, with outstanding entries being selected for commendation during December's Human Rights Week. The winning posters and slogans were also used to create a 2011 human rights awareness calendar that was distributed to workplaces to help raise awareness of human rights on a daily basis.



Human rights awareness calendar

NTT West

The NTT West Group aspires to establish a corporate culture devoid of harassment and discrimination based on family ancestry or other factors. Leaders of group companies and organizations also lead efforts to raise human rights awareness, with training committee members organizing face-to-face group training and other activities to nurture employee awareness of human rights. NTT West also posts training

materials online so as to enable all employees including staffing agency temporary employees to gain basic knowledge of the company's human rights training at any time.



Human rights calendar

NTT Communications

NTT Communications is implementing a wide range of initiatives under the concept of creating cheerful and lively workplaces, including training aimed at raising awareness, and study sessions that foster empathy by enabling employees to experience first-hand what it is like to be elderly or disabled. In fiscal 2011, major NTT Communications Group companies conducted surveys on the handling of harassment and other human rights issues with the aim of enhancing human rights education and

promotion activities. The company also created and distributed an English language manual on dealing with harassment to its overseas subsidiaries to help prevent workplace harassment.

NTT DOCOMO

In addition to formulating a basic policy on respecting human rights and a set of guidelines for preventing discrimination and harassment in the workplace, NTT DOCOMO has improved its structure for promoting awareness of human rights, provides e-learning and training according to employee level, and operates a helpdesk for employees to seek advice regarding human rights issues. In fiscal 2011, DOCOMO used its internal website to further raise human rights awareness by posting a series of articles presenting information on human rights.



Screenshot of internal website page featuring human rights information

NTT DATA

NTT DATA has established a human rights office to drive efforts to stamp out discrimination of all kinds. In line with business globalization, it is also developing human rights education programs to provide employees due to be posted overseas with prior knowledge of the religion, culture, and customs of the regions in which they will work.

NTT FACILITIES

In fiscal 2011, NTT FACILITIES conducted educational activities for all employees, providing training on the theme of workplace communication with the aim of creating workplaces with an even more open atmosphere, as well as further cultivating knowledge of human rights and promoting awareness of human rights issues in everyday work.



Winning poster

R&D efforts in basic technologies

NTT conducts basic technologies R&D activities in three laboratory groups while also developing practical applications with its group companies.

NTT has three laboratory groups: the Cyber Communications Laboratory Group, the Information Sharing Laboratory Group, and the Science and Core Technology Laboratory Group. These groups conduct a diversity of research and development, including world-class cutting edge basic research to develop optical and other new technologies, and research on network technologies such as NGN* (which NTT was the first worldwide to commercialize), and applications that use such networks. NTT works closely with group companies to bring their R&D outcomes to early fruition in the form of new products, technologies, and services.

Protection of intellectual property

NTT protects the results of its R&D to maintain its competitive edge, but at the same time makes its intellectual property available to a wider audience by licensing technologies that would contribute to the development of industries and businesses as well as standardized technologies that are already used in society.

We also examine the third party rights of technologies used in our business to prevent infringement of third party intellectual property rights, and otherwise strive to comply with intellectual property-related laws and regulations and mitigate potential business risks by sharing information with our group companies.

No. of patent and utility model applications in Japan and overseas

Fiscal 2007	Fiscal 2008	Fiscal 2009	Fiscal 2010	Fiscal 2011
1,800	2,000	2,100	2,200	2,300

No. of Japanese and overseas patents held (as of the end of each fiscal year)

Fiscal 2007	Fiscal 2008	Fiscal 2009	Fiscal 2010	Fiscal 2011
15,100	14,500	13,900	13,700	14,000

^{*}NGN (next generation network) is a telecommunications network that combines the reliability and stability of conventional telephone networks with the flexibility and economy of high-speed, high-capacity IP networks. NTT has led the world in bringing NGN to fruition, and has launched commercial NGN services.

R&D structure Cloud Video Environment/ NGN/mobile Home ICT communication computing energy **Provision of services NTT Group companies** NTT NTT East NTT West NTT DATA NTT DOCOMO Communications Applied system development, customization Market needs/ **Research results** technology demands **NTT laboratories Cyber Communications Science and Core Technology Information Sharing Laboratory Group Laboratory Group Laboratory Group** Network Language/ Quantum Security Health support development and Human sciences audio/video nanodevices platforms services marketization

TOPICS

NTT R&D Forum 2011

(NTT Group

NTT R&D Forum 2011 was held at the NTT Musashino Research and Development Center on February 22-23, 2011. This forum is held every year to boost recognition and understanding of NTT's R&D through showcasing the latest outcomes of the research conducted by its laboratories.

Under the overall theme of "A Vigorous Society and a Richer Future Created and Empowered by ICT Innovation", this year's forum featured 91 exhibits including those from NTT DATA and NTT DOCOMO. In addition to the theme exhibit, the forum introduced NTT Group R&D achievements in cutting edge technologies in separate exhibits, and included keynote speeches by NTT President Satoshi Miura and Director of Research and Development Planning Hiromichi Shinohara, as well as a panel discussion and workshops.

The event proved even more popular than the previous year's forum, attracting about 5,100 visitors over the two days plus the private viewing for NTT Group employees on the previous day. Over 90% of the visitors responding to the forum questionnaire expressed satisfaction with the exhibits, and almost all felt that NTT R&D showed much promise. Comments included "I got the impression that the whole Group is involved in R&D", "I really enjoyed the interactive exhibits", and "I was impressed by the way consideration for the elderly seems to be driving NTT's R&D in areas such as Home ICT-related technologies".

We will continue to introduce NTT R&D endeavors to support the creation of services and network technologies that enable people to live safely and securely.



Explaining a system for supporting energy saving



Public information integration platform exhibit



Demonstration of fine-grained encryption

Exhibit examples

Research field	Exhibit name	Details
Environment	System for supporting energy saving	System that analyzes power consumption patterns in homes or businesses, etc., and provides advice on the best energy-saving methods based on the results of its analysis
Healthcare	Technology for integrating healthcare-related information	Electronic health record (EHR) platform for sharing and utilizing personal medical and health information stored on the servers of different medical facilities
Education	SceneKnowledge	System for passing on knowledge and expertise through combining visuals with text comments in an easily understandable form for presentation in, for example, university lectures or company training sessions
Government	Public information integration platform	Platform that incorporates disclosure control technology for enabling members of the public to control the extent of disclosure of personal information held by government agencies, and data trace management technology for checking on the unauthorized use of personal information
Mobile communications and security	Virtual Smartphone mobile thin client technology	Technology for enabling the provision of mobile services independent of terminal specifications and capable of preventing information leaks through the use of a cloud-based Android virtual environment
Cloud security	Fine-grained encryption	Technology for encrypting cloud-based confidential data in a way that only those with authorization can access it

Communicating with our shareholders and investors

The NTT Group strives to improve management transparency through proactive disclosure and IR activities.

Basic philosophy

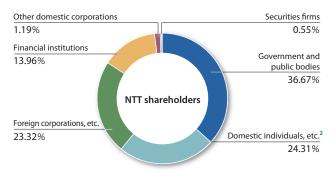
The NTT Group recognizes that enhancing its corporate value in the medium to long term and realizing appropriate returns to shareholders are crucial aspects of its business. At the same time, we are striving to improve the transparency of management through proactive disclosure and IR activities to enable our shareholders, investors, and other stakeholders to appropriately evaluate our business performance.

NTT stocks

As a result of six offerings of government-owned shares since NTT's privatization in 1985, NTT stocks are in the hands of approximately 1.18 million* shareholders as of the end of March 2011.

*Including shareholders who own only shares representing less than one unit

Percentage of shares held according to shareholder category¹



- 1. Not including shares representing less than one unit
- **2.** Treasury stock included under "Domestic individuals, etc." category

Returns to shareholders

NTT seeks to enhance returns to shareholders over the medium term. We determine the amount of dividends based on an overall consideration of factors such as business performance, financial position, and dividend pay-out ratio, focusing also on stability and sustainability. For the year ending March 31, 2012, NTT plans to increase its yearly dividends by ¥20 from ¥120 (yearly dividends for the year ended March 31, 2011) to ¥140 per share.

Disclosure and IR activities

NTT has listed its shares on several domestic and foreign stock exchanges (Tokyo, Osaka, Nagoya, Fukuoka, Sapporo, New York, and London), and has issued domestic and foreign bonds to procure funds. We consider it important to establish and maintain relationships of trust with our shareholders and investors in both domestic and foreign capital markets, and accordingly disclose information in a timely, appropriate, and fair manner, fulfilling our accountability as a business corporation.

To help shareholders and investors to better understand our management strategy, we also actively conduct IR activities and create opportunities for our top management to directly communicate with our shareholders and investors by holding various events in addition to the General Meeting of Shareholders, such as IR road shows, briefings on specific themes, and briefings for financial analysts, individual investors, and corporate bond investors, as well as participating in securities company conferences. We are also making efforts to enrich IR content on our corporate website.



Briefing for individual investors

TOPICS

Listed on Socially Responsible Investment (SRI) indexes in Japan and abroad

NTT has been highly rated by SRI evaluation organizations. As of April 1, 2011, we are listed on international SRI indexes such as Ethibel Sustainability Index (ESI) Excellence Global (Belgium), and Morningstar Socially Responsible Investment Index (Japan).





Prospering with our business partners

Working with suppliers to create outstanding services and reduce environmental impacts

To provide its customers with valuable services, the NTT Group uses cost-effective products and technologies and practices green procurement, buying products designed to minimize environmental impacts. Building trust-based partnerships with suppliers is essential to implementing such policies.

We have accordingly published our basic procurement policy since 1999, and create regular opportunities to listen to our suppliers. We also post procurement information on our website, and have procurement contact points in North America and Europe as well as in Japan for fielding inquiries and providing guidance on procurement.

Individual group companies are also implementing their own initiatives. NTT East and NTT West, for example, use check sheets to assess the way in which their suppliers meet their responsibilities to the environment and society. NTT DATA, too, has since 1991 held a yearly Business Partner Presidents Meeting to exchange views with its suppliers and other partners, and offers a wide range of training programs for the ever-increasing number of overseas outsourcees.



Business Partner Presidents Meeting (NTT DATA)

Basic Procurement Policy

When procuring products, NTT will:

- conduct its procurement in an open and transparent manner, taking into account its business needs:
- 2. provide non-discriminatory and competitive opportunities to both domestic and foreign suppliers; and
- conduct global and market-driven procurement of competitive products that meet its business needs.

The NTT Group Guidelines for Green Procurement

These Guidelines represent the NTT Group's basic stance toward green procurement and set forth the general areas in which the NTT Group and its suppliers address environmental issues on a continuing basis.

Procurement information website http://www.ntt.co.jp/ontime/index-e.html

TOPICS

Working with other organizations to create a new IP utilization environment



In July 2010, NTT joined nine other organizations to form the IPv6* Technical Verification Consortium, and has since been conducting experiments on the security and interoperability of IPv6, which is destined to become the next generation Internet communications protocol. This is the first initiative worldwide in which businesses and others have come together to create an organization to test IPv6.

As an executive board member, NTT contributes to the Consortium by helping to run its operations and drive its activities. The Consortium plans to put together its final report by the end of fiscal 2012.

*IPv6 (Internet Protocol Version 6)

IPv6 is an Internet communications protocol designed to succeed IPv4, currently the most widely used Internet protocol. Unlike IPv4, IPv6 provides for an almost unlimited number of IP addresses, as well as offering stronger security and simpler configuration.

IPv6 Technical Verification Consortium http://ipv6tvc.jp/ (in Japanese only)

Communication between people and their communities

Dialogue 1 Initiatives aimed at providing ubiquitous communications

Leveraging ICT in education to nurture thinking and communication abilities

Nakayama: The NTT Group is implementing an "Education Square x ICT" project in ten elementary and junior high schools in five municipalities nationwide with the aim of leveraging ICT to develop new learning methods. Japan is said to be a broadband powerhouse, but it lags behind other countries where utilizing broadband is concerned. That's why, when we were looking into how we could contribute as the NTT Group, we decided to propose a new style of education that makes use of ICT. Specific components include electronic blackboards, touch tablets for students, and teachers' PCs, all connected to an education cloud composed of educational materials and applications. By providing each student with a touch tablet that can be used both in the classroom and at home, we hope to make learning fun and motivate students to learn of their own accord. The project is still only for grade 5 math, science, and society, and grade 8 English, but we're working hard with local authorities, school and university teaching staff, and the textbook publishers and education material producers who are providing content to make a success of the project's three-year field trial.

Akahori: The great thing about Education Square x ICT is that it's

a wonderful way of connecting students, teachers, schools, households, and the whole world. In recent years in particular, ties between schools, households, and communities have weakened, and all sorts of social issues are emerging as a result, so I have high hopes for the project.

Nakayama: I've heard that schools in the town of Happo, which is one of the trial sites, have always had very close ties with households and local communities, and I'm looking forward to seeing what kind of results the trial produces there.

Chiba: From 1951 to 1988, Happo awarded scholarships to students from the town wanting to become teachers in its schools, based on the idea that we should first nurture teachers if we wanted to give our children a good education. Our school principals and vice principals also become neighborhood association chiefs, guest teachers at schools, and members of child watch groups after they retire. We've been making such efforts for a long time, and I think that is one of the reasons why strong local community support for schools has become a part of the town's culture, resulting in our earning the top rank in the Ministry of Education, Culture, Sports, Science and Technology's





1. Knowledge-based society

A society in which new knowledge, information, and technologies play an increasingly important role in business, politics, culture, and other spheres of activity

2. Ecosystem

Borrowed from biology, ecosystem here refers to cooperative activities between multiple enterprises to maintain and drive further growth over the whole industry in which they are involved

National Assessment of Academic Ability.

Akahori: That culture has a lot in common with this trial, doesn't it? Chiba: Before the trial began, the percentage of people using the Internet in Happo had just about reached around 30%, so many parents and guardians were taken by surprise when they first heard about it, but almost no one opposed the plan. The chairman of Akita Prefecture's Board of Education also encouraged us when we went to explain the trial to him, saying, "This is the future, so you should give the project your all. I hope you'll produce the kind of results that we've all come to expect from Happo."

Akahori: I'm always saying that in the knowledge-based society¹, what counts is not how much you learn, but rather how able you are to communicate new ideas, and so I have high hopes that providing children with an ICT network that enables them to study of their own accord and communicate their ideas will give their thinking and expressive abilities a big boost.

Chiba: Putting an electronic blackboard into a classroom does actually bring the teacher's perspective more in line with that of the students, and the faces of the children also really light up. By using video, photos and other materials to add impact to science or society classes, I think you really can develop the thinking powers of children. And we anticipate that using touch tablets to communicate will also help to develop the ability of children to express their ideas well.

yourself, and to go out into the world with more confidence. I think that it also helps you to grow and to respect each other's differences, and that's the kind of world that I think we all want. **Nakayama:** A lot of people in Japan feel awkward in the presence

of foreigners, but if they grow up from a young age connected to the world through the Internet, they probably won't think twice about communicating with people from other countries.

Akahori: The teaching abilities of Japanese teachers were ranked No.1 worldwide in a research report that compared videos of school classes from different countries. Japanese teachers' skills in managing classes and communicating knowledge were rated particularly highly, but the survey also found that they don't encourage their students to try new things. I'd like to see teachers making even greater use of ICT as a means of setting new challenges for their students.

Nakayama: I'm hoping to keep Education Square x ICT going and get it established by building the means for schools to work with people in a community to support the community's children through volunteering, work-sharing, and other means. I'd like to create an ecosystem² — a virtuous circle, if you will — in which people and businesses who participate in nurturing and educating a community's children themselves gain from such experience in terms of personal fulfillment.



Initiatives aimed at providing ubiquitous communications

Services to enrich everyday life

Launch of FLET'S Joint to make home ICT a reality

NTT Group

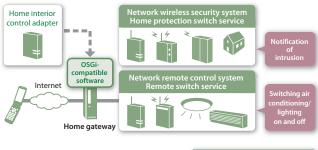
The NTT Group's Home ICT initiative aims to enrich everyday life by connecting home appliances, office machinery, and other equipment to networks.

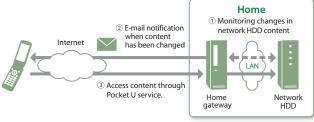
In December 2009, we started testing systems that connect the devices and applications of partner companies. NTT East and NTT West developed a home gateway to serve as the cornerstone of Home ICT, and after pre-installing the software developed by partners, confirmed the stable operation of the gateway over extended periods. As a result, the companies launched a field trial* in November 2010 with the participation of ordinary customers in Tokyo and Osaka. Deeming that a service that easily connects digital devices to a network could help to create new business for partner companies, NTT East and NTT West each launched FLET'S Joint as a new commercial service in August 2011. They will continue to work with partners to enable them to provide an increasing range of home ICT services that make use of FLET'S Joint.

*Field trial (Home ICT field trial)

http://www.ntt-east.co.jp/release/detail/20101129_01.html (in Japanese only)

The NTT Group's Home ICT platform using a home gateway





Peppering living spaces with sensors to create smart environments

NTT Group

Equipping consumer electrical appliances and other household items with sensors connected to networks could enable the integration of a huge mass of real-world information (see illustration), but for such systems to be practical, the sensors would have to be extremely compact and maintenance-free (i.e. not require batteries).

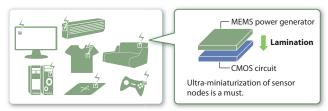
NTT Microsystem Integration Laboratories is endeavoring to develop tiny battery-less sensors that could be embedded here and there throughout a living space to obtain various information. It has packaged test chips equipped with ultra-low power wireless circuits, nanowatt-level (10° watt) vibration detection circuits and such like into prototype devices, and is currently conducting proof-of-concept experiments on the technologies.

If these development efforts succeed, they will likely lead to the provision of new services that almost imperceptively support the everyday life of users as required by leveraging the smart environments* generated by countless sensors pervading their living spaces.

*Smart environment

A physical world richly equipped with different kinds of smart device that constantly detect, measure, organize and utilize information related to all sorts of components within everyday living environments to make inhabitants' lives more comfortable.

Sensor nodes for gathering a diversity of living space information



 $\label{lem:continuous} Gathering \ a \ diversity \ of information \ by \ peppering \ living \ spaces \ with \ countless \ sensors$

Services for supporting medical treatment and health management

Providing remote health consultation services for areas with aging populations and a shortage of doctors



Many parts of Japan are currently having to cope with an increasingly aged population and shortage of doctors. A major problem is that people in such parts can no longer easily consult doctors when feeling under the weather. To address this problem, NTT Service Integration Laboratories has developed a remote health consultation system that enables the easy registration of data from instruments such as pedometers, weight scales and blood-pressure meters, and effective remote health consultations using videophones.

The system has already been deployed in the city of Tono in Iwate Prefecture and several other municipalities, and is being used at community centers to improve the health of local residents and to consult doctors. By stimulating communication among local community members, the system also helps to improve quality of life.

NTT SIL aims to further contribute to society in the field of healthcare by continuing to develop such systems with a view to household and mobile use.



Remote health consultations in Tono City, Iwate Prefecture

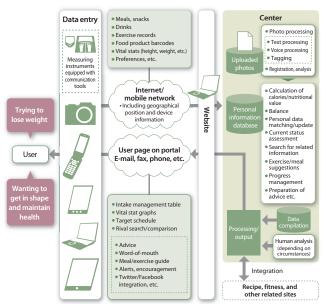
Joint health support service field trial launched



On February 17, 2011, NTT Communications, NTT Resonant, and foo.log Inc. launched a field trial of Health Enhancement Assist Service, a jointly developed health support service. Designed for smartphones and PCs, the service includes the world's first tool for automatically estimating calories from photos of meals, and another for using smartphone GPS and accelerometer functions to estimate distance covered and how many calories a person burns while walking each day just by carrying a smartphone around. Other features include a virtual rival tool, and 180 exercise videos and 5,000 recipes screened by professionals, along with suggestions on how to use them.

This experiment has been opened to participation by ordinary users as testing of its content and convenience to identify issues continues, and the smartphone application for it is proving popular, with over 100,000 downloads so far, and users reporting that "it's useful for dieting and maintaining health" and "recording every meal makes dieting easy", and so forth. NTT Communications plans to launch the service commercially in fiscal 2012 after further testing and optimizing its practicality and effectiveness and formulation of a concrete business model.

Overview of Health Enhancement Assist Service



Initiatives aimed at providing ubiquitous communications

Education services that offer added value

Launch of field trial for Education Square x ICT project to connect schools with households

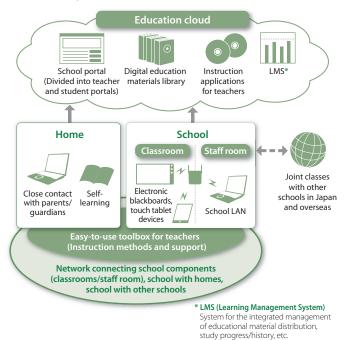
NTT Group

The NTT Group has endeavored to promote the spread of broadband services in recent years, and aims to create one of the world's most advanced broadband environments. As part of these efforts, six NTT Group companies (NTT East, NTT West, NTT Communications, NTT DATA, NTT DOCOMO, and NTT LEARNING SYSTEMS) joined hands in October 2010 to create NTT Education LLP, and in April 2011 launched a field trial for the Group's Education Square x ICT project.

The trial is being conducted with the cooperation of ten elementary schools in five municipalities nationwide, as well as education experts and education industry businesses. Students gain by being provided with a safe environment that makes learning fun, and enables them to learn in a way that suits their individuality and study habits, while teachers not only find the system easy to use, but also benefit from being able to create their own teaching materials, devote the time that ICT utilization creates to assisting students, and provide instruction attuned to the personality and capabilities of each student.

The NTT Group plans to continue the trial for two to three years to establish and promote the methodology, and contribute to the genuinely effective utilization of ICT in school education.

Education Square x ICT overview



Programming with pictures: VISCUIT language development



As convenient tools, computers are now in widespread use at both workplaces and home. No technology has made a greater contribution to this evolution than programming, but as the scope of application of computers has expanded, programming has come to be seen as an occupation limited exclusively to people with special skills. To address this situation, NTT Communication Science Laboratories developed VISCUIT, a visual programming language that uses pictures, in 2003.

In a world in which computers are everywhere, knowing a little about programming, the basic principle behind computers, is very important, and so there are now plans to use VISCUIT as an educational tool for preschoolers, elementary school students, and even for adult education in programming.

VISCUIT is also being prepared for implementation on the Web and smartphones, and use in games on social networks.



Screenshot introducing VISCUIT



Participation in YMC-Viet Project to promote stable rice cultivation in Vietnam



Under the auspices of the Ministry of Internal Affairs and Communications' Ubiquitous Alliance Project*, NTT Communications, Pangaea (NPO), and the Institute for HyperNetwork Society on February 16, 2011 launched the YMC-Viet Project as a pilot project that uses an agricultural support system in which children act as go-betweens to promote stable rice production in Vietnam.

The project involved using a youth-mediated communication (YMC) system in rural areas of Vietnam where the adult literacy rate is low to enable local children, who have a high literacy rate and represent the next generation of farmers, to communicate through mobile phones, the Internet, and Pangaea's translation tool with Japanese agriculture experts and tap their expertise to increase harvests.

Under the project, an ICT center was built in Vietnam's Vinh Long Province, and information and questions gathered by the children of local rice farmers regarding temperature, humidity, paddy growth, etc. were entered into the system using the center's terminals. This data was translated into English and Japanese from Vietnamese using the translation system, and advice matching the stage of growth of the paddy was provided using the same system. A human "bridger" (go-between) was also used to provide online support and make the translation easier for children to understand. It is hoped that the project will not only boost rice production, but also lead to the stable production of high-quality rice.

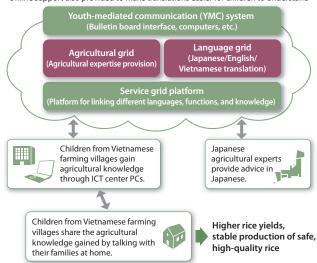
Conducted with the cooperation of Vietnam's Ministry of Agriculture and Rural Development, the National Agriculture Research Center (part of Japan's National Agriculture and Food Research Organization), University of Tokyo Institute for Sustainable Agro-ecosystem Services, Tokyo University of Agriculture, and Mie University, the pilot project ended on March 31, 2011, but the parties concerned are looking at the possibilities for continued use to establish the system, and for its use in other rural areas and application to other industries as well as agriculture.

*Ministry of Internal Affairs and Communications' Ubiquitous Alliance Project

This project aims to accelerate global development of three priority ICT fields of digital broadcasting, next-generation IP networks, and wireless communications, and boost Japan's competitiveness in ICT industries and drive its ICT-based growth by using its advanced ICT infrastructure to conduct field tests in new areas ahead of the rest of the world, and examine technological and institutional issues.

YMC-Viet Project overview

Vietnamese ⇔ English ⇔ Japanese translation
Online support also provided to make translations easier for children to understand







Project activity

Children at the project site

Initiatives aimed at providing ubiquitous communications

Services for supporting business growth

BIZXAAS cloud service to support the rationalizing and strategic use of IT assets



NTT DATA has long been involved in business based on the cloud computing approach of sharing computing resources on networks, and offers many different shared-use systems for large enterprises, including its Integrated ATM Switching Service, Regional Bank Integrated Services Center, Credit Union Integrated Service Center, and Automatic Answer Network System for Electrical Request (ANSER) automated financial services.

BIZXAAS draws on the system provisioning expertise built up by NTT DATA Group over the years to provide a total cloud service that incorporates the latest cloud technology.

In addition to the provision of SaaS, PaaS¹, and laaS² ondemand cloud services, NTT DATA offers a comprehensive range of cloud-related services including construction of clouds at customer premises, consulting on technology, services for migrating from existing to cloud-based systems, and the building of large-scale private clouds.

In fiscal 2011, NTT DATA continues to expand its wide range of services for customers, including Full OSS Cloud, MaDoRE Spice, Hadoop, Kaiden Workflow, document management, EDI, IFRS compliance, CRM, and COBOL Cloud.

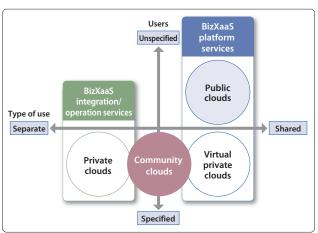
1. PaaS (Platform as a Service)

Provision as a service of a platform that includes hardware, operating system, middleware, framework, and other application execution components for running applications remotely over a network. PaaS enables users to develop applications without having to worry about hardware.

2. laaS (Infrastructure as a Service)

Provision as a service of IT infrastructure in the form of virtualized servers, networks, etc. laaS enables users to use computer resources over the Internet or other networks without having to worry about hardware.

BIZXAAS cloud service features



Service menu

Cloud integration/ operation services

- Optimization consulting
- Migration
- Cloud integration
- Operation management

Cloud platform services

- Applications (SaaS)
- Platform (PaaS)
- Data centers (laaS)

Japan OpenOffice.org & OpenDocument **Format Promotion Group founded**



Open source software and open standards have attracted increasing attention in recent years from the perspective of rethinking IT investments. One product that has generated particularly keen interest is OpenOffice.org*, a productivity suite that includes word processing, spreadsheet, and presentation applications. However, there are still very few cases of systematic, large-scale deployment in Japan, suggesting that knowledge of the product and its usage is limited to specific organizations, and is not yet circulating widely.

NTT COMWARE, K.K.Ashisuto, Sumitomo Electric Industries, Ltd., and Sumitomo Electric Information Systems Co., Ltd. accordingly founded the Japan OpenOffice.org & OpenDocument Format Promotion Group (ODPG) on September 14, 2010 to share knowledge and promote use of the product. As of June 16, 2011, ODPG membership had grown to 22, and it has produced its first report based on the knowledge on initiatives and utilization methods shared through two working groups and regular meetings held during the first year.

In fiscal 2012, ODPG is planning working group activities focused on case studies and technology. It also aims to bolster its promotional activities and drive the further adoption of OpenOffice.org and Open Document Format (ODF) by other companies and organizations.

*OpenOffice.org

The generic name for the OpenOffice open source productivity suite and its community

Services for supporting the everyday lives of elderly people and those with disabilities

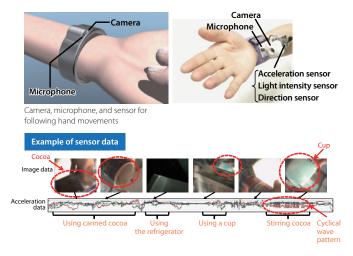
Human behavior recognition technology using wearable sensors



NTT Communications Science Laboratories is conducting research on the use of a wristwatch-like sensor device that can be worn on the wrist and is capable of recognizing what the user is doing. Focusing on behavior that involves the movement of hands, the most frequently used parts of the human body in daily life, this initiative comes under R&D concerned with lifelogging (recording human behavior as digital data), and remote care monitoring services.

The sensor device is equipped with a camera placed in a position to film the area around the palm of the user's hand and enable the device to recognize what the user is doing when using the hand to do something like making coffee or watering plants. To provide an even more detailed record of behavior, the device is also equipped with accelerometers to read hand movements and a microphone to pick up noises, and it can also learn behavior to improve recognition.

NTT CSL is planning to develop even smaller sensor devices and investigate recognition accuracy by collecting data under more real-world conditions. With the aging of Japan's population in recent years, there is growing demand for healthcare and remote care monitoring services for watching over geographically distant elderly people, and for watching over children too. NTT CSL hopes to be able to address such needs through utilizing sensors to enable automated care monitoring.



Initiatives aimed at providing ubiquitous communications

Developing teleworking mechanisms that make it easier for people with visual impairments to engage in work





O NTT O NTTIT NTT CLARUTY CORPORATION

NTT Cyber Solutions Laboratories, NTT IT, and NTT CLARUTY are working together to create teleworking mechanisms that make it easier for people with disabilities to engage in work.

In fiscal 2010, they equipped the service menus of two services — MagicConnect, which enables safe and easy access to a company computer from a remote location, and MeetingPlaza, which enables videoconferencing and teamwork over the Internet — with text-to-speech functionality for the benefit of people with visual impairments. In February and March 2010, tests were conducted to confirm that the basic functions were working properly and would enable people with visual impairments to work together via the Internet.

Further user experiments were conducted in April to June 2011 in which people with visual impairments actually used MagicConnect and MeetingPlaza to test teleworking and identify remaining issues such as whether the added system functions and performance were sufficient to enable online conferencing from the home, and whether the system is sufficiently accessible to people with disabilities. These experiments showed that while the standard functions used most frequently in conferencing performed satisfactorily, the system did not allow users to deal with errors properly, and also showed poor affinity with the screen readers that most people with visual impairments use.

The results were sent to NTT IT, which is making improvements such as enabling the reading out of adjustment function menus required for dealing with errors. Further teleworking field tests of at least two weeks in length are being conducted, and work continues on identifying the system requirements and social requirements for trouble-free teleworking.

Field testing of pedestrian support systems



As Japan's population continues to age, the need for environments that enable elderly people and those with disabilities to lead independent and active lives is growing. Responding to this need, NTT West field-tested pedestrian support systems with the cooperation of people with visual impairments in Sasayama City, Hyogo Prefecture, one of the sites selected under the Ministry of Land, Infrastructure, Transport and Tourism's 2010 Mobility Support Model Project.

Field tests were conducted on call center-based voice pedestrian support and voice information pedestrian support systems. The call center-based voice pedestrian support system requires test participants to wear an eyeglasses-type device equipped with a camera, bone conduction headphones, and a microphone, with the camera transmitting images in real time over the Internet to a call center. Combining the transmitted images with geographical information, the call center operator provides the participant with pedestrian guidance through the bone conduction headphones, with the participant using the microphone to ask the operator for further advice as required. For the voice information pedestrian support system, the test participant carries a voice player and walks while listening to route guidance that includes information about non-visual cues such as changes in road surface, and specific sounds and smells likely to be encountered on the route.

The field tests were carried out on every Friday and Saturday from October 22 to December 11, 2010, and thanks to the participation of a total of 44 people with visual impairments, the project generated a lot of information on call center side communication and selection and creation of routes. People with visual impairments also served as monitors, providing feedback on improvements that could be made to the prototype devices that was put to good use in designing the next version.

In the near future, NTT West hopes to offer an eyeglasses-type device that its customers too have already rated as being close to



Field testing in Sasayama City, Hyogo Prefecture

good enough for actual use. It will conduct further tests with the next version with the goal of providing pedestrian navigation services for supporting elderly people and those with visual impairments.

Initiatives to promote participation in society

Expanding work opportunities

Home-based call center staff positions offer women and elderly people more employment opportunities



NTT Com CHEO conducts training and certification testing related to the configuration and use of computers and the Internet. People who have achieved ICT skills certification are hired as CAVA (.com Advisor & Valuable Agent) staff who work as home-based call center staff for Internet service providers (ISPs).

NTT Com CHEO is currently introducing home-based online training and other means to provide nationwide training opportunities, and by the end of fiscal 2011, CAVA staff numbers had reached almost 2,000. NTT Com CHEO is endeavoring to create new employment opportunities and uncover latent manpower, including retirees and women who have had to give up working to raise children or look after family members in need of care. In fiscal 2011, it focused in particular on providing opportunities for single parents, including fathers, to balance work with childrearing by training them as CAVA home-based telephone support staff.

NTT Com CHEO was also commissioned by Nago City Local Employment Creation Committee to implement an ICT industry human resources training project selected for funding under the Ministry of Health, Labour and Welfare's Regional Employment Development Project. It has been providing job seekers in Nago with ICT skills training, certification, and support for employment as teleworkers since September 2009, and will continue to participate in such projects to help create regional employment opportunities and contribute to regional economic development.

Involvement and cooperation in public policy

Initiatives to eliminate digital divides

Development of Hikari Life Support remote operation support services



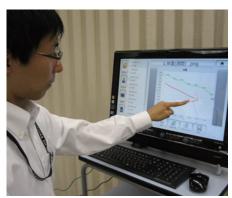
NTT Cyber Solutions Laboratory Group has developed Hikari Life Support as a technology for enabling people who are unfamiliar with ICT to utilize various ICT-based home support services.

This technology enables the use of voice/video/text and other PC data output just through the use of a familiar phone number. Direct connection through a telephone number also ensures tight security, providing peace of mind when using services that handle personal data.

For example, senior citizens can receive health checks and advice without having to go through any difficult operations simply through calling a health advice center by phone, and then leaving it to the health center to display desired information on the PC screen and carry out other operations.

The same technology can also be used to augment voicebased explanations with video and other visuals when calling direct sales product description services or product support centers for help with settings or malfunctions.

We will continue research aimed at making various smart home appliances even easier to use through integrating them with ICT services.



Showing each other materials and adding comments to them directly while communicating by voice

Responding to calls regarding poor reception within 48 hours whenever possible

döcomo

NTT DOCOMO now responds nationwide to customers calling its toll-free customer support services (113 from mobile phones) or the Kikasete FOMA online service regarding poor signal reception by sending someone to investigate the matter whenever possible within 48 hours.

On such visits, engineers endeavor to remedy indoor reception problems by installing an indoor auxiliary antenna or FOMA repeater. When immediate improvements are not possible, DOCOMO keeps the customer informed about plans to augment base stations or implement other improvement measures, and the results of improvements that have been made.

NTT DOCOMO will continue to make every effort to improve reception and provide its customers with the best possible communications environment.

Communication between people and the global environment

Dialogue 2 Reducing environmental impacts

Building a low carbon society, and securing a stable energy supply: The ever-increasing importance of ICT, and rising expectations for R&D

Matsuoka: In November last year, the NTT Group announced THE GREEN VISION 2020, its vision for the environment up to 2020 that focuses on the three themes of creating a low carbon society, implementing closed loop recycling, and conserving biodiversity. In line with this vision, NTT laboratories have chosen the common slogan of Green of/by ICT (reducing CO₂ emissions), Green of/by Materials (reducing resource consumption), and Governance by Green (environmental management) to guide our R&D activities aimed at reducing environmental impacts.

Matsuno: I have been conducting research in life cycle assessment¹ now for 15 years, and since 2001, I've also been studying mechanisms for implementing closed loop recycling. As such, the three themes chosen by the NTT Group are of tremendous interest to me too.

Matsuoka: University of Tokyo Professor Emeritus Yoshio Tsukio says that of the three revolutions — agricultural, industrial, and ICT — brought about by humanity, the first two engendered

environmental impacts that rose in tandem with GDP, whereas the ICT revolution has not had such effects. Moreover, all kinds of activities that boost GDP also generate CO₂ emissions, but the ICT industry's share of those emissions is below 2%. ICT is also contributing to raising productivity and saving energy in the industries producing the remaining 98% of emissions. To me, this suggests that increasing use of ICT across society as a whole could boost GDP and enhance quality of life while reducing environmental impacts.

Matsuno: In a recent panel discussion, I said much the same thing — that ICT could suppress global warming. I'd be interested to hear about what kind of research is being carried out at NTT labs. Matsuoka: Where energy saving is concerned, for example, we're developing more energy efficient optical network units to provide our customers with. Tens of millions of our customers use such devices, and so engineering even a small reduction in energy consumption translates into a big overall electricity saving.





1. Life cycle assessment (LCA)

A technique to assess environmental impacts associated with all the stages of a product's life from raw material extraction through manufacture, distribution, sale, use, and disposal or recycling

2. Aisle capping

Airflow control technology for physically separating cool air supply to ICT devices from the warm air exiting them so as to boost air conditioning efficiency

Matsuno: How about equipment on your side? The growth of cloud computing has helped consumers save electricity, but providers have to shoulder data center power consumption. Matsuoka: You're absolutely right, and that's why we're focusing on energy saving. Air conditioning accounts for about 40% of our total energy consumption, and so we're working on technologies such as aisle capping² to physically separate cool and warm air flows, and control technology for integrating air conditioning with servers to dynamically fine-tune it according to server operation for optimum energy saving. We've also achieved an energy saving of about 15% by switching power supply feeds from AC to high voltage DC power supply systems. For our ICT devices too, we've achieved 30–60% energy reductions by using virtualization technology. We're now developing low-impact data centers that combine all of these technologies. Our next-generation network (NGN) also cuts power consumption markedly by integrating voice (phone), data (Internet), and video distribution networks into one network

Matsuno: Some people say that this focus on saving energy will have the effect of reducing GDP, leading to the decline of Japanese industry, but ICT is the one field that can raise GDP while lowering environmental impacts. This is very much in line with the life cycle approach that I'm trying to popularize, and so I'd like to see the NTT Group aggressively tout the benefits of ICT. Biodiversity is another area in which ICT can be very useful, isn't it?

CO₂ emissions are easy to quantify, but when it comes to biodiversity, you're talking about millions, or even tens of millions of genes, and creating databases of them for research purposes couldn't be done without ICT. It would be great if the NTT Group were to build the infrastructure required for such endeavors.

Matsuoka: From the perspective of ICT benefits, I think that smart grids that enable the visualization and optimization of electricity consumption have a major role to play. Particularly since the Great East Japan Earthquake, smart grid-based distributed power generation is also becoming a very hot topic because of the way that it could support business continuity.

Matsuno: The disaster served to remind us all about the danger of putting all of our eggs in one basket. Deconcentrating facilities as much as possible and creating smart local networks is, I think, going to be an important part of efforts to support Japan's infrastructure. The NTT Group is leveraging cutting edge R&D to actively implement environmental initiatives directed at both the creation of a low carbon society and the stable supply of energy, and I hope it continues to pursue those goals, if possible with a vision that takes it beyond 2020 and right up to 2050.

See the following website for the detailed dialogue: http://www.ntt.co.jp/csr/portal/dialog/ (in Japanese only)



Environmental management

O Basic policies and management system

Establishing a shared Group charter and vision



In 1999, the NTT Group drew up its NTT Group Global Environmental Charter to formally define basic principles and policies for protecting the environment. Based on the fundamental principle that our business activities need to be compatible with protecting the environment, this Environmental Charter emphasizes the importance of combating global warming and reducing waste and paper consumption, and established a set of targets for these priority activities to be achieved by fiscal 2011. In May 2006, we drew up the NTT Group Vision for Environmental Contribution, and based on the fundamental principle of contributing to reducing environmental impacts through providing ICT services, implemented various activities aimed at achieving our CO₂ reduction target for fiscal 2011. In November 2010, having met all of the above fiscal 2011 targets, we added the conservation of biodiversity as a basic policy to our Global Environmental Charter and drew up THE GREEN VISION 2020 as our new vision for the environment up to fiscal 2021.

Formulation and operation of proprietary green guidelines



NTT Group operations have the following three key attributes: (1) procurement of a great many products; (2) in-house R&D facilities; (3) possession of many buildings. To promote the effective reduction of our environmental impacts, we have drafted green guidelines that address each of these three key attributes. NTT and its group companies apply these guidelines to their business activities.

Environmental management



In fiscal 2006, the NTT Group established a CSR Committee charged with overseeing groupwide CSR activities, and brought the NTT Group Global Environmental Protection Promotion Committee, which drives group environmental protection activities, under the CSR Committee's jurisdiction.

The Global Environmental Protection Promotion Committee oversees the Greenhouse Gases Reduction, Waste Disposal and Recycling, and Environment and ICT subcommittees, directs groupwide projects implemented as occasion demands, formulates basic policies, manages targets, and addresses any issues that emerge.

With the addition of the conservation of biodiversity as a basic policy to the NTT Group Global Environmental Charter, we established a new Biodiversity Working Group in fiscal 2011.

NTT Group Global Environmental Charter

Basic principle

To ensure the harmonious co-existence of people with nature and to achieve sustainable growth, we will do our utmost to protect the global environment in all our corporate activities.

Basic policies

- Compliance with laws and regulations and fulfillment of social responsibilities
- Reducing environmental loads
 Establishing and maintaining environmental management systems
- Developing environmental technologies
- Social contribution efforts
- Disclosure of
- environmental information Conservation of biodiversity

NTT Group Vision for Environmental Contribution

The NTT Group is helping to reduce the environmental impacts of its customers and society as a whole by developing and disseminating ubiquitous broadband-based ICT services that promote positive changes in lifestyles and business models.

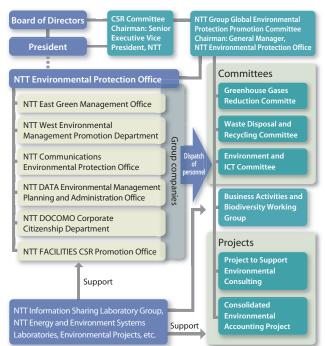
Reduction target for fiscal 2011

[Reductions in CO₂ emissions as a result of ICT services] – [CO₂ emissions from providing ICT services] = [10 million ton reduction in CO_2 emissions]

Activities for achieving our targets for fiscal 2011

- 1. Increase subscriber base for optical fiber services that enable lower impact lifestyles and business models.
- 2. Expand ubiquitous broadband services.
- 3. Reduce the environmental impacts of our business activities.
- 4. Reduce the electrical power required by customers' communications equipment.

The NTT Group organization for promoting environmental protection



Environmental impacts overview

Environmental impacts overview



To minimize the environmental impacts of its business activities, the NTT Group endeavors to gather and analyze information on the resources and energy that it consumes, the processes involved in that consumption, and the resulting environmental impacts.

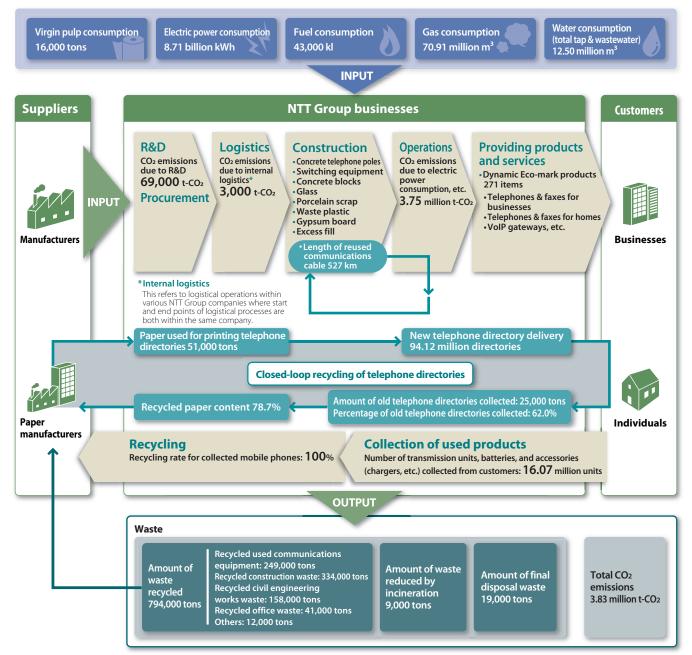
The NTT Group endeavors to reduce its environmental footprint by quantitatively monitoring the environmental impacts of all processes of

its business activities on a continuous basis, and by setting itself concrete numerical targets for the three priority activities of mitigating global warming, reducing waste, and reducing paper consumption.

Of the 3.83 million tons of CO_2 emissions generated by the NTT Group in fiscal 2011, 3.75 million tons (approximately 98%) were derived from business operation-related electricity consumption.

Of the 822,000 tons of waste generated, 794,000 tons (approximately 96%) were recycled, and the remainder was incinerated, resulting in a reduction of 9,000 tons to leave 19,000 tons of final disposal waste.

Each year, the NTT Group issues 94.12 million telephone directories throughout Japan, which translates into 51,000 tons of paper, equivalent to approximately 0.2% of the total amount of paper used in Japan. Of those 51,000 tons, 16,000 tons are from virgin pulp.

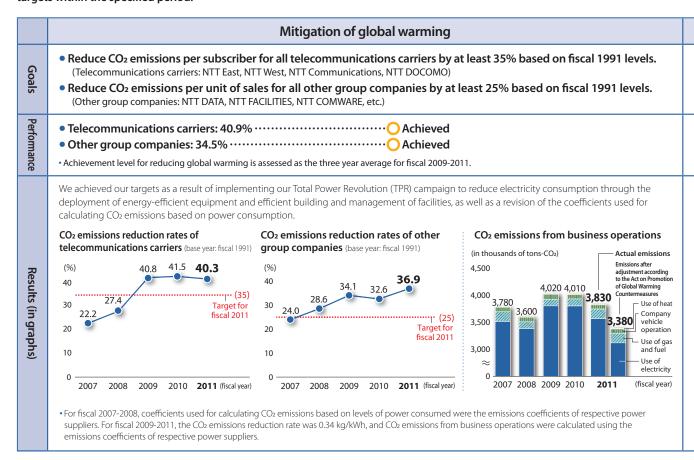


Environmental management

O Fiscal 2011 targets, results, and assessments

Achieving the NTT Group Principal Activity Plan Targets

Based on the NTT Group Global Environmental Charter, the NTT Group set itself targets to be reached by the end of fiscal 2011 in the three priority activities of mitigating global warming, reducing waste, and reducing paper consumption, and achieved all of those targets within the specified period.

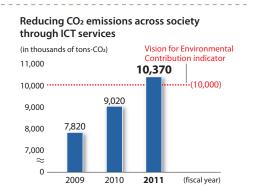


Achieving the NTT Group Vision for Environmental Contribution

Providing ICT services that help to reduce environmental impacts across society as a whole

Contributing to CO₂ reductions of 10.37 million tons across society

Under the NTT Group Vision for Environmental Contribution that we drew up in fiscal 2007, we set ourselves the target of reducing CO_2 emissions across society by 10 million tons per year through providing ICT services, and have since been working to achieve this target. With the increasing growth in use of ICT services, we were able to help reduce CO_2 emissions across society as a whole in fiscal 2011, the last year of the Vision for Environmental Contribution, by 10.37 million tons.



Waste reduction	Reduction in paper use
 Reduce amount of final disposal waste* to no more than 15% (72 thousand tons) of fiscal 1991 levels. 	 Reduce consumption of virgin pulp to no more than 80% (84 thousand tons) of fiscal 1991 levels.
• Final disposal waste: 4.0% (19 thousand tons) Achieved	• Total of virgin pulp consumption: 15.0% (16 thousand tons) Achieved
Waste output is increasing with increasing deployment of IP-related equipment and mobile phone base stations and the demolition of buildings, but as a result of recycling and reuse, we have managed to keep final disposal waste at a low level, and reached our target.	As a result of initiatives such as our system for recycling old telephone directories to produce new directories, and e-billing services for providing digital statements, we have reduced our paper consumption and boosted the recycled paper content of the pulp we use, thus reaching reduction targets.
Waste output and final disposal waste (in thousands of tons) 500 479 Office waste Civil engineering work 782 Construction work 679 100 Communications facilities Target for fiscal 2011 100 100 100 100 100 100 100	Virgin pulp consumption (in thousands of tons) 105 100 Telegrams Target for fiscal 2011 (84) 80 35 32 29 25 19 16 Billing statements Office paper Telephone directories directories

>>> The NTT Group's new vision for the environment up to fiscal 2021

THE GREEN VISION 2020



In November 2010, we formulated THE GREEN VISION 2020, our new NTT Group vision for the environment. Under this vision, we decided to focus our efforts on the three themes of creating a low carbon society, implementing closed loop recycling, and conserving biodiversity, driving those efforts through the three approaches of "Green of ICT", "Green by ICT", and "Green with Team NTT". Particularly with regard to creating a low carbon society, we are focusing both on reducing CO₂ emissions from our own business activities and on contributing to the reduction of CO₂ emissions of society as a whole through promoting the increasing utilization of ICT services.

All employees of the NTT Group are working as one to contribute to the sustainable development of society through achieving the goals of our new vision for the environment.

Creating a low carbon society

O Green of ICT

Groupwide TPR campaign to reduce electricity consumption

NTTGroup

Over 90% of the CO₂ emissions created by NTT Group business operations are attributable to office and communications equipment power consumption. The NTT Group accordingly created a groupwide energy conservation strategy called Total Power Revolution (TPR) in October 1997 to reduce its power consumption.

By promoting efficient energy management at buildings owned by NTT, installing energy-efficient electrical power units and air conditioning systems, and switching to energy-saving DC power supply for broadband equipment, we managed to reduce power consumption across the NTT Group by 265 million kWh in fiscal 2011 compared with fiscal 2010.

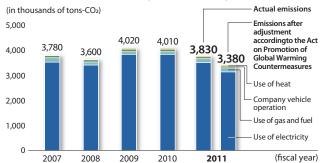
CO₂ emissions reduction rates of telecommunications carriers (as on p. 49)



CO₂ emissions reduction rates of other group companies (as on p. 49)



CO₂ emissions from business operations (as on p. 49)



• For fiscal 2007-2008, coefficients used for calculating CO₂ emissions based on levels of power consumed were the emissions coefficients of respective power suppliers. For fiscal 2009-2011, the CO₂ emissions reduction rate was 0.34 kg/kWh, and CO₂ emissions from business operations were calculated using the emissions coefficients of respective power suppliers.

Promoting Green NTT to expand solar power system deployment

NTT Group

The NTT Group has been implementing its Green NTT plan to promote the use of eco-friendly renewable energy since May 2008. The goal of the plan is to expand our use of solar power, which could be seen as a key symbol of the low carbon society. Our target is to deploy a total of 5 MW of solar power systems over the whole Group by fiscal 2013.

In August 2008, we established NTT-Green LLP, a limited liability partnership charged with the task of driving the Green NTT plan. NTT-Green LLP is pushing ahead with the efficient installation of solar power systems in premises owned by group companies, and by investing and participating in NTT-Green LLP, group companies can contribute to the spread of renewable energy use. NTT-Green LLP also issues Green Power Certificates according to the amount of power generated with the approval of the third party certification authority to investing companies in line with the amount invested. This is the first environmental project undertaken by a business group LLP in Japan that combines the deployment of solar power systems with the issue of Green Power Certificates.

In fiscal 2011, three new solar power generation facilities were added to the Group's stock, and went into operation. The five facilities installed since fiscal 2010 generate a total of approx. 1.1 MW of power. These combined with systems deployed by individual companies brought the total number of NTT Group systems in operation nationwide to about 160 as of the end of fiscal 2011, with a total generating capacity of about 3.8 MW.

Moving forward, we will endeavor to continue to play a leadership role in contributing to the creation of a low carbon society through the expansion of renewable energy generation in Japan.



Nagoya Logistics Center

Development of low-power LSI technology for next-generation high-speed, high-capacity communications systems



To cater to ever-increasing network traffic, we are conducting research on 10 Gbit/s Ethernet Passive Optical Network (10G-EPON) next-generation optical access systems that provide 10 times the speed of current mainstream 1 Gbps (GE-PON) systems.

NTT Microsystem Integration Laboratories has developed the world's first large-scale integrated (LSI) chipset for this next-generation optical access system by integrating all of the functions of optical line terminals (OLTs), the devices used on the exchange side, and optical network units (ONUs), the devices used on the customer side, respectively on single chips. One of the key challenges in developing these LSIs was to curb power consumption while at the same time boosting transmission speeds by a factor of 10. NTT MIL succeeded in packaging a feature that reduces power consumption without sacrificing usability by enabling most LSI operations to turn off automatically when network devices are not in use, and boot instantly when required.

NTT MIL also enabled the OLT LSI to communicate simultaneously with both GE-PON (1Gbps) and the next generation 10G-EPON ONUs, thus enabling a smooth transition from the network devices currently in use to the next generation of devices. Since customers continuing to use their current service will accordingly be able to use the same communications devices, this represents an eco-friendly innovation in terms of hardware renewal.

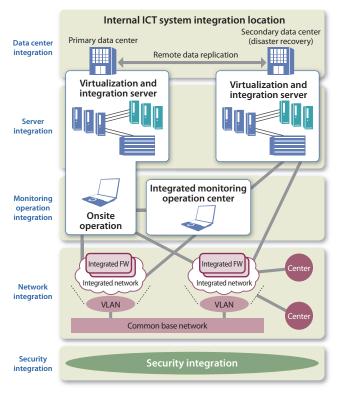
Reducing the environmental impacts of company ICT infrastructure through server virtualization and integration



NTT Communications is reducing environmental impacts as well as cutting operation costs and boosting business continuity by integrating the company ICT infrastructure that underpins its services and using server virtualization technology to create a private cloud.

Starting in fiscal 2010, it had by July 2010 consolidated 94 physical servers into just eight, a reduction of approx. 90%. This integration resulted in a reduction in electricity consumption of about 50% by the end of fiscal 2011 compared with end of fiscal 2010. NTT Communications plans to implement this measure globally, expanding its environmental protection initiatives alongside growth of its global business.

Overview of ICT infrastructure integration



Creating a low carbon society

O Green by ICT

ITU-T initiatives for the international standardization of environmental assessment methodology

NTT Group

Utilization of ICT holds promise for reducing energy consumption and CO_2 emissions across society by boosting the efficiency of production activities, reducing the movement of people and goods, and other means.

However, enabling ICT utilization to contribute to the solution of global environmental problems, and leveraging ICT to breathe new life into the global environmental solution business requires that the environmental impacts and benefits of ICT can be compared quantitatively with the same yardstick, which means that the international standardization of methodology for assessing the environmental impacts of ICT is of vital importance.

Based on this awareness, the NTT Group is actively involved in efforts to standardize environmental impact assessment methodology within ITU-T*. In February 2011, ITU-T issued its recommendations for a basic framework for environmental impact assessment methodology with respect to ICT.

Moving forward, we will continue to work proactively for the standardization of environmental impact assessment methodology for ICT devices, networks, and services so as to enable businesses providing or deploying ICT products and services to assess those products and services not only from performance and price perspectives, but also from the environmental perspective using new assessment indicators such as effectiveness in reducing CO₂ emissions.

*ITU-T (International Telecommunication Union Telecommunication Standardization Sector)

A department of the International Telecommunication Union (ITU), a United Nations agency that makes policy recommendations for developing international standards in telecommunications. Japan has participated in the ITU as a Council Member since 1959.

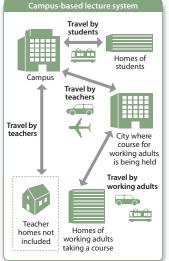
Testing the CO₂ emissions reduction benefits of a knowledge sharing system that leverages visuals

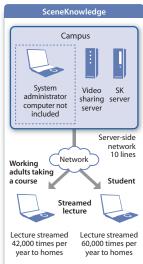


SceneKnowledge, a video-based knowledge sharing system developed by NTT Cyber Space Laboratories, is designed to promote the discovery and sharing of knowledge and skills contained in videos by dividing them into short sections for easy handling, and providing them as a video bulletin board to users. Accessible from both PCs and mobile phones, SceneKnowledge can be used to share knowledge broadly throughout society, and would be useful for breathing new life into communities and as an aid to lifelong learning.

By enabling distance learning, SceneKnowledge could also reduce CO₂ emissions related to travel by teachers and students compared to traditional campus-based group learning. A quantitative evaluation carried out in 2010 demonstrated the possibility for reducing CO₂ emissions by 72%.

Comparison of SceneKnowledge with traditional campus-based lecture system





Promoting the deployment and spread of high voltage DC power supply technologies

NTT Group

Switching from conventional alternating current (AC) power supply to high voltage direct current (DC) power supply is seen as a promising way to reduce power consumption in ICT fields.

High voltage DC power supply reduces the number of conversion stages from AC to DC power, thus reducing the losses involved in such power conversion, and enabling a reduction of about 15% in power consumption compared with AC power supply. It also helps to boost reliability by reducing failure rates, since it can be supplied to devices directly from batteries.

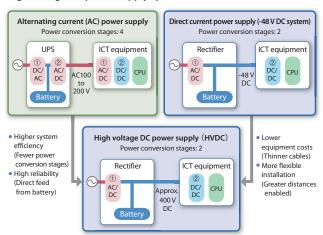
Because of these benefits, the NTT Group is making groupwide efforts to promote the deployment and spread of DC power supply systems, and has been conducting research in the use of such systems to create greener data centers.

NTT DATA field-tested high voltage DC power systems from January 29 to October 30, 2009 with the aim of boosting the energy efficiency of its data centers, and succeeded in reducing the total electricity consumed by its power supply and air conditioning systems and IT equipment by approx. 18% compared with AC power supply.

In fiscal 2011, NTT East, NTT Energy and Environment Systems Laboratories, and NTT FACILITIES were commissioned by the Ministry of Internal Affairs and Communications to conduct field experiments on the effectiveness of high voltage DC power supply using working equipment, and conducted experiments in NTT East's data centers in Tokyo. In addition to demonstrating energy savings of about 15%, the experiments also yielded excellent results with respect to reliability and stability. The results of these experiments will be used as core data by the Ministry in a proposal to be submitted as Japan's contribution to an international standardization organization with the aim of winning worldwide recognition for Japanese power supply systems and expanding the global market.

Based on the above achievements, in fiscal 2011, we pressed ahead with the groupwide commercialization of high voltage DC power supply systems. These power supply systems are already available as products, and in March 2011, were deployed in two NTT R&D Centers. We will continue to work for the further deployment of these systems.

High voltage DC power supply system



Developing solar chargers that make effective use of renewable energy

döcomo

Protecting the environment has become an issue faced by everyone in society, and there is growing demand among purchasers of mobile phones for more eco-friendly products. NTT DOCOMO has sought to address these demands by developing chargers equipped with solar panels, and in February 2011 released FOMA eco Solar Panel 01, a high-efficiency solar charger.

This charger is capable of recharging a mobile phone in about 4 to 5 hours in fine weather*, and is ideal for usage outdoors where grid power supply is unavailable, and as disaster readiness equipment. It can also be used to recharge a phone at night by attaching and charging an auxiliary power storage adapter during the day. This product enables customers to help reduce CO₂ emissions and protect the environment without any extra effort. NTT DOCOMO will continue to look for ways of helping to protect the environment in a big way through providing as many customers as possible with opportunities for doing a little for the environment through its offerings.

* Actual recharging time may vary considerably depending on model, season, sunlight intensity, and ambient temperature.



FOMA eco Solar Panel 01

Creating a low carbon society

EV Car Sharing Eco Project field testing launched



Seven NTT Group companies* are participating in the EV Car Sharing Eco Project, a field experiment to test the sharing of electric cars based on the electric car sharing service provided by Nippon Car Solutions Co., Ltd. (NCS).

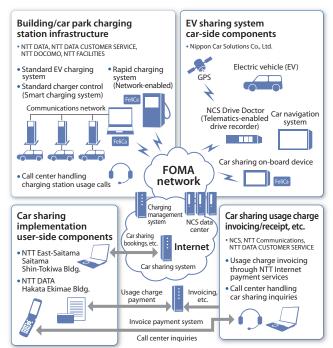
For this experiment, which will run for two years from March 2011, the participating group companies have installed NCS chargers equipped with user authentication functions in their facilities, and are operating an EV sharing service between themselves to test the business feasibility of such a service and acquire expertise in EVs and peripheral infrastructure deployment.

We hope to contribute to the creation of a low carbon society by helping to drive the spread of EV sharing services through this experiment.

*Seven NTT Group companies

NTT, NTT DATA, Nippon Car Solutions Co., Ltd., NTT DATA CUSTOMER SERVICE, NTT DOCOMO, NTT FACILITIES, NTT Communications

NTT Group company EV sharing field experiment



Participating in the creation of an industrywide framework for reducing data center power consumption



NTT DATA is participating actively in both domestic and international efforts to draw up industry standards, guidelines, metrics, and other tools aimed at the industry-wide curbing of data center power consumption.

On the global front, in December 2007, NTT DATA joined The Green Grid, a non-profit consortium based in Oregon, USA that is dedicated to improving the resource efficiency of data centers throughout the world.

Domestically, in February 2008, NTT DATA joined the Green IT Promotion Council, an organization established by the Ministry of Economy, Trade and Industry and members of Japan's IT industry. The Green IT Promotion Council is committed to achieving a balance between environmental protection and economic growth by creating a framework for promoting IT energy efficiency and IT-driven energy saving.

In recent years, demand is growing for the replacement of power usage effectiveness (PUE)* with a new data center efficiency metric, and NTT DATA spearheads efforts in this direction in Japan as head of the Data Center Efficiency Benchmark Working Group under the Council's Survey & Evaluation Committee.

In fiscal 2011, the Green IT Promotion Council held meetings with representatives of American and European counterparts to propose the adoption of Datacenter Performance Per Energy (DPPE) as a new energy efficiency metric, and otherwise contribute to the creation of a global standard.

As a member also of The Green Grid, NTT DATA will continue its efforts to cooperate with governments and other bodies dedicated to energy efficiency in the USA and Europe to build international consensus and cooperation for the establishment of a new global standard.

*PUE (Power Usage Effectiveness)

A metric for expressing the energy efficiency of data centers and server rooms, calculated by dividing the power consumed by the facility as a whole by the power consumed by the servers and other IT equipment housed in the facility

O Green with Team NTT

Greening the rooftops of 86 buildings throughout Japan

NTT Group

Rooftop greening not only adds to scenery, but also delivers a range of environmental benefits, including purifying air through absorbing CO₂ and releasing oxygen. Vegetation can also help to mitigate temperature increase and heat island effects through plant transpiration, and reduce air conditioning power consumption through its insulating effect, keeping temperatures down over the whole building.

Aware of these benefits, the NTT Group is actively greening the rooftops of group company office buildings, data centers, telecommunications buildings, and other facilities. By the end of fiscal 2011, 86 buildings had rooftops greened by a diversity of plants including sweet potato, bitter gourd, cucumber, morning glory, loofah, bell pepper, pansy, rape, azalea, Japanese zelkova, and lawn grass.

For example, at its Urbannet Mita Building in Tokyo's Minato Ward, NTT Urban Development is growing sweet potatoes using an aero-hydroponic system*, and bitter gourds as wall greenery using special bags of soil mixed with fertilizer, as well as conducting experiments in sweet potato and pumpkin cultivation. It also started beekeeping in fiscal 2011 to test the effectiveness of natural pollination by honeybees.

NTT West Kansai Regional Headquarters has also planted colorful flower beds at its five Kyoto buildings to match surrounding scenery, and grows bitter gourds that it harvests to serve at social events, etc.

*Aero-hydroponic system Liquid fertilizer is circulated through the cultivation unit.



Sweet potato plants grown using an aero-hydroponic system

Observing Cool Biz and Warm Biz dress codes

NTT Group

NTT Group companies observe Cool Biz and Warm Biz dress codes in summer and winter respectively as part of their global warming mitigation efforts that involve their employees.

The Cool Biz dress code does away with neckties and jackets in the workplace during summer, with air conditioning set at 28°C to reduce summertime electricity consumption. Almost all major group companies implemented Cool Biz for a longer period in fiscal 2011, with the longest extending from May 1 to October 31.

Group companies also observed the Warm Biz dress code in winter to curb electricity consumption by heaters.

In fiscal 2012, some NTT Group companies started observing Super Cool Biz, a summer dress code that allows even lighter and more casual clothing to bring about even greater power savings over the summer months.



Cool Biz poster (NTT West)



Warm Biz poster (NTT West)

Implementing closed loop recycling

O Green of ICT

Reusing and recycling waste from communications equipment installation/removal

NTT Group

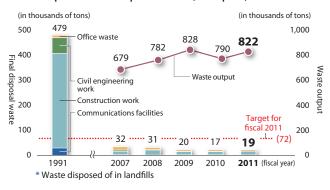
The NTT Group owns a variety of communications equipment including telephone poles, switching equipment, and communications cables. Such equipment needs to be removed and disposed of when it reaches the end of its service life or is replaced during system upgrades for new services and so forth. We promote the reuse and recycling of such removed communications equipment within the Group, and recycle whenever possible, for example recycling discarded concrete blocks as road building material.

For fiscal 2011, across the entire NTT Group, we recycled 181,000 tons of concrete telephone poles, 21,000 tons of switching equipment, and 21,000 tons of communications cables. These activities resulted in a recycling rate of 99.9% for all of our communications equipment, achieving zero emissions* for the seventh consecutive year.

*Zero emissions

A concept proposed by the United Nations University that calls for reusing all waste materials and by-products from industrial activity as resource inputs for other types of production in order to eliminate waste on a life cycle basis. The NTT Group considers a final disposal rate of 1% or less to satisfy zero emissions conditions.

Waste output and final disposal waste* (as on p. 50)



Establishing closed-loop recycling by collecting and reusing telephone directories

NTTGroup

The NTT Group uses large quantities of paper resources to manufacture telephone directories. It accordingly started in 1999 to implement the more effective use of those paper resources through closed-loop recycling that involved collecting old directories for processing into paper to be used to make new directories.

We are also endeavoring to reduce our paper consumption through double-side printing of office paper, e-billing, and other measures

Recycling mobile phones

döcomo

Containing gold, silver copper, palladium and other metals, mobile phones could be regarded as a valuable recycling resource in Japan with its paucity of mineral resources.

NTT DOCOMO has collected and recycled used mobile phones since 1998, and in 2001 partnered with the Telecommunications Carriers Association to build the Mobile Recycle Network to collect mobile handsets irrespective of carrier. In fiscal 2011 it collected 4.09 million handsets, making for a cumulative total of 76.64 million.

DOCOMO displays used phone collection stickers in docomo Shops that explain at a glance how phones are crushed in the presence of the customer to protect personal information, and advertises the service at events to further promote and enhance these efforts

The number of phones collected is growing every year, but to further boost awareness of mobile phone recycling, DOCOMO will continue these efforts and also participate actively in various events.



Used phone collection stickers

O Green by ICT

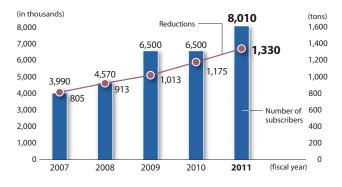
Saving paper resources required for billing statements by providing Internet billing services

NTT Group

The NTT Group reduces its consumption of paper resources by providing customers who pay by bank transfer with Internet billing services that enable them to check billing statements through Internet, e-mail, and mobile phones.

In fiscal 2011, subscriptions to these services reached approximately 8.01 million, reducing our paper consumption by approximately 1,330 tons per year.

Paper consumption reductions from NTT Internet billing services



Research on techniques for analyzing telecommunications business resource utilization

NTT Group

Quantitatively monitoring and analyzing resource flow (input, accumulation, output) and using the information gained as basic data is an important aspect of reducing resource consumption and the waste generated by business activities. However, unlike manufacturing industries, which procure raw materials directly and can thus easily monitor resource input, non-manufacturing industries such as telecommunications, which procure readymade equipment rather than raw materials, are unable to monitor resource input on a raw material basis.

NTT Energy and Environment Systems Laboratories has accordingly been studying resource utilization by telecommunications companies. NTT EESL is currently researching both top-down and bottom-up techniques for analyzing resource input, using various management data for the former, and data on resources contained in procured items for the latter. The results of its calculations for the top-down approach are featured in NTT East and NTT West's CSR reports.

Recycling PCs after deleting data

ONTTEAST ONTTWEST

The NTT East Group's NTT-ME and NTT West Group's NTT-Neomeit have been offering an IT Equipment Collection Service since July 2002 to recycle PCs that companies no longer have need of. After completely deleting data stored on internal computer hard disks, the computers are purchased as used computers and reused as commercial products, helping to prevent information leaks, reduce waste, and cut disposal costs.

The tightest security measures are applied to data deletion, including smartcard-based data deletion center entry and exit management, and real-time video display of the data deletion process to customers through webcams located inside the center.

In fiscal 2011, a total of 74,479 PCs, etc. (NTT East: 32,600, NTT West: 41,879) were collected. In fiscal 2012, data deletion center entry and exit management will be enhanced through webcam monitoring and vein authentication to ensure even tighter security.

Implementing closed loop recycling

O Green with Team NTT

Collection of PET bottle plastic caps for the Ecocap Movement

NTT Group

The NTT Group is participating across its organization in the Ecocap Movement, a non-profit organization that reduces CO₂ emissions from waste incineration by collecting plastic bottle caps to sell to recycling contractors, and uses part of its income from sales to provide vaccinations for children in developing countries. Every kilogram of caps (approx. 400) represents a CO₂ emissions reduction of 3.15 kg, and generates profits of ¥15, of which ¥10 is donated towards the purchase of vaccinations.

Group companies have participated in the Ecocap Movement since fiscal 2009. Our collection target for fiscal 2011 was 20 million caps, but as a result of active campaigning, we succeeded in collecting 27.75 million caps, representing emissions reductions of 219 t-CO₂ and vaccinations for 34,687 children.



Ecocap collection box designed to show at a glance how many caps have been collected

Eliminating use of disposable chopsticks in company dining halls and plastic shopping bags at kiosks



To reduce the amount of waste generated by its employees in everyday life, the NTT Group is endeavoring to eliminate the use of disposable chopsticks in company dining halls by using washable chopsticks, and plastic shopping bags at company kiosks by encouraging employees to bring their own bags.

These initiatives are currently being implemented at 321 dining halls and 64 kiosks. We will continue our efforts to encourage the operators of remaining sites to follow suit.

Conserving biodiversity

Basic philosophy

Formulating specific policies for biodiversity

NTT Group

Global efforts are underway to address the rapid worldwide decline in biodiversity, and in October 2010, the tenth meeting of the Conference of the Parties on the Convention of Biological Diversity (COP 10) was held in Nagoya.

NTT Group companies have implemented a range of initiatives to conserve biodiversity at their sites and surrounding communities. To further promote these efforts across the Group, in November 2010, we added the conservation of biodiversity as a basic policy to our NTT Group Global Environmental Charter, and drew up specific policies as the NTT Group for conserving biodiversity.

Based on these policies, group companies will research and analyze the impact of their business activities on biodiversity, and utilize their findings to examine and further develop current effort.

The NTT Group's policies for biodiversity

Implementation based on business activities

Recognizing the close ties between human activities and biodiversity, we will monitor the scope and impact of our business activities both in Japan and overseas according to their features. and implement initiatives shown to benefit the conservation of biodiversity on a sustained basis.

Implementation based on social contribution

We will work with stakeholders to broadly implement initiatives for conserving biodiversity irrespective of their relevance to our business, and report the results of these efforts.

O Green of ICT

Chemical risk assessment



NTT Science and Core Technology Laboratory Group has made it one of its environmental policies to evaluate the environmental impact of its R&D activities, and establish and maintain environmental objectives and targets within the bounds of technical and economic viability.

Based on this policy, NTT SCTLG has formulated an environmental management system under the ISO 14001 certification that it obtained in 1999, and is implementing continuous improvements through regular internal and external audits and management reviews. In recognition of this system and activities, NTT SCTLG, which is located in Kanagawa Prefecture, received designation as an environmental management site in February 2000 under Kanagawa Prefecture's Ordinance on Conservation of Living Environment.

NTT SCTLG's key environmental impacts include the use of chemicals, generation of wastewater, gas emissions, and waste products, and consumption of electricity by the air-conditioning systems of the clean rooms that it uses for research.

To monitor and assess these environmental impacts, NTT SCTLG conducts regular environmental surveys of air, rainwater/ groundwater, odors, soil, noise and vibration, as well as round-theclock monitoring of water quality and other items. It also endeavors to prevent contamination by setting voluntary limits that are more rigorous than legally mandated limits. In the soil and odor surveys that it conducted in fiscal 2011, all results were within both mandatory and voluntary limits. In fiscal 2012, it will conduct an air quality survey.

NTT SCTLG also conducts yearly chemical risk assessments based on Kanagawa Prefecture's assessment list to monitor the quantity and toxicity of chemical emissions. The results for fiscal 2011 placed it in the low risk class, requiring no prompt action to reduce risks, but it will continue to conduct risk assessments to maintain its low risk status.



Odor survey



Soil survey

Conserving biodiversity

Designing submarine cable laying routes to minimize impact on coral reefs



NTT Communications endeavors to minimize impacts on the marine natural environment of shallow coastal areas when planning routes for the laying of submarine cables.

For example, we endeavor to protect coral reefs and the creatures living within and around them by carrying out detailed assessments in areas of coral to develop plans that enable us to avoid the coral colonies as we lay cables. In the Inland Sea, where the majority of the marine area is designated as a national park, we work with the relevant government agencies and local authorities to develop careful plans before laying cables.

Also, when cable-laying ships raise their anchors, there is a risk of marine organisms being brought up with anchors and transplanted to other areas where they could disrupt the local ecosystem. To prevent this from happening, NTT Communications ensures that anchors and anchor pockets are cleaned meticulously.

O Green by ICT

Utilizing ICT devices to support the survey of aquatic organisms

NTTEAST

NTT East's Iwate Branch Group is promoting local environmental activities and nurturing environmental awareness among children by supporting the survey of aquatic organisms as part of its environmental training.

This surveying involves the collection of data on aquatic organisms dwelling in local rivers to use as indicators of water quality under an initiative launched in 1984 by the Ministry of the Environment that called for the participation of people throughout the country.

Branch group employees are currently utilizing microscopes, PCs, and other ICT devices to support this surveying alongside elementary and junior high school students in Iwate Prefecture. The branch group supported the activities of two schools in fiscal 2011, and was commended for having helped to communicate the importance of nature and its wealth in their hometown to the children.



Surveying aquatic organisms

Protecting birthwort and Chinese Windmill habitat

NTTFACILITIES

Kochi Prefecture boasts a natural area where both birthwort (Aristolochia debilis), a Class II endangered species in the prefecture's Red Data Book, and Chinese Windmill (Atrophaneura alcinous), a blackish swallowtail butterfly whose larvae feed on birthwort, are particularly plentiful.

This area was part of a stretch of land that NTT FACILITIES was in the process of selling, and in 2008, when it was relocating a farm road in response to a request by local residents, it learned about the importance of the habitat from local butterfly enthusiasts visiting the site to observe the Chinese Windmill. To protect the precious habitat, NTT FACILITIES suspended operations and revised the plan with the understanding and cooperation of local land owners, residents, Kochi City, and a local botanical garden. As a result, the existence of valuable species was included in the Important Matters manual to be explained to potential purchasers.

However, as a result of insufficient explanation regarding concrete conservation methods to the company that purchased the land, a part of the habitat later underwent development. When NTT FACILITIES heard about this in July 2010, it shared information on past events and efforts, and worked with the company that owned the land, the botanical garden, and other parties to restore the habitat almost entirely to its former state.



Birthwort, a plant that the Chinese Windmill depends on fo

O Green with Team NTT

Organizing Operation Clean Environment cleanups nationwide as hands-on environmental education activities

(NTT Group

NTT Group companies hold local community cleanups at their sites throughout Japan to raise the environmental awareness of their employees through participation in hands-on activities.

We have set a participation target of 100,000 people annually in this Operation Clean Environment initiative, and as a result of active campaigning, the number of participants is growing with every passing year.

To share information on participation status, we plan to manage and monitor the cleanup activity records of major group companies as an environmental performance data item, and make this data available to group companies.

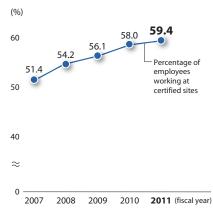


Local community cleanup

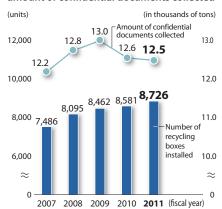
Environmental data

Environmental management

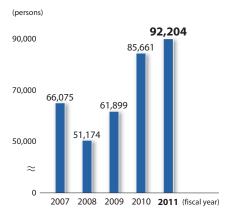
Current status of NTT Group's ISO 14001 certification acquisition



Number of recycling boxes installed and amount of confidential documents collected

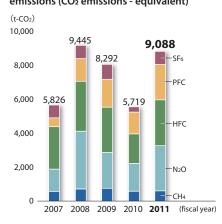


Participants in Operation Clean Environment

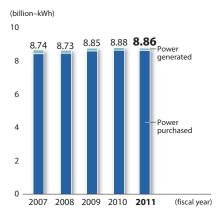


Prevention of global warming

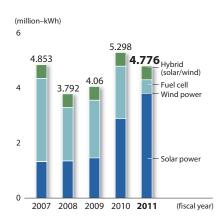
Greenhouse gas emissions other than CO₂ emissions (CO₂ emissions - equivalent)



Electric power consumption

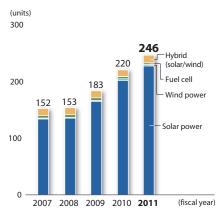


Clean energy generation

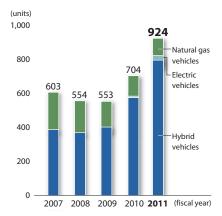


Prevention of global warming

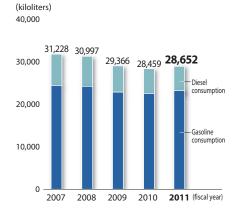
Number of clean energy generators



Number of low-emission company vehicles

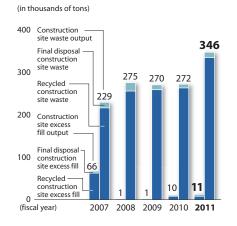


Fuel consumption by company vehicles

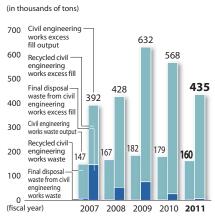


Waste reduction

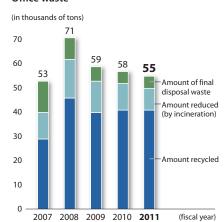
Waste and excess fill from construction sites



Waste and excess fill from civil engineering works



Office waste



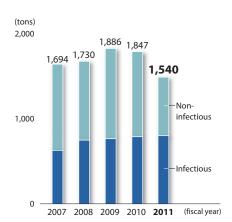
Waste reduction



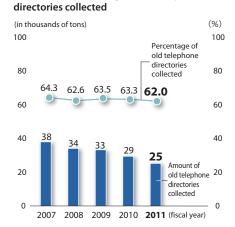
Reduction of paper consumption

Measures against environmental risk and ozone layer depletion

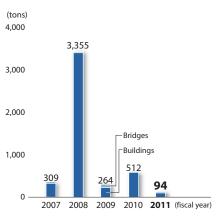
Medical waste



Amount and percentage of old telephone

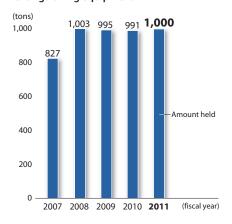


Asbestos removed from NTT Group facilities

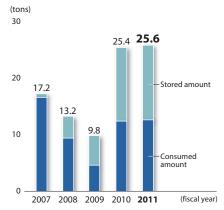


Measures against environmental risk and ozone layer depletion

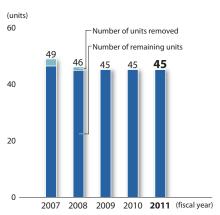
Amount of specified halon held for fire extinguishing equipment



Amount of specified chlorofluorocarbons used in air conditioning equipment



Number of centrifugal chillers (that use CFCs) and number of units removed



Dialogue 3 Ensuring information security

Enabling customers to use ICT safely and securely: the value provided by the NTT Group

Hayakashi: JPCERT Coordination Center (JPCERT/CC), the organization to which I belong, provides security teams and system administrators in enterprises as well as other organizations with support to handle incidents and with information to prevent damage caused by such incidents.

Recently, more and more attacks have been aimed at making money, and technology is evolving as attackers seek to exploit the cloud. Hacker groups who announce their plans in advance with the aim of attracting attention to their views are now increasingly attacking private enterprises in addition to their traditional target, government agencies. The way in which targeted companies respond to such threats is a matter of keen interest to many. In the USA and other countries, infiltrating the IT systems of specific businesses without being noticed to steal corporate secrets and personal information over prolonged periods is becoming an increasingly serious problem.

Attack techniques are also becoming increasingly sophisticated and diverse, and as a result, conventional security measures that do no more than block incoming threats are no

longer adequate. Organizations will have to take measures that limit the damage even if their systems are intruded upon. **Kuwana:** At the NTT Information Sharing Platform Laboratories, we're conducting research on the two key themes of cloud computing and security, focusing on encryption technology as a means of dealing with prevalent issues. Last year, we developed a first-ever type of fine-grained encryption technology together with Mitsubishi Electric Corporation. Recently we've also started looking at new ways of identifying signs of attacks by malicious programs before they occur.

Yamakawa: My work involves coordinating between NTT laboratories and group companies to translate R&D outcomes into products for bringing onto the market. We put our heads together with our labs and group companies to come up with products and services that are likely to find a market. We're currently talking with group companies about ways of putting the outcomes of the security research being conducted by Kuwana-san and his colleagues to use in a form that meets their respective needs.

Hatakeyama: I belong to NTT Communications Security



Operation Center (NTT Com SOC), a provider of security infrastructure outsourcing services. You could describe NTT Com SOC as an organization dedicated to minimizing customer ICT system security risks through 24/365 monitoring, but we find ourselves having to deal with increasingly diverse and sophisticated new threats. Handling emergency situations such as security incidents also requires advanced skills, and so we depend more than ever on our dedicated research organizations for coming up with solutions to new threats.

Hayakashi: You often hear that large enterprises have problems coordinating their response to incidents across their organizations, but the NTT Group appears to have the systems in place to respond to incidents from various perspectives — holding company, group companies, research labs and so forth — and is enhancing coordination between its organizations through such systems.

Kuwana: As an operator of telecommunications infrastructure, we bear responsibility for protecting the information assets of our customers, and I think that every disaster or other contingency has pushed us to hone our ability to respond as a group.

Yamakawa: Since we've been actively globalizing as a group over the past several years, I think we also need to hone our global security governance.

Hatakeyama: While security measures call for increasingly advanced knowledge and response systems, there's a limit to the extent to which customers themselves can arm themselves with

advanced technology while watching costs. Demand for outsourcing services is rising as a result, and we'll be doing our utmost to address that demand.

Yamakawa: That will also require increasingly high level training of competent personnel, won't it?

Kuwana: In June, the revised law on cybercrime went into effect, and I think we need to push ahead with the development of new technologies conforming to such legal structures and new guidelines. Hayakashi: Hackers are said to be specializing and teaming up to practice their trade, so I think that businesses taking security measures against hackers should, even while competing with each other in other areas, share the cost of protecting their systems to boost the efficiency of their security efforts. It might be difficult to balance demarcation of the scope of information that should be shared with issues related to the quality of competing services, but I'd like to see everyone making the effort to cooperate where they can from the perspective of boosting the overall competitiveness of Japanese industry. And I would expect the NTT Group, given its outstanding technological capabilities and accumulated expertise, to play a leading role in such efforts.

See the following website for the detailed dialogue:



Ensuring stable and reliable services as critical infrastructure

Managing and maintaining communications services

Building and maintaining a disaster-resistant communications infrastructure



Communications networks represent lifelines that are indispensable to the functioning of society, business activities, and public safety. The NTT Group endeavors to build disaster-resistant communications infrastructure, and maintain and operate it in a way that ensures its proper functioning at all times.

For example, NTT East, NTT West, NTT Communications, and NTT DOCOMO monitor their communications networks on a 24/365 basis from their operation centers. In the event of a failure caused by a disaster or some other contingency, they work to restore service by switching to standby equipment and other means through remote operations.

Also, with the spread in recent years of mobile phones, use of public phones has declined, but public phones still have a valuable role to play as a means of communication during disasters and other emergency situations, and as such, NTT East maintains about 58,000, and NTT West about 51,000 type 1 public phones*.

* Type 1 public phone

Installed to serve as the minimum means of communication at the density of one every $0.25~\rm km^2$ in urban areas, and one every $1~\rm km^2$ in other areas



Operation center

Combining domestic and overseas service centers to deliver one-stop service



NTT Communications provides a one-stop 24/365 service spanning both its domestic and global operation areas to support the business growth of customers with global operations by providing stable, high quality ICT infrastructure irrespective of region.

NTT Communications' domestic and global service centers used to perform all operations, including establishing alternative trunk routes, duplicating or decentralizing telecommunications facilities, monitoring service status, and processing error reports, on separate floors, but since they were brought together on the same floor in June 2010, the two centers can communicate face-to-face to resolve issues cropping up around the world and provide a one-stop service to customers using networks that combine domestic and global lines.

In the wake of the Great East Japan Earthquake of March 11, 2011, both service centers worked with each other and with equipment sections and overseas subsidiaries, leveraging expertise gained from disaster drills and past disasters to promptly ascertain damage and implement workarounds.

In April 2011, NTT Communications enabled even more seamless operations by integrating service manager duties for operations/quality management, improvement proposals, and other tasks.

Ensuring the stable provision of i-mode service through both system and equipment operation aspects

döcomo

NTT DOCOMO implements a diversity of both system and equipment operation measures to ensure the stable operation of the i-mode center at the heart of its i-mode service, one of the world's largest mobile Internet services.

On the system operation side, NTT DOCOMO has designed the system to monitor its own traffic status, and has divided system processing over multiple devices and incorporated technology for diverting processing to alternative devices in the event of device failure. DOCOMO also has engineers monitoring system operation status on a 24/365 basis, and stations dedicated incident response personnel in the i-mode center around the clock to restore service promptly in the event of system malfunctions.

On the equipment operation side, DOCOMO has taken measures such as equipping the facility housing the i-mode center with vibration damping and deploying devices in distributed layouts. It has also installed mechanisms for operating under reduced power to guard against power shortages in the aftermath of the Great East Japan Earthquake and against sudden power outages.

O Disaster readiness

Communications network disaster preparedness based on three basic policies



1. Improving communications network reliability

The NTT Group is endeavoring to further enhance the reliability of its communications networks, and has learned many lessons from past disasters that it has applied to ensuring the continuity of communications services in the event of a disaster through such means as trunk line multi-routing and distributed location of important communications centers fitted with transit switches.

We also strive to secure and improve the ability of communications equipment housings, steel towers, and other facilities to withstand disasters such as earthquakes, flooding, and fire in accordance with predetermined standards.

2. Securing critical communications

When a disaster strikes, the telephone system of the affected area is inundated with calls, causing network congestion. Under such conditions, we suppress ordinary phone traffic to secure critical communications services necessary to conduct emergency rescue and restoration operations and maintain public order, and to keep emergency number services such as 110, 119, and 118* going.

We also provide general customers with Disaster Emergency Message Dial (171) and Disaster Emergency Broadband Message Board (Web 171) as a means of checking on the safety of relatives and friends in affected areas. On March 18, 2011, we enabled our Disaster Message Board Service for mobile phones to be used by smartphones too.

Furthermore, we make our public telephones available free of charge, and provide specially installed public telephones at evacuation sites and other locations in affected areas to secure means of communication for disaster victims.

3. Prompt restoration of communications services

The NTT Group stations highly mobile disaster response equipment such as power supply vehicles, portable satellite equipment, and portable mobile base stations at locations throughout the country to aid in the prompt restoration of services and securing of critical communications in disasterstricken areas. If communications services have been disrupted by a disaster or other causes, this equipment is used to restore services as rapidly as possible.

In the event of a major disaster, a disaster management headquarters and other emergency structures are also immediately set up to implement service restoration operations. Depending on the scale of the disaster, a wide area support network encompassing group and other affiliated companies around the country is also created to assist in disaster response.

* Emergency number for maritime accidents and incidents. Calling 118 connects the caller to Japan Coast Guard to report accidents at sea, oil slicks, suspicious vessels, and any other maritime contingency that requires help. The 118 service was launched in May 2000.



Power supply vehicles



Portable satellite equipment



Portable mobile base stations

Ensuring stable and reliable services as critical infrastructure

Providing a system for checking on missing persons as part of efforts to assist in the recovery of regions affected by the Great East Japan Earthquake

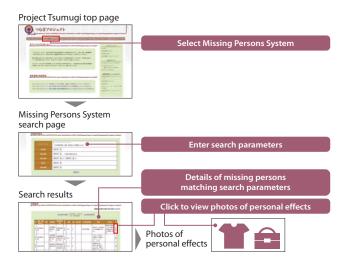


On April 28, 2011, NTT PC Communications, a member of the NTT Communications Group, joined forces with a number of other companies and a university to launch Project Tsumugi, an initiative aimed at assisting with the recovery of areas affected by the Great East Japan Earthquake. As one of the project's initiatives, a database of information on missing persons in Iwate Prefecture was created and provided online as a Missing Persons System that could be openly viewed and searched from May 30. The scope of the database was extended to Miyagi and Fukushima Prefectures from July 1 so as to help identify more missing persons.

This system was created in response to requests from Iwate Prefecture's Ofunato City and other locations in the affected areas, and includes photos of personal effects as well as gender and physical features of missing persons, along with advanced search functions. The system drew a great response, registering about 40,000 accesses on the first day alone, and it continues to be used by a great many people.

Enlisting the cooperation of private companies, organizations, and related agencies, Project Tsumugi continues to implement a wide range of initiatives aimed at assisting in the recovery of areas affected by the Great East Japan Earthquake, including the building of local private networks, development and provision of various applications to support the education of children in affected areas, and support by student volunteers.





Expanding the functionality and use of the Area Mail disaster information service

döcomo

NTT DOCOMO has since December 2007 provided Area Mail, a disaster information service that sends out mass notifications of Earthquake Early Warnings issued by the Japan Meteorological Agency to mobile phones in areas where strong tremors of a seismic intensity of 4 and above are predicted.

Area Mail uses a global standard technology called Cell Broadcast (CB) that is not affected by traffic load and enables the simultaneous delivery of messages to all subscriber mobile phones in a specific area without using mobile e-mail addresses.

The same service was also made available from the same time to local authorities to notify local residents about evacuation and other disaster information, and as of the end of March 2011, had been adopted by 49 local authorities.

In fiscal 2011, NTT DOCOMO intensified its promotion of the Area Mail disaster information service to local authorities seeking to enhance their disaster readiness measures, and also adopted and implemented Earthquake and Tsunami Warning System (ETWS), an international standard-based system that extends CB to enable even faster delivery of early warnings. This system worked as designed to deliver early warnings when the Great East Japan Earthquake struck.

Moving forward, NTT DOCOMO will strive to maintain and improve the stability and reliability of the systems underpinning Area Mail, as well as expand the number of Area Mail-compatible smartphones and other handsets, and leverage the experience of the Great East Japan Earthquake to suggest usages and enhance functionality.



Various means of checking on the safety of disaster victims

Providing message services for when disaster strikes



To enable people to check on the safety of relatives and friends in areas hit by a major disaster that has caused phone connection problems, the NTT Group provides Disaster Emergency Message Dial (171) for leaving voice messages by phone, Disaster Message Board Service for leaving text messages by mobile phone, and Disaster Emergency Broadband Message Board (Web 171) for leaving both voice and text messages along with images via the Internet.

In the past, mobile phone and PHS carriers each provided their own versions of the Disaster Message Board Service for mobile phones, but in view of the importance of emergency communication tools during disasters, DOCOMO and four other carriers teamed up to develop a function that enables searches across all of their message boards, offering it as a service from March 1, 2010. This service was also enabled for smartphones from March 18, 2011 in the wake of the Great East Japan Earthquake.

We regularly inform our customers of how to use these services through live demonstrations at events and other opportunities, and through the distribution of pamphlets. We also provide trial services on the first and 15th day of every month, the first three days of New Year, and during Japan's Disaster Prevention Week and Disaster Prevention and Volunteer Week for people to practice using the services as a disaster readiness measure.

When we launch Disaster Emergency Message Dial and other emergency services in the event of a disaster or other contingency, we promptly inform our customers through the mass media, website, and other means.

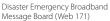


Disaster Emergency Message Dial http://www.ntt.co.jp/saitai/171.html (in Japanese only)

Disaster Message Board Service http://www.ntt.co.jp/saitai/i_mode.html (in Japanese only)

Disaster Emergency Broadband Message Board https://www.web171.jp/top.php (in Japanese only)







Pamphlet to inform customers about emergency services

Practice drills related to communications services

Practice for Disaster Countermeasures Office operation after a large-scale disaster



NTT holds disaster drills on Japan's Disaster Prevention Day on September 1 to coincide with the government's annual comprehensive disaster drills held on the same day. For the fiscal 2011 drill, the holding company practiced the operation of a Disaster Countermeasures Office in line with the government's drill scenario involving the simultaneous occurrence of Tokai, Tonankai, and Nankai (southern coast) earthquakes. The approximately 20 members of the Office checked basic procedures related to emergency call-up and the setting up and operation of the Office, and the system for sharing information between group companies.

NTT will continue to hold drills linked with government's comprehensive disaster drills to further develop its knowledge and skills in operating a Disaster Countermeasures Office (including the operation of alternative sites), and to check and test its Disaster Countermeasures Office operation system from the perspective of representing the response of the NTT Group as a whole.

NTT East

Joint drills with JSDF to transport disaster response equipment

Following the previous year, in fiscal 2011 too, NTT East conducted joint drills with the Japan Self-Defense Forces aimed at quickly securing communications in disaster areas after an earthquake based on the assumption that ground transportation of disaster response equipment would be impeded by quake damage. Drills were conducted on July 23 at the Ground Self-Defense Force Sagamihara Exercise Ground to practice the transport of disaster response equipment suspended from Ground Self-Defense Force helicopters, and on August 30 at Shizuoka Prefecture's Numazu City and September 1 at Shizuoka Prefecture's Ito City to practice the transport of disaster response equipment and personnel using Maritime Self-Defense Force hovercrafts.

The lessons learned from these drills contributed to the speedy restoration of communications services following the Great East Japan Earthquake. NTT East will continue to make constant efforts to prepare itself thoroughly for prompt response to any contingency.

Ensuring stable and reliable services as critical infrastructure

NTT West

Practicing for a Tonankai/Nankai earthquake

In January 2011, NTT West held a disaster preparedness drill for Disaster Countermeasures Office members in preparation for a Tonankai/Nankai (southern coast) earthquake. Use of a prepared scenario was avoided to boost the practical value of the drill, which involved checking initial responses, including setting up the Disaster Countermeasures Office, checking the safety of employees, and discussing and implementing measures to resolve communications blackouts and rehabilitate telecommunications equipment.



Disaster drill in progress

• NTT Communications

Practicing response to an earthquake centered on Tokyo

In February 2011, NTT Communications conducted a call-up drill for Disaster Countermeasures Office members in preparation for an earthquake centered on Tokyo. The drill required those called up to walk from their homes to the office before getting down to restoration work, based on the assumption that all means of transportation in the Tokyo area would have been knocked out.

NTT Communications also conducts regular drills to check on the safety of employees in the event of a disaster, holding three such drills in fiscal 2011. For the drill held in February 2011, the safety of partner company employees was also checked. Through these drills, the company aims to raise disaster awareness across its whole organization.

NTT DOCOMO

Practicing response to a Tokai earthquake

On October 7, 2010, NTT DOCOMO conducted drills to respond to a Tokai (southeast coast) earthquake, including a teleconferencing drill to share information between its head office Disaster Countermeasures Office and all subsidiaries, and a field drill in Shizuoka City's Sunpu Park.

The field drill was conducted by about 110 people, including Shizuoka Prefecture/Shizuoka City/Shizuoka Prefectural Police officials and JSDF personnel as well as NTT DOCOMO representatives. In addition to base station rehabilitation, NTT DOCOMO practiced disaster response vehicle and personnel call-up, delivery of mobile phones and other equipment for lending out, transport of restoration equipment, and restoration vehicle travel support, and also checked that relevant company sections would be able to work effectively with other organizations in the event of a large-scale disaster.

To use the drill also as a means for demonstrating the effectiveness of mobile phones when disasters strike, NTT DOCOMO invited a record number of about 100 representatives of local self-help disaster response organizations to participate. It held a seminar in the Shizuoka City Culture Hall next to the field drill venue to explain effective utilization of mobile phones during disasters, and set up a corner for participants to try out Area Mail disaster information service, satellite mobile phones, and other useful disaster-related services.

Moving forward, NTT DOCOMO aims to put the experience and lessons gained from the Great East Japan Earthquake to use to plan and implement future disaster drills.

Supporting customer disaster mitigation and response

Providing digital maps and aerial photographs to help with disaster prediction and response



NTT-GEOSPACE, an NTT East Group company, provides GEOSPACE brand digital maps, aerial photographs, and other digital content.

GEOSPACE content is precise, large-scale digital map data covering the whole of Japan that can be used effectively as a tool for disaster prediction, prompt disaster response, and speedy recovery by enabling the overlay of various crisis management information. NTT-GEOSPACE is also developing SaaS* solutions to support disaster mitigation and response.

*SaaS (Software as a Service)

The provision of software as a service over the Internet



Simulation of telephone pole damage caused by tsunami • Telephone pole equipment differs from actual data.

Leveraging ICT solutions to support business continuity when disasters strike



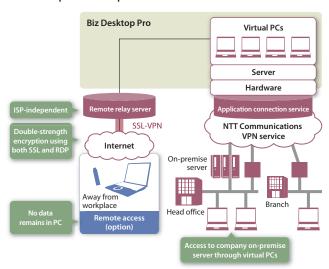
NTT Communications provides various ICT solutions for helping companies to draw up business continuity plans (BCP) and mitigate the risks to their business and employees posed by natural disasters such as earthquakes and typhoons, terror, pandemics, and other contingencies.

One such solution is Safety Check/Mass Notification Service, a BizCITY SaaS application for collecting and collating safety status of employees and their families in the event of disasters and other emergency situations, and for the mass issue of emergency instructions. Another is Earthquake Newsflash Distribution Service, which can also be integrated with elevator stoppage and other equipment control requirements. By providing solutions such as these, NTT Communications helps to support the business continuity of its customers by protecting the safety of employees and mitigating damage.

Another NTT Communications solution is Biz Desktop Pro, a desktop virtualization service for creating virtual desktops in the cloud that are exact copies of physical desktops within the company, and can be accessed remotely from anywhere at any time. A great many companies using this service confirmed after the Great East Japan Earthquake that it had enabled their employees to access their virtual desktops from home or elsewhere when power outages or other factors made commuting impossible, and that business continuity was maintained as a result. Interest in this service has grown steeply since the earthquake from the need to save electricity by having employees work from home.

NTT Communications will continue to support business continuity and emergency situations through providing ICT solutions for protecting corporate information assets.

Biz Desktop Pro desktop virtualization service



Ensuring stable and reliable services as critical infrastructure

Enhancing satellite telephone services to secure stable communications when disaster strikes

döcomo

NTT DOCOMO launched WIDESTAR II in April 2010 as a sister service to its already established WIDESTAR satellite telephone service.

WIDESTAR and WIDESTAR II use two geostationary satellites positioned over the equator to provide stable and largely disasterand weather-resistant communications around the clock to all of Japan, including its coastal waters up to about 200 nautical miles. They are used mainly as a means of communication in mountainous areas and on islands and ships, providing voice, fax, and packet communications services. Whereas WIDESTAR provides a maximum data downlink rate of 64 kbps, WIDESTAR II is a high-speed service providing a maximum of 384 kbps¹. WIDESTAR II also supports an Exclusive Band Service that assigns an exclusive channel to subscribers, Direct Connect Service PtoP² communications that use only the WIDESTAR network, and Simultaneous Broadcast Services that enable simultaneous communication to a maximum of 200 destinations. As of the end of March 2011, WIDESTAR and WIDESTAR II subscribers had risen to about 40,000, with mass media, banks, and manufacturers as well as local authorities and other public institutions among its users. DOCOMO plans to respond to increasingly sophisticated and diverse needs by developing new solutions including integration of WIDESTAR with video streaming, data communications, Wi-Fi devices, and smartphones.

1. The data rate is the maximum value of the technical specification when sending and receiving, and does not represent the actual data rate. Communications are provided on a best-effort basis. The actual data rate may differ depending on the communications environment and network congestion.

2. Point to Point

Communications restricted to two endpoints



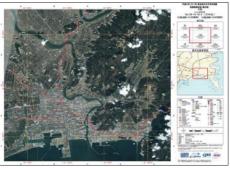
WIDESTAR II

Free provision of satellite image maps of areas affected by the Great East Japan Earthquake



To support the recovery of areas affected by the Great East Japan Earthquake, NTT DATA worked with the Remote Sensing Technology Center of Japan to put together satellite image maps of coastal regions of the prefectures of Iwate, Miyagi, and Fukushima, making them available at no charge through its website and other channels from March 31, 2011.

Created from satellite images recorded around the time of the disaster by Japan's DAICHI advanced land observation satellite and Thailand's THEOS earth observation satellite, the satellite image maps are in PDF format, and combine satellite images with road, public facilities, and other map data. Enabling identification of pre- and post-disaster details of built-up areas and land surface, the maps can be printed out to use as paper maps, can be edited using PDF editing software to add text and diagrams, and can be used to measure latitude and longitude coordinates, distances and areas, making them a useful tool for ascertaining extent of damage, drawing up reconstruction plans, and sharing information in the region.



Satellite image

Quakeproofing evaluation and testing system capable of reproducing the world's biggest vibration displacement

NTTFACILITIES

NTT FACILITIES is contributing to making telecommunications equipment more quakeproof by developing technology for conducting vibration experiments and evaluating ability to withstand earthquake-induced swaying and shaking of the building floors on which such equipment stands.

In June 2010, NTT FACILITIES launched the operation of DUAL FORCE, a 3D vibration experiment system that can reproduce a vibration displacement of up to ± 110 cm, a world first.

The seismic resistance of telecommunications equipment is usually tested by placing the equipment on a shaking table and subjecting it to artificial vibrations, but the swaying of tower blocks and base-isolated buildings caused by the long period ground motion of strong earthquakes produces a large vibration displacement that cannot be reproduced using conventional shaking tables.

DUAL FORCE, however, can reproduce not only the kind of swaying that occurs in a 30–50 floor high-rise, but also a broad range of motion from the long period motion of large earthquakes to the short period motion of environmental and transport vibration, enabling the testing and evaluation of seismic resistance of ICT devices and other important equipment to all kinds of vibration.

The damage inflicted by the Great East Japan Earthquake on secondary structural elements and equipment has prompted their inclusion in research on seismic resistance evaluation and development of technology. NTT FACILITIES will continue to use DUAL FORCE to investigate the response of machinery to strong earthquakes and causes of damage, and uses its findings to develop advanced quakeproofing technologies for ICT devices and other equipment.



3D vibration experiment system DUAL FORCE

Ensuring information security

R&D for maintaining and improving information security

Developing fine-grained encryption to resolve security issues in the cloud era



With no signs of significant decline in information leakage incidents, corporate information management has become a critical issue. Moreover, cloud computing and other new forms of network utilization create new security issues, since they involve transfer of private information or highly confidential data to servers for processing.

NTT Information Sharing Platform Laboratories, which has long been involved in research on encryption technologies to protect information, has recently developed a new fine-grained encryption technology that embeds advanced logic into the encryption/decryption mechanism. Fine-grained encryption enables the detailed configuration of access rights according to data item, so that even if encrypted data is stored on the cloud, only those users with the appropriate attribute information will be able to decrypt and view a particular data item.

This technology holds promise for applications such as the management of confidential corporate information or databases of personal information maintained by public authorities, and NTT is aiming to enable its practical implementation within three years.

Ensuring information security

Eliminating bots and other Internet-based malware



Participating as an ISP from December 2006 in the Anti-Bot Project (Cyber Clean Center), a joint government/private sector initiative, NTT Communications joined others over a period of five years until the project ended in March 2011 in fighting for the eradication of bots*, at the time a new kind of malware threatening Internet users.

The project achieved much, collecting as it did over 16 million bots of 1 million types, developing removal tools, sending 500,000 e-mail messages to 100,000 people whose PCs were infected with bots to warn them, and persuading a great many people to remove those bots. Thanks to these efforts, the percentage of broadband users in Japan whose PCs were infected with bots fell from 2–2.5% in 2005 to 0.6% in 2010, one of the lowest bot infection rates worldwide.

With the number of participating private sector ISPs also growing from just eight at the start to 76, the project was an unprecedented public/private sector endeavor that generated huge interest both within and outside Japan, and had a big influence on the bot combat measures of other countries.

However, bot infection rates remain high in countries surrounding Japan, and the threat posed by bots still exists. As such, protecting Japan requires working with other countries to counter constantly changing infection routes and means of attack.

NTT Communications has been commissioned by the Ministry of Internal Affairs and Communications to conduct research on means of avoiding infection by bots and other Internet-based malware, and will use its findings to continue to contribute to the creation of a safer Internet.

*Bot

A type of computer virus, bots are malicious programs that enable the unauthorized use of PCs from other locations over the Internet. They infect host PCs without the owner's awareness to carry out whatever task they were designed to do, such as distribution of spam or theft of data from the host PC.

Promoting and supporting information security management

NTT CERT: Supporting security across the NTT Group



A computer security incident response team (CSIRT) is an organization that gathers information on computer security threats, investigating them, and implementing appropriate response activities. NTT-CERT, operated by the NTT Information Sharing Platform Laboratories, is the CSIRT for the NTT Group.

In addition to handling inquiries regarding NTT Group information security, NTT-CERT also works with security managers and system administrators of group companies to minimize security threats. It helps, for example, to test the security of Web servers used by group companies, as well as conducting experiments and providing consulting support related to the security of the next-generation network (NGN) provided by NTT East and NTT West.

In fiscal 2011, it assisted in countering VoIP phone highjacking-based international call transmission and other attacks, and also helped around the clock with the NTT Group's cyber attack countermeasures during the APEC conference held in Yokohama. It has also begun to research technologies for enhancing the security of smartphones, which are now spreading rapidly in Japan.

NTT-CERT contributes to improving the security level not only of the NTT Group, but also of Japan as a whole by helping to recruit members to the Nippon CSIRT Association* and promoting its activities, including the introduction of a program for building and operating CSIRTs.

^{*}A Japanese CSIRT organization established in April 2007 by NTT-CERT, JPCERT/CC, and others

First telecommunications business in Japan to obtain ISO/IEC 27011 information security standard certification

döcomo

With respect to the operation and maintenance of the CiRCUS system that supports its i-mode service, in September 2010, NTT DOCOMO became the first telecommunications business in Japan to obtain ISO/IEC 27011 (information security management system) certification with additional domestic safety standards related to ensuring telecommunications information security.

This signifies that DOCOMO's i-mode service provides its 48 million users with a very robust security structure that protects them against cyber attacks, network congestion, spam e-mail, hardware and application malfunctions, and other risks. However, information security risks are changing on a daily basis, and DOCOMO will continue to further enhance its security as Japan's leading provider of mobile communications.

Release of remote access technology that enables automatic connection through fingerprint authentication to provide outstanding protection against information leakage



In May 2010, NTT IT released MagicConnect Fingerprint Authentication USB Key, a next-generation multi-element biometric remote access technology that enables one touch connection, targeting the product at businesses whose security policies require biometric authentication.

This was the latest in NTT IT's line of MagicConnect personal remote access USB keys that enable access to a specific company PC just by insertion into any other PC. MagicConnect keys are used by about 1,600 companies.

The standard MagicConnect USB key authentication service guarantees rock-solid connection authentication through a unique combination of USB key hardware information and a password to access a company PC, but some customers wanted USB keys fitted with fingerprint or other biometric authentication functions or some other means that did not involve memorizing passwords. NTT IT accordingly developed MagicConnect Fingerprint Authentication USB Key as a new product that adds fingerprint authentication to unique USB key hardware information and password.

If the automatic connection option is enabled, execution of connection processes from authentication to display of the company PC's login screen can be accomplished automatically just by fingerprint authentication using the USB key, eliminating the need for a remote access password. The new product has been welcomed as a safe, simple, and convenient solution, and its use is growing particularly among businesses with a keen interest in security.



MagicConnect Fingerprint Authentication USB Key

Creating a sound user environment

 Promoting safe and secure ICT use and user etiquette

Nationwide staging of NTT Dream Kids Net Town fun summer vacation events to learn about telecommunications



Following on from 2009, the NTT Group held NTT Dream Kids Net Town 2010 in five locations nationwide as summer vacation events for children.

These events have been staged jointly each year by NTT, NTT East, NTT Communications, NTT DATA, and NTT DOCOMO since 2006, with NTT West also participating from 2007. The events are designed to enable the children to learn about the fun and convenience of Internet, mobile phone and other ICT services through actually experiencing them, while at the same time learning rules and manners for their safe and secure use. The events also serve as ideal content for summer vacation study assignments.

The five events held around the country in 2010, Net Town's fifth year, attracted a total of about 1,300 children. During the event period, we also opened a learning site for children unable to participate in the actual events. In 2011 too, five Net Town events were held nationwide from the end of July.





Dream Kids Net Town event

Visiting schools to provide Internet Safety Workshops

NTTEAST

NTT East visits elementary and other schools to hold Internet Safety Workshops that educate children in communication skills, netiquette, and trouble-free utilization of ICT. Using anime (cartoons) and practical drills, these workshops teach children about use of face-to-face or e-mail dialog according to situation,

and how to avoid trouble. In fiscal 2011, it held 578 workshops that were attended by 16,794 children.

In fiscal 2011, NTT East added new content and tools for 4th to 6th graders based on the current status of Internet use by children.



Internet Safety Workshop

Nationwide Mobile Phone Safety Program classes

döcomo

With the spread of mobile phones, safe and secure mobile phone usage and etiquette have become important issues. An increasing number of children are also falling victim to dating sites, fabricated money claims and other scams that exploit mobile phone users.

To address these circumstances, NTT DOCOMO has since 2004 dispatched instructors to schools and communities around the country to hold Mobile Phone Safety Program classes on mobile phone etiquette and how to avoid trouble. In fiscal 2011, it held about 5,200 such classes that were attended by a total of about 850,000 people, bringing cumulative totals to date to about 19,300 classes attended by about 3.12 million people.

DOCOMO adapts the content of its Mobile Phone Safety Program classes to match the latest trends and issues, and the fiscal 2011 text used for elementary school classes won an excellence award in the corporations/industry associations category of the National Institute on Consumer Education's 7th Consumer Education Materials Awards.

DOCOMO will continue to improve the content of these classes and its educational materials as part of its efforts to enable safer, more secure mobile phone usage.



Mobile Phone Safety Program class

Providing services to ensure child safety

Protecting children from sex crime by restricting access to child pornography sites



Blocking child pornography on the Internet is important from the perspective of protecting children's rights and ensuring a safe Internet usage environment, and has being considered by various parties up to now. The Comprehensive Measures to Eliminate Child Pornography announced by the Ministerial Meeting Concerning Measures Against Crime in July 2010 called for all relevant government ministries and agencies to prepare the ground for Internet service providers (ISPs) and other related businesses to voluntarily block child pornography by the end of March 2011.

As a result, the Internet Content Safety Association (ICSA) was established in March 2011 to manage a child pornography site address list, and started to provide a list of such sites in April 2011. NTT Communications Group providers and others have since restricted access to child pornography sites based on ICSA's address list.

FairCast Child Safety Communication Network multi-channel mass notification service usage spreads among schools throughout Japan



NTT DATA has since July 2006 provided FairCast Child Safety Communication Network as a multi-channel mass notification service for sharing information to protect children.

FairCast, which emerged from the experiences of a female NTT DATA employee serving on her child's school's PTA committee, protects children and provides peace of mind to their parents/guardians by enabling schools to share information with them in an accurate, timely, and impartial manner. FairCast's most notable feature is the way it enables simultaneous delivery of information to parents/guardians through the three channels of voice, e-mail, and fax, combined with delivery confirmation functionality. This enables the mass notification of parents/guardians with an accuracy, speed, and impartiality that the traditional telephone contact network or e-mail on its own is unable to provide.

The service has generated keen interest, and usage is increasing with every passing year. As of March 2011, it is being used by about 630 boards of education, kindergartens, elementary, junior high and high schools, special needs schools, latchkey programs, and other child facilities serving approximately 280,000 households from Hokkaido to Kyushu mostly as a means of protecting children in local communities.

In view of the difficulties faced by schools in communicating with students' households in the areas affected by the Great East Japan Earthquake of March 2011, NTT DATA is providing FairCast to 61 schools (as of end of June 2011) in affected areas of the prefectures of Iwate, Miyagi, and Fukushima at no charge up to March 31, 2012.

NTT DATA will endeavor to promote the use of FairCast among more and more educational facilities nationwide.

Customer satisfaction initiatives

Pursuing customer satisfaction

Gathering feedback through customer consultation services





O NTTEAST O NTTWEST docomo

In fiscal 2011, group company customer consultation services handled a total of 374,000 inquiries, with NTT East receiving approximately 138,000, NTT West 178,000, and NTT DOCOMO 58,000 inquiries.

DOCOMO rated No.1 in 2010 customer satisfaction survey for both business and consumer categories

döcomo

In its "Change and Challenge for New Growth" medium-term vision announced in October 2008, NTT DOCOMO vowed to become Japan's No.1 mobile phone service provider in terms of customer satisfaction for fiscal 2011, and as a result of its efforts, it achieved the top ranking for overall satisfaction in the J.D. Power Asia Pacific 2010 Japan Mobile Phone Service Study*.

The consumer user survey questioned 7,500 consumers nationwide regarding the five areas of customer support, phones, cost, call quality and area coverage, and non-voice functions and services. In fiscal 2011, DOCOMO focused in particular on improving reception quality by dealing with customer requests regarding reception within 48 hours and other measures, and these efforts would appear to have contributed to the high rating.

For the survey of business users (including users of PHS services) too, DOCOMO ranked No.1 overall for the second consecutive year according to the 3,222 responses obtained from 2,345 companies with 100 or more employees questioned about the four areas of business customer support, service quality, costs, and service content. This achievement is thought to be the outcome of DOCOMO's continued efforts in fiscal 2011 to address the needs of each of its customers through expanding its sales personnel and increasing the frequency of its visits to customers, along with the provision of inexpensive phones to lay the ground for the introduction of new solutions.

Bearing in mind that its No.1 rankings in both categories are the result of projects prompted by customer opinions and wishes, DOCOMO will continue to listen to the views, wishes, and gripes of its customers and reflect them in its business initiatives moving forward.

* J.D. Power Asia Pacific 2010 Japan Mobile Phone Service StudySM A survey based on responses of approximately 7,500 mobile phone users in Japan in July and August, 2010. www.jdpower.co.jp

Building a quality management framework and making quality improvements

Building a quality management framework



To provide telecommunications services that will meet the expectations of its customers, the NTT Group is constantly striving to improve its technologies and the quality of its products and services, and provide a safe and secure platform for ubiquitous broadband communications.

As part of these efforts, group companies have built quality management systems and obtained ISO 9001 quality management certification and other certification according to the nature of their business. Logistics outsourcing specialist NTT LOGISCO, for example, also earned ISO 13485 certification for medical devices industry quality management in 2005 so as to provide medical equipment makers with logistics services that they could use with confidence, and NTT Communications in 2009 became certified for COPC-2000, a quality management standard designed specifically for call center services, so as to provide even higher quality support to its customers and further cultivate trust in its ICT services.

Regular meetings held by Appropriate Advertising Oversight Committee



NTT East continues its efforts to provide clear-worded and easily understandable advertising materials that comply with relevant laws and regulations through further institutionalizing vetting practices.

In addition to setting and promoting compliance with advertising materials vetting criteria and rules through its Advertising Review Office, NTT East holds regular Appropriate Advertising Oversight Committee meetings to discuss group policies regarding advertising materials and check on status of implementation of those policies. Since June 2008, NTT East has also required all advertising materials to be vetted for appropriateness by its Advertising Review Office as well as the creators prior to use.

In fiscal 2011, the company endeavored to further raise employee understanding, awareness, and skills regarding appropriate advertising through providing e-learning materials and holding hands-on vetting training sessions and seminars to explain the Act against Unjustifiable Premiums and Misleading Representations and key points about producing advertising materials that are easy for customers to understand.

Promoting appropriate advertising by vetting advertising materials from the customer viewpoint



To ensure appropriate advertising that is easy for customers to understand, NTT West established an Advertising Review Office in June 2008, and has since reviewed all advertising materials before they are distributed to ensure their compliance with its rules for appropriate advertising. It also endeavors to reflect the customer viewpoint by soliciting the opinions of lawyers, professional consumer affairs advisors, and other outsiders when creating and reviewing advertising materials, as well as providing training for relevant organizations within the company.

In fiscal 2011, NTT West focused on promoting standardization in its advertising materials through creating templates, as well as continuing to review advertising materials from the customer perspective by actively consulting outside parties such as lawyers and the Consumer Affairs Agency. To further ensure the creation of appropriate advertising materials, it also designated advertising material creators for different regions within its area of coverage and conducted training sessions to coach them in the do's and don'ts of advertising.

Customer satisfaction initiatives

Working with overseas telecommunications partners to improve global network quality



NTT Communications holds an annual Arcstar Carrier Forum (ACF) to provide its customers with stable networks and address growing business continuity demands.

NTT Communications has held ACF since 2000 to gather its overseas telecommunications partners under one roof with the aim of improving the quality of its international network service operations. Far-ranging discussions are held every year on subjects such as methods for resolving malfunctions and integration issues, infrastructure design and integration processes aimed at preventing problems from occurring, and operation support systems that enable the prompt analysis and resolution of problems.

NTT Communications will continue to work for the overall improvement of its global network through leveraging ACF and other means to accumulate further expertise and boost the quality of its international data communications services, while also expanding its coverage area.

O Promotion of universal design

Improvements aimed at making public telephones easier for anyone to use



NTT West continues to improve its public telephones, so as to make them easy for anyone to use. For example, it is installing public telephone boxes for wheelchair users, and public telephones equipped with receiver volume controls for people with hearing impairments, and card and coin slot braille signage for the visually impaired. It is also deploying digital public telephones featuring universal design components such as large and easy-to-read keys and LCD displays.

Lectures and training for website accessibility

NTT CLARUTY CORPORATION

To promote the creation of websites that can be used easily by anyone, NTT CLARUTY has since fiscal 2007 provided a range of training and lectures to educate website designers and others in the difficulties faced by elderly people and those with disabilities when using websites, and the do's and don'ts of creating accessible websites.

In fiscal 2011, NTT CLARUTY participated in three Web Accessibility Seminar events organized by the Japan Web Accessibility Consortium in connection with the revision of the JIS X 8341-3 Web accessibility standard, giving lectures for local government website administrators on utilizing the new standard to promote Web accessibility.

It also held seven Web accessibility training sessions for a total of 267 local government employees from Niigata Prefecture's Tokamachi and Joetsu, Nagano Prefecture's Nagano, Tokyo's Shinjuku Ward and elsewhere, and gave lectures about the perspective of people with disabilities on various occasions, including a Japan Ergonomics Society conference and special classes organized by Otsuma Women's University and Keio University.

NTT CLARUTY also involves itself in promoting universal design in hardware, examining and evaluating devices and other products from the development stage and suggesting improvements from the perspective of people with disabilities. In fiscal 2011, it participated in NTT Cyber Solutions Laboratories teleworking experiments, and as an outcome, NTT IT released dedicated options for MagicConnect, a technology for enabling secure and easy remote access to company PCs, and MeetingPlaza, a videoconferencing system, that enable them to be used as teleworking tools also by people with visual impairments.



An NTT CLARUTY lecture

Team NTT communication

Dialogue 4 Promoting respect for diversity and equal opportunity

Leveraging workforce and work style diversity to compete globally

Kodama: The Diversity Promotion Office was launched in October 2007 to promote workforce and work style diversity. We're working on various initiatives, but still need to address many issues to enable a diversity of people to realize their full potential.

Chen: I am a Taiwanese-born Canadian and joined this company 14 years ago. I am always impressed by how much time the Japanese put into planning, which is always meticulous, and how swiftly they translate each concrete plan into action. Their emphasis seems to be on eliminating the unexpected. In other cultures, while plans are less thorough, the emphasis is on flexibility. It is common to continuously redefine a plan and to expect the unexpected during the execution of the plan. While both work styles have their pros and cons, flexibility can be a valuable asset when it comes to radical reform, in which the potential problems are hard to foresee.

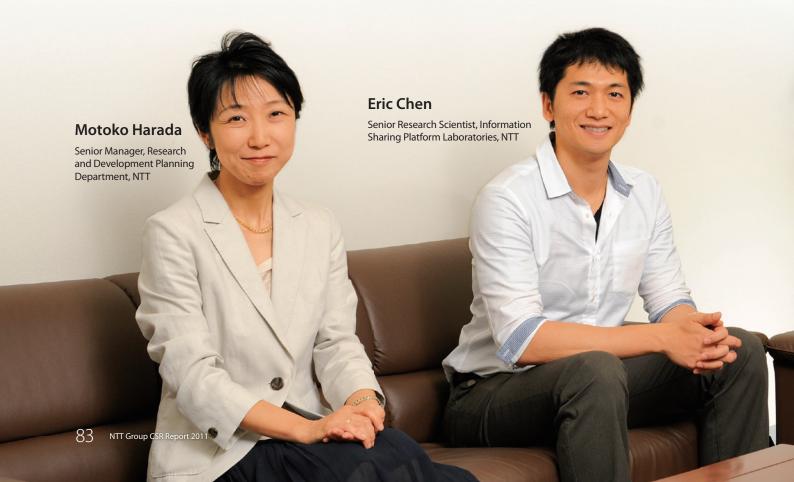
Ishikura: Yes, we live in an age of increasingly diverse views and values regarding work and work styles. Since there's no single "right" answer anymore, learning by doing is probably the way to go now. **Harada:** I have a five-year-old kid and so I've been juggling childrearing with work now for about four years. Traditional ideas

regarding work remain in some quarters, and new work styles have not yet been fully accepted, but I think we've come a long way, at least in my workplace. To produce results while enabling a diversity in work styles, I also think that we should definitely keep the best aspects of the traditional style with its emphasis on teamwork.

Chen: Over the past years, I've seen a lot of non-Japanese employees make efforts to assimilate themselves into the Japanese workforce by changing their views, values, and characters. There are, of course, exceptions — those who take pride in being different. In order to promote cultural diversity and harness its full potential, I think it's important to adopt a new teamwork style that welcomes and integrates the uniqueness of each non-Japanese employee. It is also important for the non-Japanese to make extra efforts to convince others of their views and ideas.

Ishikura: I suspect that NTT's diversity has yet to reach critical mass — the point at which it achieves sufficient momentum to become accepted as a matter of course. When the percentage of foreigners or women in a company reaches about 30%, their presence becomes normal and nothing special.

Kodama: Professor Ishikura, I think you must be used to being



introduced as the first woman to sit on the board of a major company and the first woman vice president of the Science Council of Japan, so I'd like to ask if you have any hints for airing opinions that differ from others around you.

Ishikura: The best thing about diversity is the way it gives rise to different opinions and ideas, since this breeds discussion that results in innovation. The important thing is to keep on saying what you think.

Harada: I'm involved at the moment in a project to provide new services that make use of smart home appliances, and I must say that differing ideas and opinions make a huge difference. You can't hope to come up with great ideas for consumers if you look at something just from a technological perspective.

Ishikura: And you're unlikely to generate a stream of new ideas by getting a bunch of people with the same backgrounds together to think about something. That's why it's important to work with people from different backgrounds.

Kodama: Harada-san said earlier that her workplace has come a long way where work-life balance is concerned, but how about diversity? Have any of you noticed any changes recently?

Chen: It is very encouraging to see increasing expectations and efforts to synergize the cultural differences among the workforce. As a non-Japanese, I would like to leverage my uniqueness to the maximum extent and use it as a rare advantage to contribute to the globalization of NTT.

Harada: As a result of the Great East Japan Earthquake, all of a sudden we're trying all sorts of work patterns to reduce electricity consumption — working on weekends, coming in early, working

from home for part of each day, and so forth. Before we started, people voiced all sorts of worries, but things are actually going pretty well in practice, and I'm hoping that this will have served as an opportunity for establishing greater work style diversity.

Kodama: I'd like to ask you, Professor Ishikura, for a final comment

Kodama: I'd like to ask you, Professor Ishikura, for a final comment on this theme.

Ishikura: We're seeing a shift in business strengths from the ability to produce masses of goods to the ability to be unique. It's becoming important to identify or create one's uniqueness, and it's diversity that enables this. Dialogue between people with different perspectives produces new value. And enabling a diversity of work styles also attracts people with different values. Combining workforce and work style diversity will drive the generation of uniqueness, and a friendly corporate culture that encourages dialogue between people of different backgrounds will accelerate that process. In other words, creating uniqueness, promoting diversity, and building an open and friendly organization are all closely intertwined. As the leader of Japan's telecommunications industry, the NTT Group should be able to create more unique services and a more open organization by promoting diversity, and I'd like to see it setting an example by actively pursuing various initiatives.

Kodama: We're now definitely in an age in which we need to do more and more to promote diversity. Thank you very much for your participation.





Promoting respect for diversity and equal opportunity

 Creating workplaces where everyone can realize their full potential

Ensuring diversity



The NTT Group has always striven to create diverse workplaces in which people can realize their full potential irrespective of sex, age, race, nationality, disability, or other factors. In October 2007, NTT established a Diversity Promotion Office to bolster workplace diversity efforts across the whole group, and by April 2008, diversity promotion supervisors were in place in other Group companies. The Diversity Promotion Office has since worked with these diversity promotion supervisors to support work-life balance improvements and career development for an increasing diversity of employees, and conduct educational activities aimed at reforming corporate culture and ingrained practices.





Diversity Promotion Office Web screenshot

Communication Handbook

Employment in the NTT Group



The above data represents NTT and five core NTT Group companies: NTT East, NTT West, NTT Communications, NTT DATA, and NTT DOCOMO.

- 1. As of March 31, 2011
- 2. Section managers and above
- 3. As of April 1, 2011

Actively providing equal opportunities for female employees

NTT Group

The Diversity Promotion Office and group company diversity promotion supervisors share information on nurturing female leaders, supporting the balancing of work with child-rearing, boosting individual awareness, and other common goals, so as to implement the successful initiatives of individual companies across the Group. Such initiatives include the provision of company information to employees on childcare leave, training for employees preparing to return to work after childcare leave, illness, or other reason, and use of e-learning materials to promote understanding for diversity.

Nine NTT Group companies have also held a joint annual forum since fiscal 2009 to promote networking among managerial level female employees and motivate them to nurture future



loint forum held by nine companies

female leaders. These forums provide female employees from different group companies with an opportunity to exchange views, inspire each other, share concerns, and otherwise boost motivation.

Retirement-age employees able to continue working



The NTT Group launched its continuing employment program for retirement-age (60 years) employees in 1999. Employees wishing to do so can continue to work up to the age of 65 provided their health permits it.

Employees using this program can work in positions that make the most of the knowledge and skills that only they, with their rich work experience, can offer. The program also offers choice to match lifestyles, enabling its users to work full-time, short-time, or 3 or 4 non-consecutive days a week.

The large majority of retirement-age employees take advantage of this program, and in fiscal 2011, it was being used by 17,660 employees*.

* Yearly average number of retirement-age employees using the program in fiscal 2011

Expanding employment of people with disabilities

NTT Group

The NTT Group actively recruits people with disabilities and endeavors to expand hiring opportunities for them. Following NTT's establishment of NTT CLARUTY in 2004 and NTT DATA's of NTT DATA DAICHI in 2008, NTT West founded NTT WEST LUCENT in July 2009 as the third special subsidiary within the NTT Group.

NTT CLARUTY

NTT CLARUTY works for the expansion of employment opportunities for people with intellectual disabilities, as well as operating the Yu Yu Yu information portal site for people with disabilities and elderly people, universal design/accessibility support services, printed material digitization service, and a call center business. In fiscal 2010, it launched a new business card printing business that employs two people with intellectual disabilities, and in June 2011, a calendar production business that makes use of recycled paper and employs 28 people.

It also provided workplace training to students from special-needs schools and an organization that trains job coaches specializing in disabled employment (5 persons, 3 times in fiscal 2011), and workplace tours for groups from government agencies, special-needs schools, and employment support organizations (19 tours for 175 persons in fiscal 2011), as well as providing NTT Group companies with information and expertise on procedures for hiring people with disabilities, employment management, and creation of workplaces that address a diversity of disabilities. Employment of people with disabilities in NTT Group's special subsidiaries* stood at 1.88% on June 1, 2011, exceeding the mandatory employment quota of 1.8% for people with disabilities.

*NTT Group's special subsidiaries

NTT, NTT CLARUTY, and 32 other NTT-affiliated companies



NTT CLARUTY workplace

NTT DATA DAICHI

As a special subsidiary of NTT DATA, NTT DATA DAICHI prints NTT DATA Group business cards and collects and recycles used paper, as well as operating a massage business provided as part of the Group's benefits, and agriculture-related businesses including cultivation support, processing and sale of agricultural produce. It is also involved in training human resources for the IT industry, and operates a website production business that employs people with severe disabilities that make commuting difficult as teleworkers.

To create job opportunities and achieve the mandatory employment quota for people with disabilities, NTT DATA DAICHI started ornamental plant rental and paper recycling businesses in fiscal 2010, as well as launching an agribusiness in Nasu and PDF conversion business in Sapporo. To further expand disabled employment, in February 2011 it won a contract to clean lunch box containers. Its percentage of employees with disabilities rose from the previous fiscal year to stand at 1.95% as of June 1, 2011.



NTT DATA DAICHI workplace

NTT WEST LUCENT

NTT WEST LUCENT, which launched operations in September 2009 as a special subsidiary of the NTT West Group involved in document digitization and digital map production and maintenance, employs 10 people with disabilities. As of February 2010, it also provided work opportunities to 30 people with disabilities through teleworking that takes advantage of telecommunications industry strengths.



NTT WEST LUCENT workplace

Promoting respect for diversity and equal opportunity

Respecting individual capabilities and employing people of different nationalities

döcomo

NTT DOCOMO is endeavoring to hire people according to their individual capabilities irrespective of nationality. As of the end of fiscal 2011, it employs 72 foreigners in various sections both within Japan and overseas, including international, R&D, and corporate sales sections.

In fiscal 2011, NTT DOCOMO hired over 10 new foreign employees, and will continue to employ both new graduates and mid-career personnel with a diversity of backgrounds.

Supporting teleworking, childrearing, and family care

Promoting the use of teleworking systems

NTT Group

From the perspective also of further boosting productivity, major NTT Group companies are promoting the use of teleworking to enable more flexible work styles and better balancing of work with private life so as to support childrearing and family care.



NTT teleworker at work

Programs to support childrearing and family care

NTT Group

The NTT Group believes in the importance of balancing careers with private life, and offers child care and family care benefits that go beyond legally mandated levels. To address the issue of low birthrate and aging population, we also place no limits on the number of dependents that employees may claim under our family allowance system.

We are endeavoring to further improve our childrearing and family care support programs to address the needs of employees making use of them. In fiscal 2011, we revised these programs in line with the 2008 revision of the Child and Family Care Leave Law so as to make them easier for employees to use, and better enable our employees to balance work with childrearing and family care commitments.

We have also created NTT-LiFE+, a childrearing and family care support site, on the NTT Group intranet. In addition to providing details and instructions on the use of the various programs, NTT-LiFE+ carries all sorts of other information, including articles about employees who have succeeded in balancing work, childrearing and family care commitments.

Improving childrearing and family care programs, and making them easy to use



To better enable its employees to balance work with maternity, childrearing, and family care, NTT DATA Group has introduced leave programs that go beyond legally mandated levels, and is fostering employee awareness to make these programs easier to use.

It also endeavors to dispel work-related anxieties of employees on leave and help them to make a smooth return to work by, for example, lending thin clients to employees taking childcare and family care leave, and arranging meetings between leave takers, their superiors, and personnel section staff.

In November 2010, NTT DATA held its first seminar for employees taking childcare leave. About 40 childcare leave takers participated in the event with their children, receiving advice from their seniors and exchanging information with each other. With the cooperation of Seacare, a family care NPO, in October 2010, NTT DATA also held its first seminar on helping to balance work with family care commitments. At the seminar, healthcare journalist Toyoko Ochi explained exactly what employees would need to do if required to care for a family member, and urged her audience of over 100 employees to try to balance work with family care rather than give up working if faced with such a situation.

NTT DATA will continue to foster a corporate culture that makes it easier for employees to use its leave programs.

Fair evaluation and support for developing capabilities

Introducing measures for boosting employee motivation and satisfaction with evaluation



The NTT Group implements policies aimed at enabling each and every employee to make the most of their abilities as members of Team NTT, and to grow as competent professionals and take the initiative in developing their careers.

Improving personnel and pay systems

We strive to create personnel and pay systems that reward team play, special skills, and other strengths as well as individual performance. In fiscal 2011, we integrated qualification grades so as to guarantee time for training of young employees and ensure their steady growth as professionals.

• Helping employees to develop their abilities

In addition to group training in various fields of business, we help employees who are eager to get ahead by providing many other training opportunities including e-learning, distance learning, in-house certification of skill levels, and support for earning qualifications.

• In-house recruitment programs

We raise motivation and promote networking within the Group by providing in-house recruitment programs like NTT Group Job Challenge and NTT Group Venture that present ambitious employees with opportunities to seek new challenges. In fiscal 2011, about 300 employees used such programs to transfer to their desired workplace.



NTT Group Job Challenge Web screenshot

Promoting respect for diversity and equal opportunity

Providing training programs with overseas subsidiaries



NTT Communications is promoting the global development of personnel under its "Global One Team" slogan. Under the leadership training program that it launched in fiscal 2010, 13 locally hired employees of overseas subsidiaries have come to Japan to gain experience in Japanese business practices by working for a certain time at the parent company.

NTT Communications also launched a program in July 2011 aimed at nurturing young people capable of performing on the world stage as early as possible by sending first or second year employees to gain global experience by actually working in overseas subsidiaries.

Nurturing employees capable of performing on the world stage by posting them to overseas companies

döcomo

To nurture employees capable of performing at the global level, NTT DOCOMO has since 1993 sent personnel to gain practical skills in overseas companies. In fiscal 2012, it sent five employees for one-year terms to companies in the USA, Spain, Singapore, and the U.K. Familiarizing themselves with local culture and customs and taking advantage of training opportunities, these employees also come to gain real-world work experience.

Nurturing professionals



NTT FACILITIES endeavors to nurture true professionals who have gained advanced skills in their fields of specialization that enable them to constantly come up with the best solutions. To this end, it provides a wide range of specialized technical training according to job, and encourages employees to gain official qualifications such as 3rd Class Chief Electrical Engineer and 1st Class Registered Architect.

NTT FACILITIES has in recent years also established subsidiaries in the USA, China, and elsewhere, and is accordingly training employees capable of performing globally. In fiscal 2012, it plans to provide on-the-job training in its overseas subsidiaries, and also to dispatch trainees to other overseas companies.

Creating safe and healthy workplaces

Occupational safety and health

Establishing rules and management systems for protecting safety and health

NTT Group

In addition to observing relevant laws and regulations, the NTT Group endeavors to provide further protection of its employees' safety and health by establishing its own Safety Management Rules and Health Management Rules and taking measures to ensure their smooth implementation.

More specifically, we appoint safety managers and establish safety management organizations, provide regular health checks, arrange workplace inspections by industrial physicians, and otherwise endeavor to create safe and comfortable workplaces and promote the health of our employees.

Helping employees to manage their health for the prevention, early detection and treatment of illness

(O) NTT Group

The NTT Group recognizes the importance of proper employee health management, including the prevention, and early detection and treatment of illness, and each group company makes counseling available to employees, provides healthcare services, implements measures to prevent illness caused by overwork, and encourages employees to actively monitor and manage their health.

We have in recent years been putting special priority on mental health issues, and provide preventative programs such as mental health assessment through the NTT intranet, outside counseling, and mental health seminars.

We also provide workplace managers with training to help them maintain effective communication with their employees and detect changes in the well-being of their employees early on.







Rigorous safety education for employees who engage in hazardous tasks

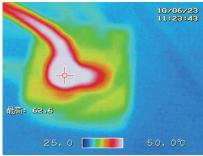
O NTT

NTT Science and Core Technology Laboratory Group provides all new employees with education in its safety policies and knowledge essential to the safe implementation of research activities at the R&D Center. As part of its safety education program, it also encourages employees who are involved in the handling of chemicals or other hazardous tasks to obtain specialist qualifications such as Specialist in the Handling of Organic Solvents so as to gain relevant safety knowledge.

Maintaining workplace safety through regular safety inspections



NTT Cyber Communications Laboratory Group conducts monthly safety checks of its labs and other spaces to ensure the safety of its employees, and is endeavoring to enhance its inspections. If, for example, a laboratory power socket is being overused, it might overheat and pose a fire risk, and so to prevent fires, the Group now uses thermography to check for hot spots.





Creating safe and healthy workplaces

Initiatives to eliminate accidents

NTTFACILITIES

As part of its efforts to eliminate accidents, the NTT FACILITIES Group held a Safety Conference 2010 at the Shinagawa Kokuyo Hall in Tokyo in April 2010.

The event drew an audience of 276, including representatives of the NTT Group and telecommunications construction and architectural partners in addition to NTT FACILITIES Group personnel. Aimed at raising awareness of safety and unifying ideas on the implementation of safety policies, the conference program included keynotes by outside experts, and presentations on NTT FACILITIES Group safety initiatives and the efforts of partner companies to prevent recurrence of accidents based on examples of accidents that occurred in the previous year.



Safety Conference

Preventing overwork

Group company measures for preventing overwork according to business



The NTT Group takes measures to protect the health of its employees and prevent them from overworking, including designating every Wednesday as a day when employees should refrain from working outside business hours. Group companies also actively implement their own measures for preventing overwork tailored to their particular businesses.

Using PC log management functions and other means to promote appropriate work habits





NTT DATA, NTT FACILITIES, and NTT COMWARE make use of PC log management functions that record login and logout times to help promote appropriate work habits and prevent overwork.

NTT DATA

In January 2009, NTT DATA deployed software for automatically recording login and logout times of all employee computers to prevent employees from overworking.

Based on employee work hours data obtained through this software, both employees and their managers can monitor work hours, and consult with each other on remedies as occasion demands. The same data is also checked against the self-declared work hours reported by employees to the company's existing work management system to identify any unaccountable disparities and enable employees and their superiors to review work habits and prevent unpaid overtime.

Such measures have raised employee awareness of their work hours, as a result of which average annual work hours per employee for fiscal 2011 decreased to 1,991 hours from the previous year's 2,003 hours — the second consecutive year-on-year drop. NTT DATA aims to keep average work hours to less than 2,000 hours, and if possible achieve further reductions.

NTT FACILITIES

In addition to using PC log management functions, NTT FACILITIES seeks to manage and reduce employee work hours by measures such as requiring employees to post color cards specifying anticipated overtime hours. It also helps employees to manage their health through ensuring strict compliance with rules designed to prevent impairment of health through overwork, and requiring employees working long hours outside normal business hours to consult with industrial doctors.

These initiatives resulted in a year-on-year reduction in total overtime up to the fourth quarter of fiscal 2011. In the end, total overtime rose slightly as a result of the Great East Japan Earthquake, but these efforts themselves have taken root, and NTT FACILITIES will continue to work on the appropriate management and reduction of work hours.

Mental health care

Establishing means for the early detection and treatment of mental health problems



In addition to health consultations with industrial physicians, the NTT Group provides counseling services that make use of external employee assistance programs (EAP*) to help in the early detection of mental health problems. We also endeavor to pick up early signs of problems through having our managers hold regular personal talks with their staff, rather than depending only on employees to come forward and seek help of their own accord.

* Programs designed to help employees deal with personal problems through counseling so as to improve work performance or assist in the early return to work of employees on leave for mental health reasons, etc.

Expanding mental health care programs



NTT Group companies are endeavoring to enhance the day-today management of the mental health of their employees through providing an increasing range of programs and services tailored to their respective businesses and type of work.

NTT East

In fiscal 2011, NTT East made its NTT East Group "Ask Anything" Advice Dial service for employees and their families available to temporary, contract, and part-time employees as well as full employees, and provided a broad range of e-learning materials. It also conducted an online questionnaire-style stress check for employees aged 20-29 as a measure focused on company position, age, and other parameters, and is working with its Health Management Center to implement mental health checkups and personal interviews with health management doctors, and provide guidance on workplace improvement.

NTT Communications

NTT Communications provides its managers with organized "mental health keeper" training to enhance their abilities to watch over the mental health of their staff and respond appropriately to any personal problems. In fiscal 2011, almost all of its managers earned the Mental Keeper qualification. Moving forward, NTT Communications plans to extend this program to its domestic group companies, and to develop counseling services for employees posted overseas.

NTT DOCOMO

NTT DOCOMO provided all of its employees with feedback from its online questionnaire-style mental health checkups in fiscal 2011 as it has in the past. It also endeavored to further raise awareness among its managers of the importance of mental health care by providing all of them with relevant training in fiscal 2011.

NTT FACILITIES

NTT FACILITIES opened an independent counseling center not directly connected to the company to provide counseling to employees and their families on matters related to their work, interpersonal relationships, private life, and other personal issues. The center respects the privacy of employees seeking advice, and reveals no details of consultations to the company without the permission of person concerned.

NTT FACILITIES also issues a "Welfare Newsletter" aimed at promoting the use of counseling services by its employees, and from fiscal 2011, is providing e-learning to provide basic knowledge regarding mental health, and help to prevent personal problems.

NTT COMWARE

NTT COMWARE provides all employees with guidance on health issues and educates them about the importance of maintaining good health through its health management center. It also publishes and distributes to all managers its Health Management Guidebook which brings together important information related to maintaining good health.

In fiscal 2011, NTT COMWARE provided three mental health training courses tailored to the skills and experience of its employees (15 sessions, 96.6% attendance). These courses explained the importance of self-care in the prevention and early detection/treatment of mental health problems, and also provided information on support to help those on leave for mental health problems to return to work.

Citizenship activities

 Citizenship activities: basic policy and its implementation

Implementing citizenship activities in environmental conservation and five other areas

NTT Group

All NTT Group company personnel and their families as well as former NTT employees, and people from local communities actively participate on a sustained basis in our citizenship activities as members of Team NTT.

In line with the Team NTT communication pledge set forth in our CSR Charter, we carry out citizenship activities in the following six areas: environmental conservation, social welfare, education and cultural promotion, local community development and dialog, international exchange activities, and sports promotion.

Particularly where environmental conservation is concerned, since fiscal 2010 we have been implementing groupwide environmental contribution activities that involve the participation of employees under the slogan "Green with Team NTT".

New priority policies adopted in fiscal 2011 include the collection of PET bottle plastic caps for the Ecocap Movement, elimination of disposable chopsticks from employee dining halls and plastic shopping bags from kiosks, participation in local community cleanups, and greening of building rooftops. As a result of setting groupwide numerical targets for top priority policies and calling for the cooperation of all group companies, we managed to surpass fiscal 2011 targets by a large margin (see table below).

Green with Team NTT priority policy progress status

	Fiscal 2011 target	Fiscal 2011 result
PET bottle caps collected	20,000,000	27,750,000
Local community cleanup participants	100,000	92,204

Green with Team NTT is one of the three approaches set forth in THE GREEN VISION 2020, the NTT Group vision for the environment announced in November 2010. We will continue to involve our employees in efforts to further reduce environmental impacts.

Details regarding specific initiatives can be found under "Green with Team NTT" in the "Communication between people and the global environment" section of this report.

Policy for environmental contribution activities

In addition to our business activity-based initiatives, we encourage all of our employees to reduce environmental impacts by participating in eco-friendly activities in their homes and local communities as well as workplaces.

Support for citizenship activities



Based on the belief that participation in citizenship activities can help to broaden the mind, NTT Group companies are implementing an increasing range of policies to support employee citizenship activities, informing employees of support programs, and commending citizenship activities carried out under such programs. Other programs include a Matching Gift Program under which group companies match donations collected independently by employees, and a Volunteer Gift Program under which group companies donate goods to facilities, etc. where employees are engaged in voluntary citizenship activities.

Under the fiscal 2011 Matching Gift Program, NTT matched funds raised from employees by a voluntary employee welfare organization for donation to a social welfare corporation based in Yokosuka City.

Key programs in support of volunteer activities

Program	Details
Volunteer Gift Program	This program provides goods from the volunteer's company to facilities, etc. where the volunteer has been active over a long period of time.
Matching Gift Program	Under this program, NTT Group companies support employees' fund-raising and charity activities by matching donations made by employees.
Volunteer Leave Program	This program enables employees to take extended leave for volunteer activities in line with life design plans or for personal growth.

Fund-raising to aid the recovery of areas affected by the Great East Japan Earthquake



In addition to an initial donation of ¥1 billion from NTT Group companies to aid the recovery of areas affected by the Great East Japan Earthquake, a further sum of over ¥1 billion was raised through an earthquake recovery support charity website, donation of points earned through membership services, and other means, making for total donations of over ¥2 billion. Employees also organized collections and joined customers in efforts to support the recovery of affected areas.

Examples of citizenship activities

Distribution of "Please Call" notebooks and "Contact Express" fax forms

O NTTEAST O NTTWEST

As part of their efforts to help people with hearing and speech impairments to communicate, NTT East and NTT West distribute "Please Call" notebooks and "Contact Express" fax forms through local authorities and welfare organizations. The "Please Call" notebooks are designed for people with such impairments to write a number and message and ask others nearby to make a phone call for them.

Summer vacation interactive science classes for children

O NTT

NTT Information Sharing Laboratory Group holds interactive science classes for elementary and junior high school children over the summer vacation. The classes aim to boost interest in science by enabling children to experience it first-hand in a fun way, and to let the children learn about telecommunications and the latest



Summer vacation interactive science class for children

technologies through interactive exhibits. In fiscal 2012, 106 elementary and junior high school students participated in four such classes in August.

Holding sports classes and coach training sessions, and organizing/supporting sports events

NTT Group

To help with the personal growth of young people, the NTT Group holds soccer, baseball, badminton, and other sports classes for elementary and junior high school children, and training sessions for sports coaches. It also engages local communities through sports by organizing and actively supporting sports events through providing volunteer umpires and other helpers.

Participating in Kodomo 110 programs to protect children

O NTTEAST O NTTWEST

docomo O NTT LOGISCO

The NTT Group participates in Kodomo 110 programs that offer protection to children who feel threatened and promptly alert police, schools, and parents/guardians. We place stickers in participating



docomo Shops and on company vehicles informing children that they can seek help when they feel the need.



Company vehicle with Kodomo 110 sticker

ChiChibu Rice Terrace Revitalization Project



NTT Communications has since fiscal 2009 run a ChiChibu Rice Terrace Revitalization Project. The aim of the project is to enable employees to learn about the importance of protecting the environment through helping to restore and preserve terraced paddy fields, while at the same



Planting rice

time contributing to revitalization of the local community. In fiscal 2011, a total of 440 people participated in five activity sessions from planting to harvesting. About 30 kg of rice was harvested.

Reforestation activities with the Philippines' **PLDT Group**

döcomo

NTT DOCOMO has since summer 2008 been involved in joint reforestation activities in the Philippines with the Philippine Long Distance Telephone Company (PLDT) Group in which NTT DOCOMO has a stake. A part of the revenue from the sale of materials recovered from used mobile phones collected at docomo Shops and elsewhere is used to cover reforestation costs. The number of trees planted in fiscal 2011 was 377,041, bringing the cumulative total since 2008 to 904,980 trees.

Third party opinion



Koichi Ikeda Professor, Rikkyo University Graduate School of Business Administration: Visiting Professor. Ritsumeikan University Graduate School of Management; Standing Director, Japan Society for Business Ethics Study; Trustee,

Every page of this CSR Report 2011 clearly communicates the NTT Group's commitment to CSR, its CSR goals and structure, and the keen sense of mission of its many employees.

The president's message that "it is the mission and corporate social responsibility of the NTT Group to contribute to the resolution of social issues both within Japan and in the world at large through leveraging our core competence of ICT" is a clear statement of commitment that embodies the essence of CSR. Under its CSR Charter, the NTT Group has set itself the four goals of communication between people and their communities, communication between people and the global environment, safe and secure communication, and Team NTT communication, with each group company implementing initiatives based on the NTT Group CSR Priority Activities and the Guidelines for NTT Group CSR Activities.

The way in which its CSR goals and framework match the nature of its business enables the NTT Group to pursue its current CSR initiatives hand-in-hand with business goals and gives good reason to expect implementation of CSR management in line with global standards. Group companies are engaged in a tremendous array of CSR activities, and those activities have been given comprehensive coverage in this report, but in a very readable form through the plentiful use of photos and illustrations, and presentation in line with the above framework.

It goes without saying that the telecommunications networks that the NTT Group handles are absolutely indispensable to the functioning of society, business activities, and economic development. In the emergency situation brought about by the

Great East Japan Earthquake that struck on March 11, communications were particularly crucial both to victims of the quake and tsunamis, and to those involved in rescue and recovery efforts. Through the use of striking photos and concise prose, the Special Report at the start of this CSR report describes the all-out efforts of employees of NTT Group and partner companies to restore the telecommunications infrastructure of the affected areas, and their deep sense of mission is manifest on every page. The same goes for the various initiatives that are being accelerated in the wake of the Great East Japan Earthquake, as introduced in the special feature on R&D aimed at building a robust communications infrastructure.

Most users no doubt view fixed-line and mobile phone services, voice communications and data communications as completely separate from each other, so the way that fixed-line service equipment was used to support mobile services after the quake struck serves to remind us that these various networks are closely intertwined. Enterprises have succeeded in boosting the efficiency and effectiveness of their business activities through increasing organizational and functional differentiation, but we are entering an age in which, in the face of increasing globalization, environmental issues, and risks, integration in various forms is becoming a management buzzword. The NTT Group is a CSR frontrunner, and so I have high hopes that while its group companies actively pursue business goals in their respective fields of specialization, they will strive to tighten their organic integration so as to better fulfill their social responsibility under their shared CSR commitment, goals, and structure.

Reader feedback

Our response

Professor Ikeda gave us high marks for the clarity of our CSR commitment, goals, and structure, and the keen sense of mission of NTT Group employees. The employees who performed their public duty and fulfilled their responsibility to society by applying the collective strengths of the Group to restoring vital communications in the areas affected by the Great East Japan Earthquake should take particular pride in Professor Ikeda's comment that "their deep sense of mission is manifest on every page".

With regard to his expectations for the NTT Group moving forward, Professor Ikeda expresses hopes that our group companies will strive to tighten their "organic integration" so as to better fulfill their social responsibility under their shared CSR commitment, goals, and structure. We much appreciate this valuable opinion as one that touches on the core of CSR in practice, and we shall make tighter integration a priority as we implement the NTT Group's CSR policies.

Fulfilling our social responsibility in present-day society increasingly requires not only that we integrate our CSR activities with business goals, but also that we enhance our organic integration on many different fronts to provide, in the words of our NTT Group CSR Charter, "communications that serve people, communities, and the global environment". Such initiatives include our NTT ID login service, an example of integration spanning the whole group that addresses customer needs by enabling access to the services of different group companies through a single login ID, and our Education Square x ICT project, an example of cross-industry integration that aims to contribute to society by leveraging the power of ICT in education to develop new learning methods.

To achieve the goals of our "Road to Service Creation Business Group" Medium-Term Management Strategy too, we will intensify discussion within the Group on furthering organic integration with our stakeholders through leveraging our core competence in ICT to contribute to the resolution of social issues.

We will do our utmost to fulfill our social responsibility and show ourselves to be worthy of Professor Ikeda's estimation of the NTT Group as "a CSR frontrunner". We will continue to put priority on communication with our stakeholders and strive to contribute to the sustainable development of society.

Kaoru Kanazawa

Senior Executive Vice President, NIPPON TELEGRAPH AND TELEPHONE CORPORATION

Editorial postscript

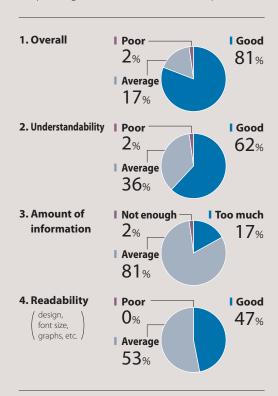
Based on feedback provided by our stakeholders, we have endeavored to make this report as readable as possible. We would like to express our heartfelt gratitude to Professor Koichi Ikeda, the participants in the dialogues on our four CSR goals, and to all others both within and outside the Group who have provided us with their valuable views and cooperation

Participants in the dialogues expressed their hopes that we will make effective use of the NTT Group's many different resources. We will continue to put priority on communication with our stakeholders and do our utmost to fulfill our corporate social responsibility to contribute to the sustainable development of society.

CSR Promotion Office, NIPPON TELEGRAPH AND TELEPHONE CORPORATION, December 2011

Results of NTT Group CSR Report 2010 questionnaire survey

We would like to thank all those who responded to our questionnaire both by post or fax, and via our website. We will make use of your valuable opinions in the planning of future CSR activities and reports.



Representative opinions

Building systems for healthcare applications has long been talked about, and since the infrastructure for such systems can only be deployed by telecommunications businesses, I feel that the way the NTT Group is making this futuristic technology a reality embodies the purport of CSR, namely the leveraging of core competences to contribute to society.

I was interested to read about how NTT as an enterprise involved in information handling is endeavoring to help create a low carbon society from both equipment and systems aspects.

I feel that information security and the development of infrastructure to guard against disasters that are featured in the section titled "Providing peace of mind around the clock with telecommunications services robust enough to withstand disasters" are particularly vital. I got the impression that the NTT Group is endeavoring to contribute to the creation of a prosperous society while at the same time paying attention to the environment, and feel that it has a bright future as an enterprise.

Recycling resources and such like are only to be expected, but I was surprised to find out that the NTT Group is involved in so many different ways in conserving biodiversity.



NTT Group CSR Report 2011

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