JR East Group

CSR Report

2015

Aiming for a Sustainable Society

CONTENTS

More detailed information is available on our website:
http://www.jreast.co.jp/e/environment/

Corporate Profile

Corporate name	East Japan Railway Company
Address	2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo, Japan
Established	April 1, 1987
Capital	200 billion yen
Number of employees	58,551 (as of April 1, 2015)

Editorial Policy

The CSR Report 2015 sets forth various initiatives being taken in the JR East Japan Group. It is published for the purpose of providing an accurate and simple description of these initiatives as well as promoting communication with our diverse stakeholders.
This report presents activities and progress in line with the JR East Group Management Vision V-Ever Onward.
While our desire remains to offer as much information as possible related to the safety, society, and environment, the report itself focuses in particular on areas where there have been notable changes.
For more information on the overall activities of the JR East Group, please go to our website.

This report also serves as a safety report required to be publicly announced by the Railway Business Act.

References
G4 Sustainability Reporting Guidelines [Global Reporting Initiative]
Environmental Reporting Guidelines 2012 [Japan Ministry of the Environment]
Environmental Accounting Guidelines 2005 [Japan Ministry of the Environment]

Reporting period
This report basically covers our activities from April 1, 2014 to March 31, 2015, although some events presented here happened earlier or in the period between the end of March 2015 and the publication of this report in October 2015.

Boundary of reporting
This report covers activities of East Japan Railway Company and its 72 Group companies. Except for those described individually, actual performance data cover JR East alone.

Figures in this report
Totals may not match the sum of individual figures due to rounding.

Note: External Assurance on environmental performance and environmental accounting data
KPMG AZSA Sustainability Co., Ltd. has been engaged to provide external assurance on a set of selected environmental performance and environmental accounting indicators so that the reliability of the data is ensured. The particular indicators that are assured are marked with a ☆ for clarity.

Group Philosophy

The JR East Group aims to contribute to the growth and prosperity of the East Japan area by providing quality leading-edge services, with train station and railway businesses at its core, to customers and communities.

We will continue to embrace the challenge of pursuing "extreme safety levels" and service quality reforms. Through technological innovation and globalization, we will strive to attain goals such as nurturing personnel with an expansive perspective, spurring the advancement of railways, and making line-side areas more attractive and convenient. To this end, JR East will continue to rigorously pursue its unlimited potential.

We aim to grow continuously while meeting our social responsibilities as a *Trusted Life-Style Service Creating Group*.

Basic Principles

1. Together with customers and communities

We will put our hearts into providing good service and living up to customers' and communities' expectations.

2. Enhancing safety and quality

We will aim to enhance safe and reliable transportation services and service quality.

3. Pursuing unlimited potential

With an expansive perspective and based on our calling, we will pursue the JR East Group's unlimited potential.

Thriving with Communities, Growing Globally

In October 2012, we formulated our fifth medium-term management plan, "JR East Group Management Vision V-Ever Onward." Under the slogan "Thriving with Communities, Growing Globally," the plan renews our commitment to the twin pillars of our business: "fulfilling our eternal missions" and striving to succeed in our "pursuit of unlimited potential."

The experience of the Great East Japan Earthquake reminded all our employees of our ties to local communities and the great expectations that society places on our railway company. As a company responsible for maintaining social infrastructure, the disaster brought home to us how vital it is that we work with a sense of mission to meet the public's expectations.

Nearly three years have passed since the formulation of the JR East Group Management Vision V and we are now finally able to recognize the basic philosophy of our vision being shared throughout the JR East Group including our field sites. In tapping into the strengths of each one of our employees and together as a team within the JR East Group, we aim to focus on specific results in an effort to realize the basic premise behind our management vision, Thriving with Communities, Growing Globally.

Eternal Mission

As a group dedicated to our Eternal Mission, our fundamental duty is to contribute to the development of communities by providing safe and high-quality services. We must continue our efforts to meet the expectations that local communities have placed in us and reinforce the trust that is at the foundation of everything we do. This is why safety has always been our number one priority, and the reason we have constantly worked to improve our safety standards since the JR East Group was formed.

Nevertheless, in April 2015, a major incident occurred on the Yamanote Line between Kanda and Akihabara, with fallen electric poles on the tracks creating significant trouble and concern for many of our customers. Immediately following the incident, we conducted emergency inspections of all of the electric poles in our service area. And, in order to prevent the reoccurrence of such incidents in the future, we established a review board led by the Director General of Railway Operations Headquarters in the Railway Safety Promotion Committee to investigate and identify any and all specific details and reasons, including related background information, for the incident. In addition, we also founded the Electric Technology Management Center in order to enhance our technical support and risk management in design and construction. Moreover, emergency safety general inspections have also been completed at all of our field organizations to help uncover and eliminate any safety vulnerability across the JR East Group. Through measures such as these, we remain committed in our efforts to ensure the public's unwavering trust in our levels of safety.

In line with JR East's Group Safety Plan 2018, through the comprehensive awareness and daily efforts of each and every employee to address our safety challenges, we aim to extend beyond the realms of all departments and fields to realize "ultimate safety levels" through the development and harnessing of the capabilities and efforts of each one of these individuals as a team. In order to prevent the recurrence of near-miss incidents and potential accidents resulting from previously encountered variables, we also aim to enhance our railway operations and maintenance methods as part of our goal to completely eradicate any and all accidents related to internal factors. In addition, we are continuing our efforts to improve our preparedness for the event of a natural disaster. In addition to the 300 billion yen we have invested in seismic reinforcement to prepare for the eventuality of a major earthquake occurring directly beneath the Tokyo metropolitan area, we are also taking steps to guard against other natural disasters and extreme weather events. With the occurrence and resulting damage from major snowfall, heavy rain, and strong winds, among others, increasing in frequency in recent years, we are continuing our work to develop a railway that

can withstand natural disasters and weather of all types. Moreover, in order to reduce the amount of risk involved in accidents closely related to the public, such as incidents at level crossings and passengers inadvertently falling onto our tracks, we have, among other measures, increased the number of level crossing trouble alarm systems and introduced platform doors for stations on the Yamanote and other lines.
Together with safety, another one of our major missions is service quality reform. However, to our regret, our customers have experienced great inconvenience through such transport disruptions as the two incidents which occurred since April 2015, involving fallen overhead contact lines and incinerated cables. Consequently, as detailed in our Medium-term Vision for Service Quality Reforms 2017 which began in April 2015, JR East will continue its efforts to prevent the reoccurrence of such transport disruptions, and to further improve its information guidance in the unfortunate event of such a disruption in endeavoring to further enhance the quality of its transport services while rigorously pursuing passenger-friendly railway services. Additionally, since our decreasing population has become an unavoidable reality, it is also necessary for us to create further demands for the future use of railways. To this end, we will continue our efforts to expand the use of railways by making full use of the various expansions to our railway network, such as our extension of the Hokuriku Shinkansen to Kanazawa, and the opening of the Ueno Tokyo Line in March 2015. Furthermore, in order to further increase the flow of customers within our service areas, we are progressively preparing for the opening of the Shin Hakodate Hokuto section of the Hokkaido Shinkansen in 2016. And, as a measure to improve our network in the Tokyo metropolitan area, we are planning to further increase passenger seating through the introduction of Green Cars (1st class cars) to the Chuo Rapid Line in FY2021. We are also reviewing and bringing shape to our plans for access lines for Haneda Airport (Tokyo International Airport) to prepare for any possible future increases in airline usage.
As a group dedicated to “thriving with communities”, one of our fundamental duties is clearly to contribute to the development of those communities. Among our current endeavors, alongside those for our large-scale terminal stations such as Tokyo, Shinjuku, Shibuya, Yokohama, Chiba, and Sendai, we are also promoting the urban development of other stations which play key roles in major regional cities. In enhancing the neighboring areas of these stations and their functions as regional cores, we believe the attractiveness of the surrounding areas as a whole can be improved, creating new flow and revitalization for the regions. Specifically, for Shinagawa Station and the areas around, in coalition with concerned parties such as the national government and the Tokyo Metropolitan Government, we are tentatively planning to utilize the space created from our rolling stock depot to open a new station between Tamachi and Shinagawa in 2020, with further plans aimed at transforming the area into an international hub.
Additionally, for the vitalization of regional industries, we are actively promoting NOMONO 1-2-3, a manufacturing project for the expansion of agriculture, forestry, and fisheries to include food processing, logistics and marketing, and preparing for production at the JR Tomato Land Iwaki Farm.
Furthermore, to contribute to the overall restoration of regions damaged by the Great East Japan Earthquake, we are working to further increase tourist flows through our Fukushima Destination Campaign and improvements to Bus Rapid Transit (BRT) services along the Kesennuma and Ofunato lines. Aiming to promote the area with a greater focus on tourism, including the targeting of inbound tourist traffic, we are preparing for the commencement of operations of our cruise train, TRAIN SUITE SHIKI-SHIMA, and the realization of a “Golden Route for Travel in East Japan.”

Pursuing Unlimited Potential

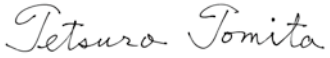
Based on the perspectives of technological innovation and globalization, we are committed to the realization of our unlimited potential while remaining steadfast in our pursuit of our eternal missions.
Rail travel enjoys a reputation as an environmentally friendly mode of transportation. However, the automotive industry, one of the main competing modes of transport for railways, has achieved remarkable developments in energy-efficient and environmentally friendly technology in recent years, including hybrid vehicles, electric cars, and fuel cell vehicles. Aiming for the further innovation of railways, we aim to embrace open innovation in order to utilize external developmental capabilities and intellectual property to vigorously promote technological innovation.
In responding to global environmental issues, based on a progressing consideration of the new global framework against global warming discussed at the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP), JR East is focusing on energy creation, energy conservation, and the introduction of smart grid technologies. Pertaining to energy creation, we are actively introducing solar, wind, geothermal, biomass, and other renewable energies. Specifically, we are aiming to transform northern Tohoku into a base for renewable energy production through such activities as our participation in the management of a bio-mass generation company in Hachinohe, Aomori in November 2014, the commencement of solar power plant operations in Katagami City, Akita prefecture in March 2015, and the founding of JR-East Energy Development Co., Ltd. in April 2015 for the development of wind power generation aimed at mainly the Tohoku region. In addressing energy conservation, we are continuing to develop facilities at our “ecoste” ecological model stations, bringing together a variety of environmental innovations, and are moving forth with plans to introduce storage- battery-driven electric car systems (ACCUM) for alternating current (AC) operations in selected railway sections to eliminate the use of overhead contact wires. We are also pursuing research and development for the efficient utilization of surplus electricity. In terms of smart grid technologies, we have plans in place to introduce energy management systems (EMS) into

stations. Additionally, we plan to continue with research and development for the efficient utilization of regenerated energy for timely commercialization.
Through the utilization of ICT and the increased introduction of monitoring equipment to model railway sections, we are targeting innovations to maintenance work with the goals of detecting signs of failure and initiating preventative maintenance for cost reductions in maintenance and faster restoration times in the event of a failure. Additionally, we are working the formulation of new station work procedures by introducing remote operation systems for stations, and the further innovation of our transport systems with the introduction of radio train control systems. Moreover, in order to accelerate the technical innovations of forefront employees, we will continue to reinforce our support efforts in the development of these individuals.
With regards to globalization, we are planning numerous railway projects planned for overseas, and aim to exploit our know-how in rolling stock manufacturing, maintenance, and railway operations to develop our business endeavors in global markets. Specifically, we have a future commitment to provide rolling stock and maintenance services for the MRT Purple Line in Bangkok, Thailand, and offer technical support for railway operators in Indonesia. In efforts such as these, we endeavor to actively increase the fields of business for our employees, and to expand our efforts to foster globally competitive individuals.

For the future

Moving forward, the JR East Group remains committed to its collective efforts to fulfill the group's "eternal missions" to provide safe and high-quality services, and to contribute to local communities. At the same time, we aim to continue our efforts toward technical innovation and globalization, working together with neighboring communities to discover new possibilities for the future.

Tetsuro Tomita
President and CEO
East Japan Railway Company



JR East Group Management Vision V — Ever Onward — Ever Onward

JR East was established as a result of the reform and privatization of Japanese National Railways (JNR) 25 years ago, and the Group is now at a crossroads of moving on into the next quarter century. With this as an impetus, and in light of major changes in our operating environment, for instance as a consequence of the Great East Japan Earthquake, JR East in October 2012 formulated a new management vision entitled "JR East Group Management Vision V - Ever Onward." This fifth management vision since the Company was established aims to once again renew the courses of action for the Group going forward.
Having set the continual fulfillment of "Eternal Mission" and of growth through "Pursuing Unlimited Potential" as two important pillars, the vision was drawn up to set forth management's basic direction and the Group's specific priorities for execution.

Our Calling —Basic Courses of Action for Management

The JR East Group's New Key Phrase

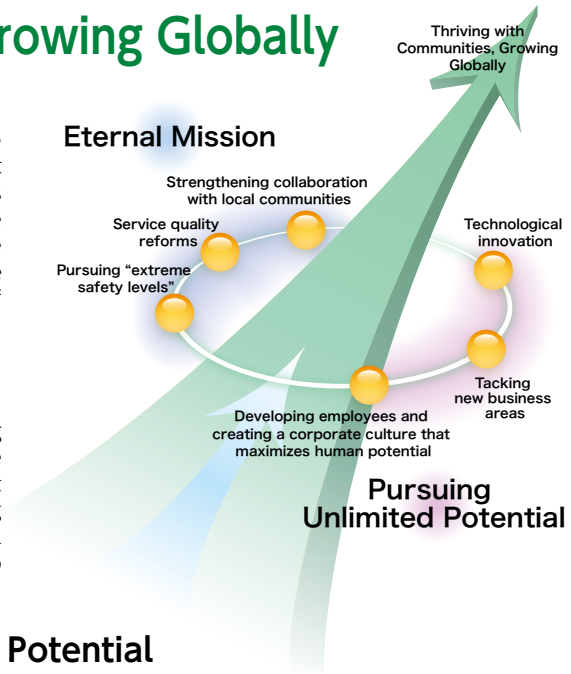
Thriving with Communities, Growing Globally

Thriving with communities

The Great East Japan Earthquake poignantly reminded us of the fact that companies cannot thrive without sound and vibrant communities. The East Japan area, our home ground, and Japan as a whole currently face a host of issues. As a corporate citizen, we are determined to fulfill our mission and execute businesses unique to the JR East Group in an effort to help solve those issues. The goal is to draw a blueprint for the future together with members of the community as we do our part to build vibrant communities.

Growing Globally

However, taking root in communities does not mean becoming complacent by turning inward. To continue to fulfill our mission, we must constantly transform ourselves and achieve growth. We must look outward and step out into the world, while actively seeking knowledge and technology externally. We believe that doing so will provide fertile ground for capturing new growth opportunities. To unlock our full potential, we must boldly step out into the world.



Eternal Mission and Pursuing Unlimited Potential

Under "JR East Group Management Vision V — Ever Onward," JR East has set "Eternal Mission" and "Pursuing Unlimited Potential" as two important pillars and has established six basic courses of action for the Group.

◆Eternal Mission

The JR East Group's fundamental mission is to provide safe and high-quality services that customers expect of the JR East Group and conduct railway and life-style businesses, with the aim of contributing to the growth and prosperity of communities. This fundamental mission will never change through the years. We have once again positioned this mission as a key tenet of management. At the same time, we will make relentless efforts to ensure that the content and quality of our services properly answer the expectations of society.

◆Pursuing Unlimited Potential

The JR East Group must achieve sustained growth in order to continue to fulfill its three-part eternal mission in the years ahead. In a fast-changing environment, maintaining the status quo will only mean falling behind. Unless we constantly take on the challenge of reaching new goals, we will be unable to achieve growth. The JR East Group and each and every Group employees will pursue the Group's unlimited potential.

KIWAMERU	Pursuing "extreme safety levels"—Building a railway capable of withstanding natural disasters
MIGAKU	Service quality reforms—Enhancing the rail transportation network and other measures
TOMO NI IKIRU	Strengthening collaboration with local communities —Supporting earthquake recovery, stimulating tourism and revitalizing communities
HIRAKU	Technological innovation—Forging strategies for conserving energy and the environment, utilizing ICT (information and communication technology) and operating the Shinkansen at faster speeds
NOBIRU	Tackling new business areas—Globalization
HABATAKU	Developing employees and creating a corporate culture that maximizes human potential

Ever Onward

We have adopted "Ever Onward" as the subtheme of "JR East Group Management Vision V." This subtheme carries forward the spirit of *"Idomu"* championed in JR East 2020 Vision — *idomu* —, our management vision formulated in March 2008. "Ever Onward" embodies our strong determination to drive the growth of our employees and the JR East Group as a whole by embracing new challenges such as technological innovation and globalization, as we pursue our unlimited potential.

Eternal Mission

KIWAMERU (Excel): Pursuing "extreme safety levels" —Building a railway capable of withstanding natural disasters

- Based on experience derived from the Great East Japan Earthquake, we have worked to implement earthquake countermeasures in preparation for events that are conceivable such as an earthquake directly beneath the Tokyo metropolitan area, focusing on both tangible and intangible aspects, in an effort to build a railway capable of withstanding natural disasters.
- We will strengthen countermeasures against train collision and derailment accidents and rail crossing accidents, along with installing automatic platform gates on station platforms. In these and other ways, we continue to promote the development of railways that passenger can utilize reliability.
- We will continue to tirelessly work to improve safety by pursuing a goal of "zero accidents involving passenger injuries or fatalities and zero accidents involving employee fatalities (including employees of Group companies and partner companies)."

MIGAKU (Improve): Service quality reforms – Enhancing the rail transportation network and other measures

- We aim to become No.1 in customer satisfaction in the railway industry by honing the quality of transportation services while rigorously pursuing passenger-friendly railway services.
- We will create new passenger flows, such as tourism, by steadily promoting several major projects. These include the opening of the Hokkaido Shinkansen to Shin-Hakodate Hokuto following the opening of the Ueno Tokyo Line and the Hokuriku Shinkansen to Kanazawa (March 2015).
- Besides striving to create new demand by upgrading and enhancing services for seniors, we will promote measures to enhance the convenience of Suica. Through these sorts of measures, we aim to further popularize Suica in society as an essential social infrastructure in daily life.

TOMO NI IKIRU (Together): Strengthening collaboration with local communities – Supporting earthquake recovery, stimulating tourism and revitalizing communities

- As a company responsible for railways, which are a crucial social infrastructure, and a member of communities, we will consider the future of communities together with local communities and take action accordingly.
- We have positioned the next five years (from FY2013 through FY2017) as an intensive period in which reconstruction from the earthquake will remain an urgent priority. Therefore, we will diligently execute measures to revitalize communities and promote tourism in ways unique to JR East.
- In the life-style business, we will promote three town development perspectives that will see us conduct development and business expansion initiatives integrated with towns surrounding stations. These measures will be centered on the development of large-scale terminal stations, the Tokyo metropolitan area railway network and core regional train stations.

Pursuing Unlimited Potential

HIRAKU (Pioneer): Technological innovation – Forging strategies for conserving energy and the environment, utilizing ICT (information and communication technology) and operating the Shinkansen at faster speeds

- We will embrace the approach of open innovation where we utilize external development capabilities and intellectual property and will vigorously promote technological innovation.
- We will emphasize measures to establish energy and environmental strategies in light of power shortage issues, develop new railway systems utilizing ICT that are unfettered by conventional notions, and embrace the challenge of operating Shinkansen at a maximum speed of 360 km/h.

NOBIRU (Grow): Tackling new business areas – Globalization

- The overseas railway market is projected to grow, and we will cooperate with companies worldwide to actively participate in overseas railway projects so that we will grow as a group.
- While continuing its challenges to enter into new business domains, we will hone JR East Group's technologies and expertise and establish an open and transparent corporate culture.

HABATAKU (Empower): Developing employees and create a corporate culture that maximizes human potential

- To ensure that employees are able to experience personal growth and fulfillment through their work, we will strive to provide numerous opportunities where highly motivated employees can succeed and tackle new challenges. At the same time, we will create a culture of respect for embracing challenges, where people feel empowered to try new initiatives.
- Through technological innovation and participation in overseas railway projects, among other means, we aim to build an open and transparent corporate culture and nurture personnel with an expansive perspective, as we foster employees who are able to take a broad interest in other industries and the world at large.
- To address the tumultuous management environment and allocate business resources to growing sectors, we will create a lean, muscular and agile management structure that is able to continuously generate profit.

Our fundamental concept of safety

Since the establishment of JR East, safety has been our top management priority, and we have worked relentlessly to heighten our levels of safety. Our earnest efforts to learn from unfortunate accidents in the past have enabled JR East to further the prevention of future accidents with our continued developments in both tangible and intangible aspects.
Pursuit of safety measures can never end. We will continue to work tirelessly to improve safety by pursuing a goal of "zero accidents involving passenger injuries or fatalities and zero accidents involving employee fatalities (including employees of Group companies and partner companies)."

General principles of Safety

JR East revised General principles of Safety for the code of conduct for its safety-related employees in March 2012. Based on lessons learned from the Great East Japan Earthquake and other occasions to date, JR East has added a fifth principle to remain calm and think by ourselves to reflect our fundamental concept of safety, "think and act by ourselves." This also reflects our belief that at the time of an emergency we first need to be calm, list our choices, and take the best action.

① Safety is the most important mission in transportation.
② Ensuring safety is based on exact observance of rules and procedures, and is achieved through constant practice.
③ Enforcement of confirmation and complete contact is most important for ensuring safety.
④ For ensuring safety we should cooperate together and go beyond our official responsibility.
⑤ When we have questions or must choose among several options, we should remain calm, think by ourselves, and take the safest course after thorough consideration.

JR East Group Management Vision V— Ever Onward

JR East formulated its fifth medium-term management plan, the JR East Group Management Vision V— Ever Onward, in 2012. We will continue our ceaseless efforts by setting an eternal mission to pursue "extreme safety levels" and building a railway capable of withstanding natural disasters.

Based on our experience from the Great East Japan Earthquake, we have worked to implement earthquake countermeasures in preparation for events that are conceivable such as an earthquake directly beneath the Tokyo metropolitan area, focusing on both tangible and intangible aspects. In these ways, we are working to build a railway capable of withstanding natural disasters.

We are also further promoting initiatives to prevent train collision, derailment accidents and rail crossing accidents. At the same time, we are taking steps to install automatic platform doors for the Yamanote Line and exploring the possibility of installation for other lines. In these and other ways, we continue to promote the development of railways that passenger can utilize reliably. We will also bolster activities aimed at achieving "extreme safety levels." For example, we will steadily make progress on initiatives based on 2013 Safety Vision, while formulating our next medium-term safety plan. Pursuit of safety measures can never end.

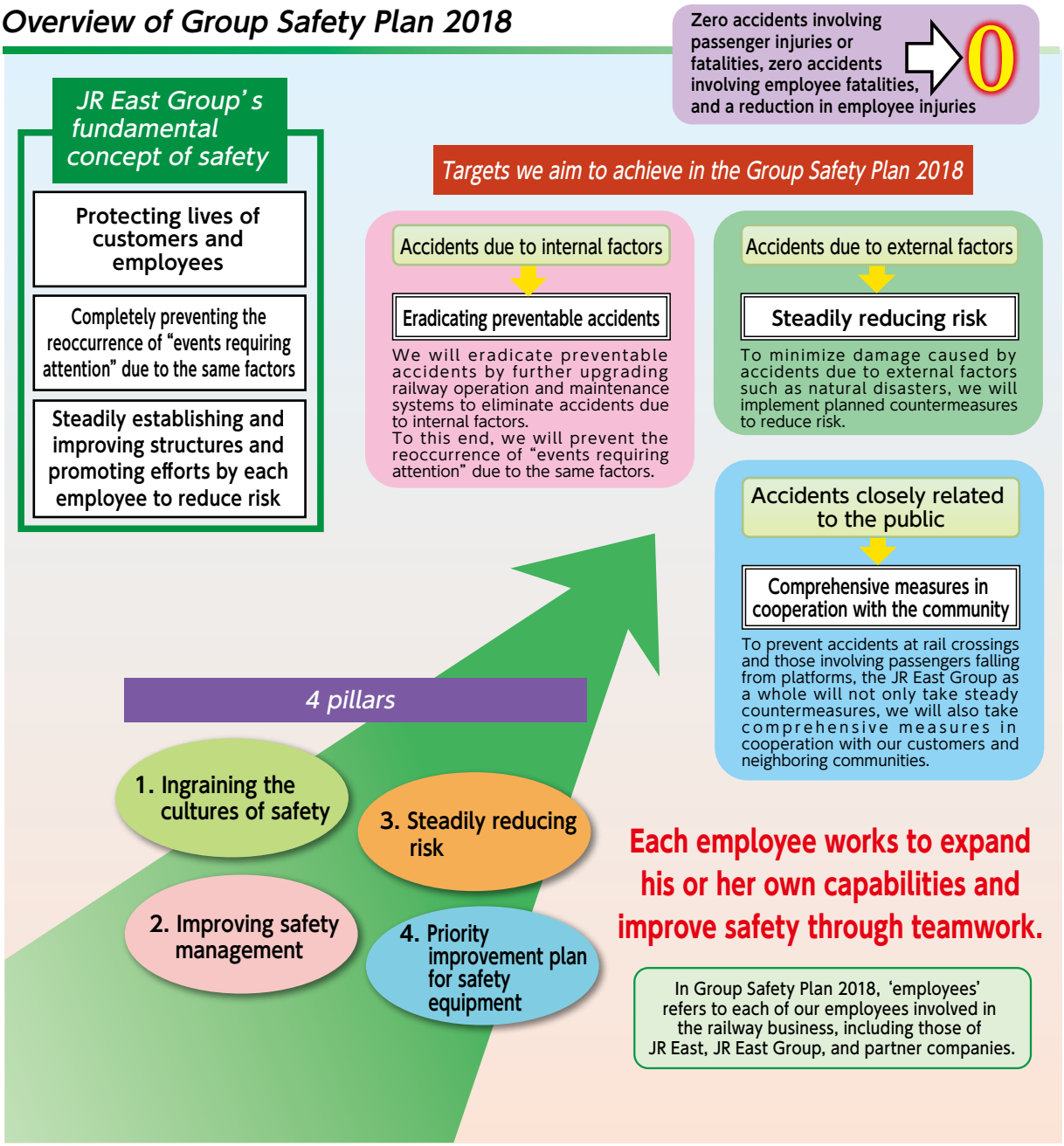
We will continue to tirelessly work to improve safety by pursuing a goal of "zero accidents involving passenger injuries or fatalities and zero accidents involving employee fatalities (including employees of Group companies and partner companies)."

① Responding to major earthquakes
  a) Promotion of seismic reinforcement and other countermeasures for earthquakes
  b) Rescuing customers and saving lives in the event of a disaster
② Responding to natural disasters and extreme weather events
③ Automatic platform doors
④ Promoting measures to prevent train collision and derailment accidents
⑤ Upgrading systems and structures to ensure safety

Group Safety Plan 2018

Since our establishment, upholding safety as our top management priority, JR East has been implementing a series of five-year safety plans. FY2015 marks the beginning of our sixth five-year Safety Plan, Group Safety Plan 2018. With each of us involved in the railway business committed to improving safety, JR East as a whole group will continue its challenge to achieve "extreme safety levels."
In Group Safety Plan 2018, together with redefining the direction we are taking as a company such as preventing accidents resulting from internal factors, we outline specific measures. Additionally, through our ongoing efforts to pass on technologies and promote measures to comprehensively understand the severity of accidents, we aim to further enhance safety management through the fostering of safety-conscious personnel.

Overview of Group Safety Plan 2018



4 pillars 1. Ingraining the cultures of safety

◇ We will steadily foster our culture of safety as the foundation for our safety measures.

Ingraining the JR East Group's 5 cultures of safety

5 cultures

A culture of proper reporting
The prompt and proper reporting of accidents and incidents, and the prevention of the recurrence of accidents.

A culture of noticing
The recognition and sharing of information regarding the potential sources of accidents in order to prevent accidents and incidents.

A culture of direct meeting and discussion
The open and honest discussion and exchange of opinion in investigating the causes of accidents and incidents in order to identify the causes of accidents and to take truly effective countermeasures against their recurrence.

A culture of learning
The continuous awareness of others, learning from accidents and incidents which occur in all places of work, not just in one's own workplace, and the implementation of appropriate countermeasures.

A culture of action
Safety can be ensured only by taking safe actions. Think and act by yourself. This is at the core of our safety.

Stopping trains when we feel it is not safe.

Safe and stable transport is important for our railways. Safety means protecting lives, while stability means ensuring on-time operations of our trains. However, though stable transport is important for us, safety comes first. Trying too hard to keep to schedule sometimes results in not properly following safety confirmation procedures, which leads to risking the safety of train operations. To secure the safety of our railway operations, the whole JR East Group will always follow our code of conduct to "stop trains" whenever we feel it necessary for safety reasons.


Train protection drill at General Training Center

Sangen Principle: Three Actualities Principle

Accidents and incidents always occur at the Genba.* This means that the sources of accident prevention can also be found at the Genba. JR East continues its search for answers which cannot be found from desktop theories, based on the "Three Actualities Principle" as its standard for action: actual locations, actual objects, and actual people.

*Genba: "Genba" means actual locations, objects, people directly related to the safety of our operations including points of contact with our customers and fields or workplaces of transport or services.

The Three Actualities Principle
Actual locations: visiting actual locations to understand actual conditions
Actual objects: viewing actual objects in order to understand actual conditions
Actual people: meeting face to face with people involved to understand actual situations

Challenge Safety Campaign

Since the company's foundation, we have been continuing our Challenge Safety Campaign with the aim of encouraging our employees to actively take on the challenge of further improving safety levels, rather than just passively maintaining safety. The campaign aims to encourage each one of our employees to actively endeavor to improve safety levels, think and discuss specific measures with each other and act upon them.

4 pillars ② Improving safety management

Fostering safety-oriented personnel

◇ The safety of our operations is supported by our frontline employees. To respond to the rapid changing of generations, we will steadily work on fostering safety-oriented personnel while also working on passing on our safety technologies and knowledge to future generations of workers.

Fostering safety-oriented personnel with a strong mindset in cooperation between Key Safety Leaders, Safety Professionals and General Training Centers

Fostering capabilities to flexibly respond to disasters

From the Great East Japan Earthquake on March 11, 2011, we have relearned the importance of being prepared for disasters on a daily basis and to think and act by ourselves at a time of a disaster.
To respond to an accident or a disaster immediately after its occurrence, we are required to remain calm to review our choices and make prompt decisions to ensure the safety of our operations and take the necessary actions. By discussing the actions required immediately after the occurrence of an accident or a disaster and preparing ourselves through training on a regular basis, JR East helps its employees to foster capabilities to respond flexibly to an accident or a disaster.

Steadily passing on necessary technologies

○ **Passing experiences and knowledge to future generations**

JR East will steadily pass on valuable experiences and knowledge that veteran employees possess including the circumstances that led to accidents in the past and the processes that led to the creation of current rules and regulations. We will also continue our efforts to increase the volume of these valuable experiences and knowledge of veteran employees to be shared with future generations.

○ **Increasing opportunities for employees to learn and challenge themselves**

In passing on technologies, we place importance on offering opportunities for each one of our employees to voluntarily learn and challenge themselves and we believe that this will eventually lead them to acquire knowledge of the technologies and improve their capabilities.

○ **Passing on experiences through the Chroniclers of Safety (narrators of oral history)**

We have organized a group of ex-employees from various departments who possess an abundance of knowledge and applied skills in railway safety to act as our “Chroniclers of Safety.” These Chroniclers of Safety share their safety-related experiences, such as the handling of accidents in the past, in the hope that they will pass their accumulated experiences and skills down to future generations.

Providing easy-to-understand learning materials and information

By utilizing ICT technologies, JR East offers an environment for employees to learn whenever needed from various learning opportunities such as Challenge Safety campaigns, regular trainings and drills, study sessions and individual learning. The necessary materials and information can be easily searched and processed for learning.

○ Development and improvement of the safety portal

JR East utilizes its safety portal site via the intranet as its safety-related information platform. Employees can access the necessary educational materials including videos whenever needed.

○ Development of e-learning

By utilizing devices such as tablets, we offer e-learning so that employees can learn whenever they want.

Further increasing the levels of safety through the concerted efforts of the whole JR East Group

To steadily and specifically promote our safety efforts, it is important that we share information and our safety values for the whole JR East Group including group and partner companies. We are committed to ensuring that all JR East Group employees share safety values and to continuing our efforts to further improve the levels of safety in our operations across the whole JR East Group.

Simplifying to minimize human errors

Devices and equipment requiring complex rules and numerous operations could result in human errors. JR East promotes the simplification of its operations by unifying the specifications of its devices and narrowing down its safety rules and regulations.
However, since many of the safety rules have been created from lessons from past accidents, as a condition of this simplification we make sure we understand the background to and objectives of each safety rule.

Deeply learning the dreadfulness of accidents

◇ By engraving dreadfulness of accidents in their memory, each one of our employees will take specific actions to prevent them from happening.

○ Further utilization of the Accident History Exhibition Hall

Since FY2015, all JR East employees visit the Accident History Exhibition Hall where actual trains from accidents and disasters are exhibited. We also continue to improve the educational materials available at the Accident History Exhibition Hall.

Exhibited trains at the Accident History Exhibition Hall

○ Development and utilization of simulator tracks with actual trains

By gradually preparing simulator tracks with actual trains, we will offer opportunities to our employees to experience simulations of accidents or incidences with actual trains.

○ Publication of major accident encyclopedia

We will continue the publication of our major accident encyclopedia with notes from those who were involved in the accident response at the time.

4 pillars ③ Steadily reducing risk

◇ By categorizing accidents into those due to internal factors, those due to external factors, and those closely related to the public, we have set directions to guide us in our work on measures to reduce the risk of these accidents.

Totally eradicating accidents due to internal factors

Our goal is to eradicate preventable accidents due to internal factors by further upgrading railway operation and maintenance systems. In addition to our risk reduction measures for personnel and management such as education and training, we will take all possible measures such as the utilization of technological developments in ICT, big data, and GPS. We will also review our safety-related procedures and further strengthen the countermeasures we have been putting in place.
To this end, we will focus primarily on preventing the reoccurrence of "events requiring attention" due to the same factors.

Reducing risk of accidents due to external factors

When the Great East Japan Earthquake occurred, the earthquake countermeasures that had been steadily implemented by JR East up to that time proved effective to a certain extent. On the other hand, we continue to acknowledge the importance of being prepared for unforeseen natural disasters. Additionally, we will steadily reduce the risk of damage being caused by the increasing incidence of natural disasters such as abnormal weather like torrential localized rain and gusts of wind, floods and volcanic eruptions. To minimize damage caused by natural disasters due to external factors immediately after an occurrence, JR East will take planned risk reduction measures.

Reducing risk of accidents closely related to the public

While we steadily take measures against accidents at rail crossings and customers falling onto tracks, we continue our efforts to ask our customers and neighboring communities to understand the risks associated with railways and to prevent the occurrence of such accidents.
We will take comprehensive measures including accident prevention campaigns on platforms, escalators, or railway level crossings, and the elimination of level crossings in cooperation with local municipalities.

○ Measures against major accidents

We will steadily implement countermeasures by learning lessons from major accidents in the past.
(Specific measures)

Measures taken after the Uetsu Main Line train derailment accident (Dec. 25th, 2005)

- Increased installation of anemometers and operation restriction zones for heavy wind
- Research and development to predict local gust
- Reviewing operational restriction methods by utilizing meteorological information
- Increased installation of windbreak fences

Measures taken after the Fukuchiyama Line train derailment accident (April 25th, 2005)

- Speed check by introducing ATS to curves, turnouts, terminals, and descending grades
- Increased introduction of automatic train protection radio transmission devices
- Complete introduction of emergency braking equipment

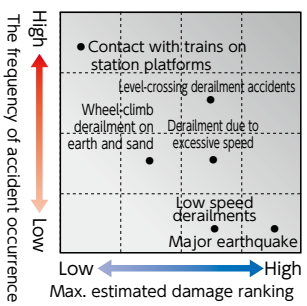
Measures taken after the Joetsu Shinkansen train derailment accident (Oct. 23rd, 2004) for large-scale earthquakes

- L-shaped car guide and rail rollover prevention device
- Strengthening seismic reinforcement for embankment, cutting, elevated bridges, electric poles, ceiling and walls of station buildings and platforms
- Further improvement of systems to promptly decelerate and stop Shinkansen trains immediately after an earthquake

○ Further prediction of possible risk and related countermeasures

Though some risk might not be recognized as risk, with changing circumstances surrounding railways some might evolve into a risk to operations in the future. We will monitor the changing risk on a regular basis so that we can predict the possible risk and implement proper countermeasures beforehand.

By reviewing the changing risk of possible accidents on a regular basis by using risk evaluation methods, we can determine the priority of the necessary countermeasures.



An example of our risk evaluation methods

4 pillars ④ Priority improvement plan for safety equipment

◇ Regarding our prioritized improvements to safety equipment, JR East has invested more than three trillion yen over the 28 years since the company's establishment in 1987.
◇ We will continue our priority improvement to safety equipment in FY2016.
◇ For five years from 2014, JR East is estimated to invest approximately one trillion yen in its safety equipment.

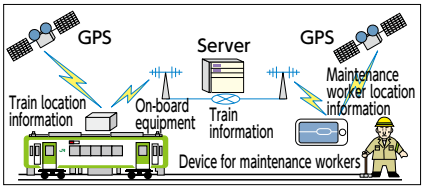
Eradicating accidents due to internal factors

○ **Those related to railway operations**
- Increased introduction of ATS-P and ATS-Ps to prevent violation of signals and excessive speeding by trains
- Introduction of systems to transmit information such as temporary speed restrictions to train drivers in strong wind or heavy rain.

○ **Those related to rolling stock and equipment**
- Introduction of new type railcars with carbody structures for improved safety levels
- Increased introduction of backup equipment to further ensure the secure operation of level crossings when trains are passing
- Safety measures for aging facilities (extension of their life through planned renewals and repairs)
- Commercialization of technologies to monitor on-board equipment and ground facilities by commercial trains with inspection equipment.

○ **Those related to maintenance and construction**
- Commercialization of warning equipment to alert staffs about approaching trains by utilizing GPS
- Systemization of procedures to prevent trains from entering sections under construction
- Measures to prevent collisions between commercial trains and maintenance vehicles involved in construction work.

○ **Safety measures for the speed increase of Shinkansen and for the expansion of the high-speed rail network**



Train approach alarm equipment utilizing GPS (image)

Reducing risk of accidents due to external factors


Measures against large-scale earthquakes (seismic reinforcement of embankment)

○ **Measures against large-scale earthquakes**
- Increased seismic reinforcement for embankments, cuttings, elevated bridges, electric poles, and facilities such as the ceiling and walls of station buildings and platforms
- Improvement of systems to more promptly decelerate and stop Shinkansen trains immediately after an earthquake.

○ **Disaster prevention measures against rainfall**
- Improving durability of civil engineering facilities such as embankments and cuttings

○ **Measures against rock falls and mud slides**
- Improvement of rock fall protection work, slope protection work, and guard fences against landslides
- Development of systems to predict risk of large-scale landslides based on topographic and geographic conditions

○ **Measures against localized gusts of wind**
- Development of technologies to improve accuracy of predicting localized gusts by utilizing meteorological information such as the Japan Meteorological Agency's Nowcasts for tornados

○ **Measures against strong wind**
- Increased installation of windbreak fences
- Introduction of criteria for making judgments in operation control due to strong wind taking into consideration carbody shapes and topological conditions

○ **Disaster prevention measures for Yamagata and Akita Shinkansen lines in mountainous areas**

Reducing risk of accidents closely related to the public

○ **Safety measures for station platforms**
- Increased introduction of automatic platform doors
- Increased introduction of dot-Braille blocks that indicate which direction is away from the edge of the platform.


Automatic platform doors

○ **Safety measures for level crossings**
- Increased installation of level crossing warning systems to inform train drivers of incidents at level crossings.
- Upgrade of Class 4 level crossings (without alarms and crossing gates) to Class 1 level crossings (with alarms and crossing gates)

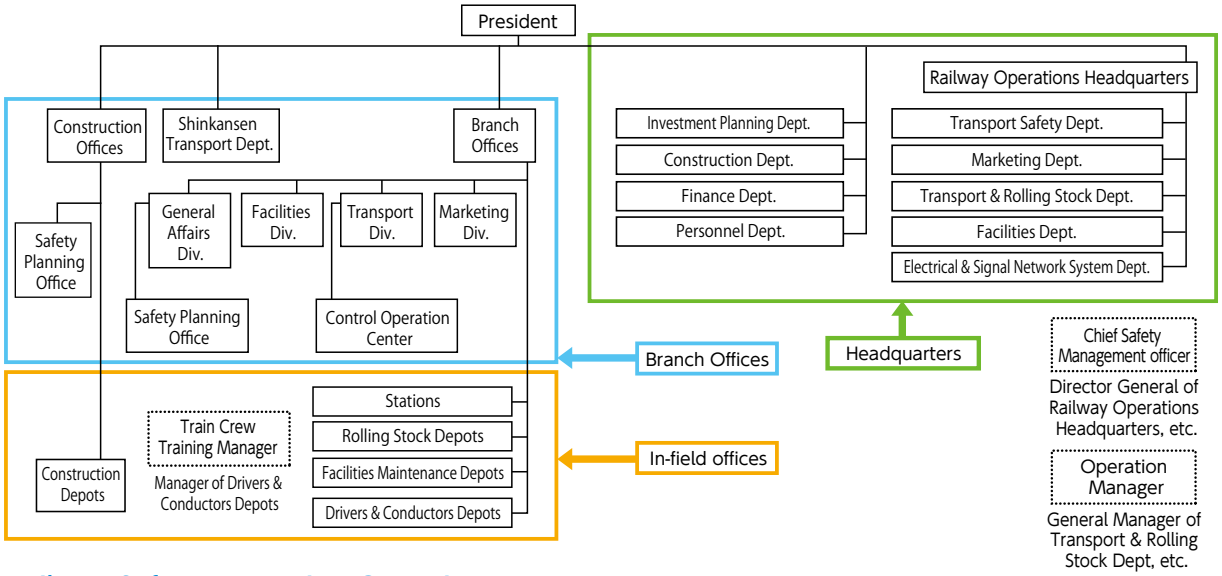

(Emergency button)
(Obstruction warning signal)
Level crossing warning system

JR East's safety management organization

Safety management regulations

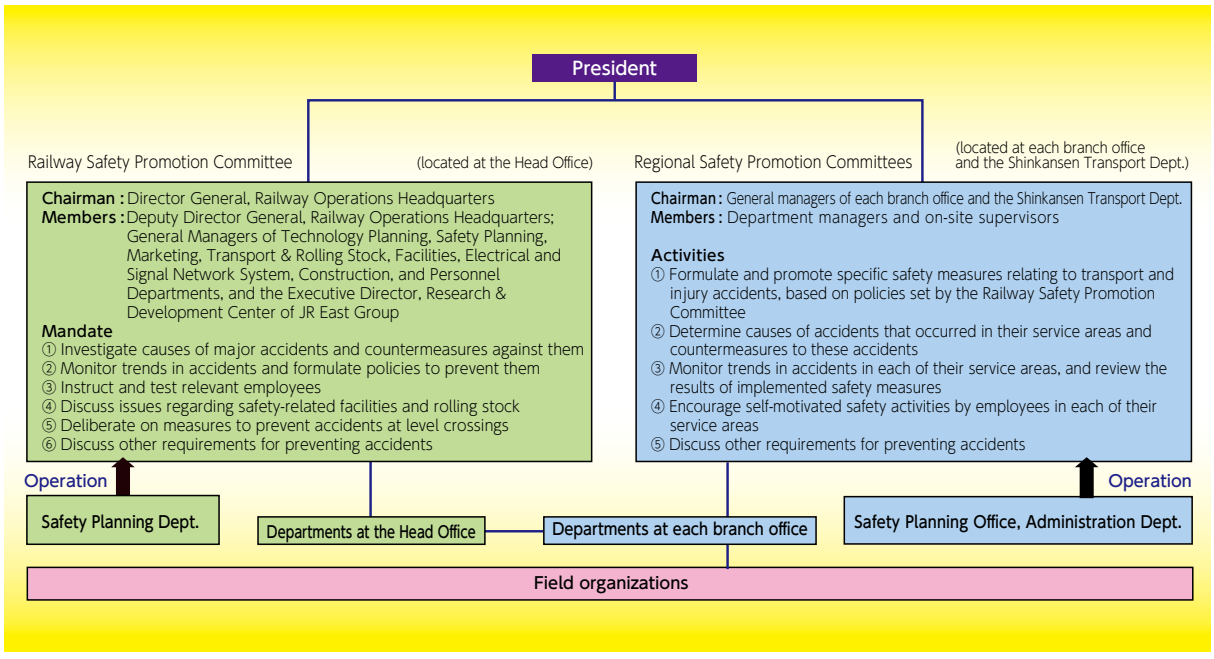
In response to the revision of the Railway Business Act, JR East formulated its safety management regulations on October 1st, 2006. The safety management regulations make stipulations on various safety management-related matters such as the responsibilities of top management executives in ensuring the safety of operations and on organizational matters such as the selection of chief safety management officer, operation managers, and train crew training manager.

Management structure for transport safety



Railway Safety Promotion Committee

JR East established the Railway Safety Promotion Committee at its Head Office, chaired by the Director General from Railway Operations Headquarters, as its safety promotion network in 1987 at the time of its corporate establishment. The committee aims to improve safety in railway operations and prevent accidents by investigating the causes of major accidents, formulating preventative measures to avoid reoccurrences, and implementing safety-related countermeasures for facilities and trains.
There are also Regional Safety Promotion Committees at each branch office and the Shinkansen Transport Dept., chaired by the general managers of the branch offices and the department. These committees implement specific measures in cooperation with the Railway Safety Promotion Committee, and investigate the causes of accidents, implement concrete preventive measures, and promote activities to enhance safety in their service areas.



Safety Planning Department at Head Office and Safety Planning Office at branch offices, etc.

Since its foundation in 1987, JR East has made safety its top management priority. To promote this, we set up the Safety Measures Department in Railway Operations Headquarters at Head Office.
Furthermore, after the train collision accident at Higashi Nakano station on the Chuo line on Dec. 5th, 1988, to strengthen its comprehensive safety management organization by centralization of safety-related work, JR East established Safety Measures Offices at branch offices to further reinforce its safety measures.
On April 1st, 2009, we renamed the Safety Measures Department the Safety Planning Department and placed it at the head of the Railway Operations Headquarters. At the same time, the Safety Measures Offices at branch offices were renamed Safety Planning Offices. The renaming and reorganization aimed to clearly indicate JR East's stance on taking all possible countermeasures before potential risks arise, in addition to measures against reoccurrences of accidents in the past.
The Safety Planning Department at Head Office and Safety Planning Offices at branch offices work together on measures to improve the safety levels of our railways with respect to both tangible and intangible aspects by formulating and promoting safety-related medium-term plans.

Rules for reporting accidents and incidents

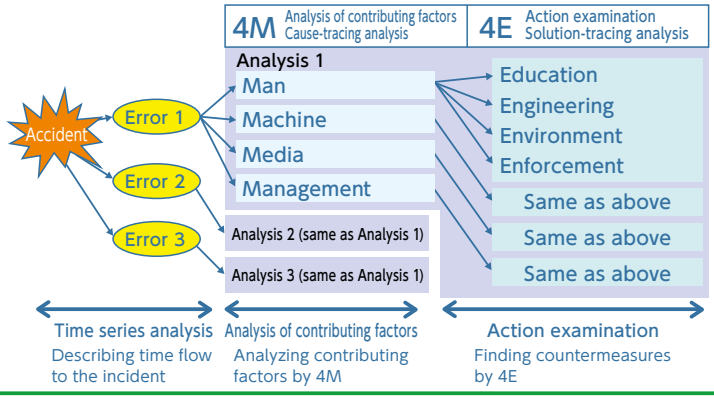
To prevent the occurrence and reoccurrence of railway accidents, it is crucial to properly understand the details of accidents and incidents, analyze their causes and take appropriate countermeasures. To this end, JR East has set rules to report accidents and established categorizations. In December 2007, we revised these rules and clarified the definitions of these categorizations with the following objectives:

① To implement thorough analysis and countermeasures against potential sources of accidents with high risk of fatality or injury of customers and employees
② To actively search for hidden potential sources of accidents that were not recorded as incidents

Field sites, branch offices, and Head Office each play their own role in further improving their capabilities to properly understand and analyze the causes of accidents and incidents, and to take preventative measures against occurrences and reoccurrences of accidents. Additionally, by actively searching for hidden risks for near-misses and taking preventative measures, JR East aims to further heighten the safety levels in its railway operations.

4M4E analysis

To properly understand the causes of accidents and incidents, JR East promotes the utilization of 4M4E analysis.

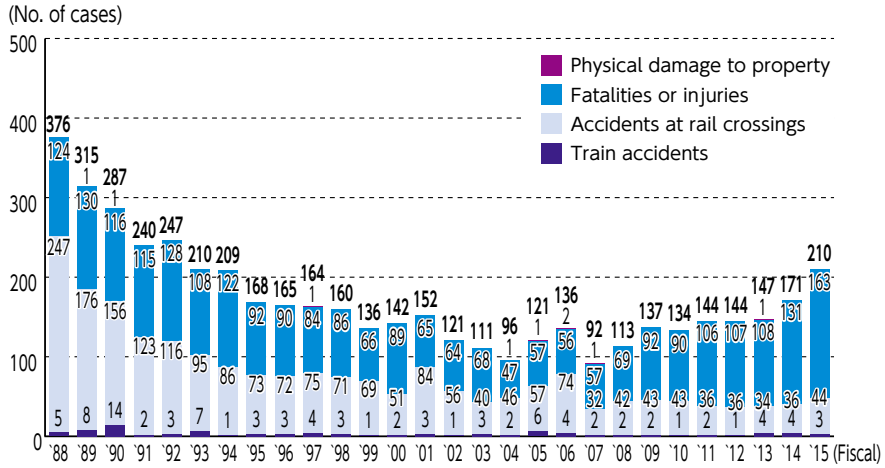


Current safety record of JR East

Railway accidents

In FY2015, JR East recorded 210 railway accidents. Approximately 77 percent of the total number of accidents involved an injury or fatality.

■ Occurrences of railway accidents



Train accidents	Train collisions, derailments, and train fire
Accidents at rail crossings	People or automobiles being hit by trains
Fatalities or injuries	People killed or injured by train operation
Physical damage to property	Accidents causing more than 5 million yen damage to property by train operation

Train accidents

JR East recorded three train accidents in FY2015.

- On Dec. 18th, 2014, between Kuwanohara signal station and Inariyama station on the Shinonoi Line, an ordinary train hit an automobile and was derailed.
- On Jan. 24th, 2015, between Kuwanohara signal station and Inariyama station on the Shinonoi Line, a train hit an automobile stalled on the track and was derailed. The automobile driver was slightly injured.
- On Jan. 25th, 2015, between Uzen-Numazawa and Tenoko stations on the Yonesaka Line, a train hit lumps of snow and was derailed.

Accidents at rail crossings

JR East recorded 44 accidents at rail crossings in FY2015. Major causes of the accidents included automobiles stalling on the tracks (14 cases) and crossing immediately prior to the passing of trains (16 cases), accounting for approximately 70 percent of the total.

Fatalities or injuries

JR East recorded 163 accidents involving injury or fatality in FY2015. A total of 80 of such accidents included customers on platforms or trespassers on tracks coming into contact with trains, and customers falling onto the tracks from platforms. Approximately 70 percent of these involved intoxicated customers.

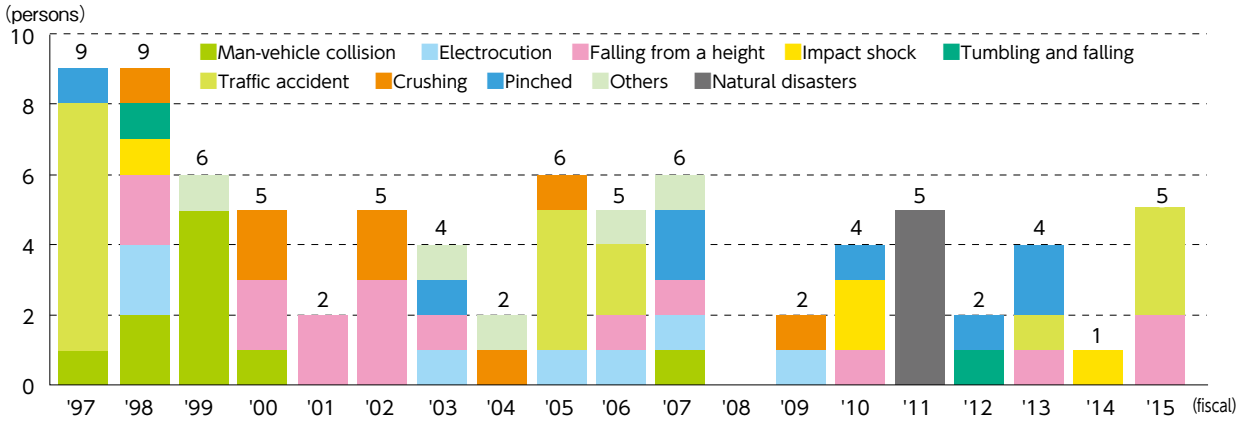
Physical damage to property

JR East recorded no accidents involving physical damage to property in FY2015.

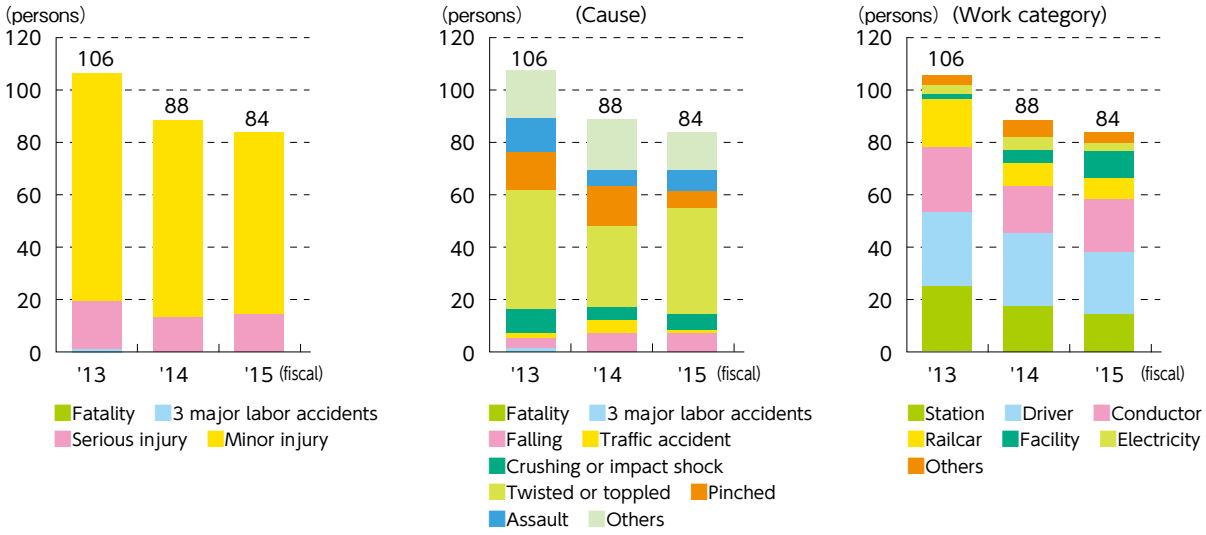
Current state of employee accidents

In FY2015, it is regrettable that five of our related-company employees were lost in fatal accidents. Accordingly, as set out in Group Safety Plan 2018, we will continue our efforts to ensure that safety systems and rules are clearly defined and complied with across the entire JR East Group in our aim to achieve zero passenger accidents involving injury or fatality, and zero employee fatalities for both Group and Partner companies.

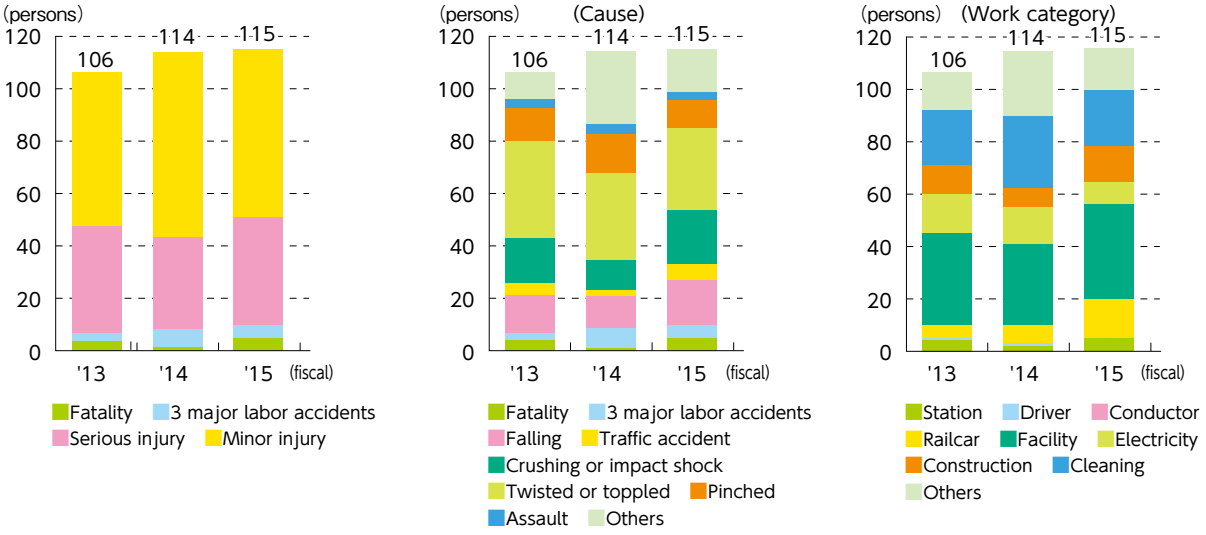
■ Status of accident fatalities (including employees of both Group and Partner companies)



■ Accidents with lost work time and fatality (JR East employees)

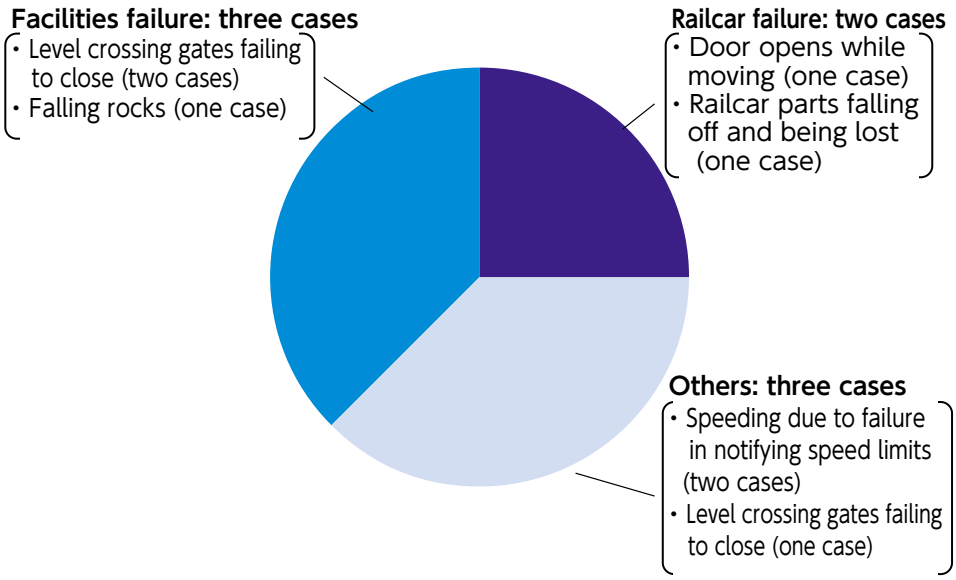


■ Accidents with lost work time and fatality (employees of both Group and Partner companies)



Incidents*

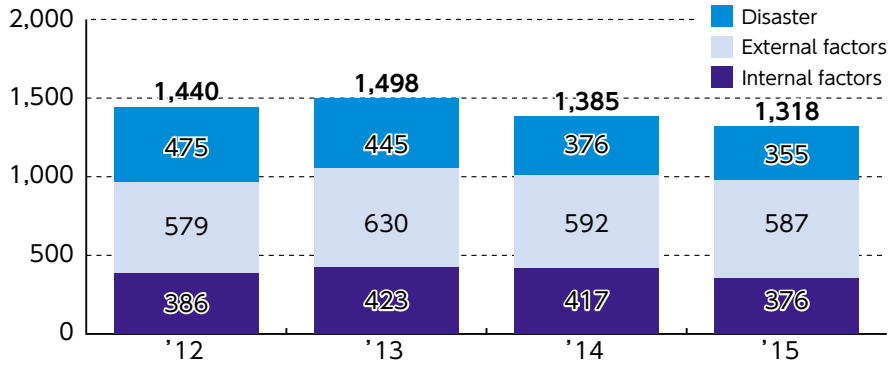
JR East recorded eight incidents in FY2015.



*Incidents	In addition to JR East's definition (please see P17), according to the rules and regulations set by the Ministry of Land, Infrastructure, Transport and Tourism, "incidents" mean situations that could lead to a railway accident.

Transport disorders

JR East recorded 1,318 cases of transport disorders in FY2015.



Transport disorders	Apart from railway accidents, transport disorders means train service cancellations due to failures of trains or facilities, or mishandling by attendants, or disasters, or delaying passenger trains for over 30 min. or other trains for over 1 hour.

External factors	External factors such as trespassing or suicide
Internal factors	Internal factors such as those related to crews, trains, or facilities

Warnings from the Ministry of Land, Infrastructure, Transport and Tourism

JR East recorded no warnings from the Ministry in FY2015.
(FY2016)
・On April 12th, 2015, between Kanda and Akihabara Stations on the Yamanote Line regarding the major incident involving electric poles leaning over the tracks

● Incident

Around 6:10 a.m., between Kanda and Akihabara Stations on the Keihin Tohoku Line, the train crew activated the emergency brake to stop the train when finding electric poles leaning over the track. According to maintenance crews, a pair of electric poles installed between the tracks of the inbound and outbound Yamanote Lines was leaning toward the direction of Kanda Station and partially blocking the tracks of the inbound and outbound Yamanote Lines. Additionally, another pair of electric poles next to the leaning poles was also leaning over but did not have an impact on the trains.

● Warning summary

Ensuring safety in railway operations (warning)
- Between Kanda and Akihabara Stations on the Yamanote and Keihin Tohoku Lines, electric poles due to be removed in planned improvement work to the overhead contact lines were leaning over the tracks. As a result, the Yamanote and Keihin Tohoku Lines suspended their operations for several hours, which had a great impact on their users.
- JR East was warned to investigate its causes including construction methods and management of the work and to take countermeasures to prevent reoccurrences.

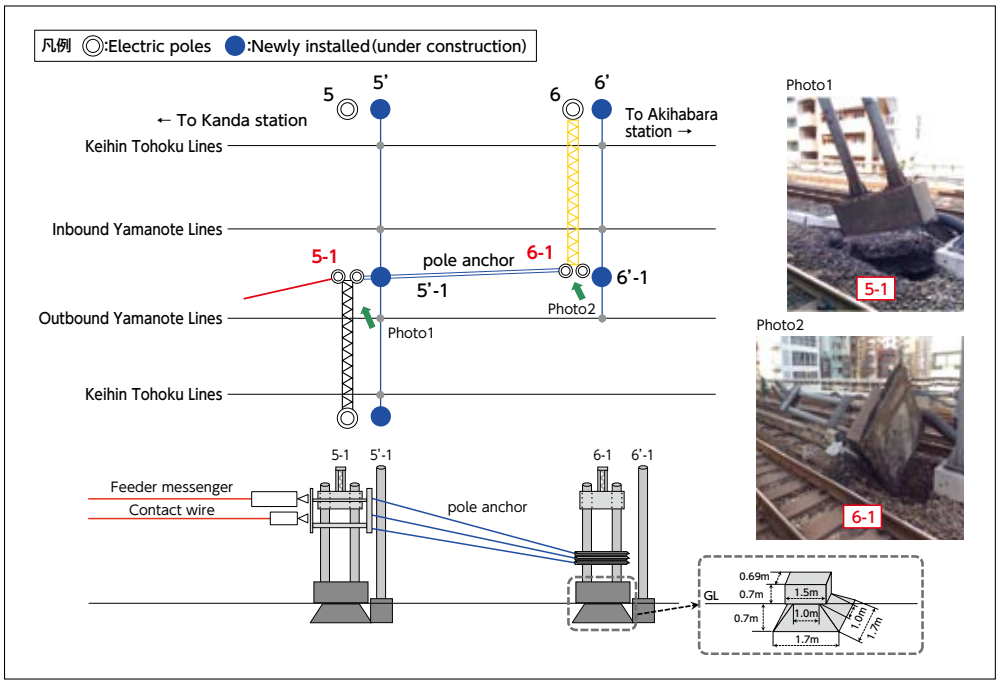
● Major countermeasures

(1) Strengthening risk management and technical support
① Strengthening technical support to properly conduct safety confirmation in design and construction
② Management of facilities requiring priority safety confirmation in construction as special structural facilities
③ For repair and installation of special structural facilities, occasions for risk reviewing were newly created.

(2) Setting of judgment criteria and thorough information sharing
① Setting criteria to stop trains when incidents such as leaning electric poles are observed
② Thorough information sharing among relevant personnel

(3) Strengthening of safety awareness and succession of technologies for future generations
JR East has been working on improvement of safety awareness and succession of technologies for future generations as a priority issue and we are committed to continue our efforts on these measures as well as to make further improvements in our technological capabilities.

■ Electric Poles Location Map (Kanda-Akihabara)



Our measures against earthquakes

Damage by the Great East Japan Earthquake (Tohoku-Pacific Ocean Earthquake)

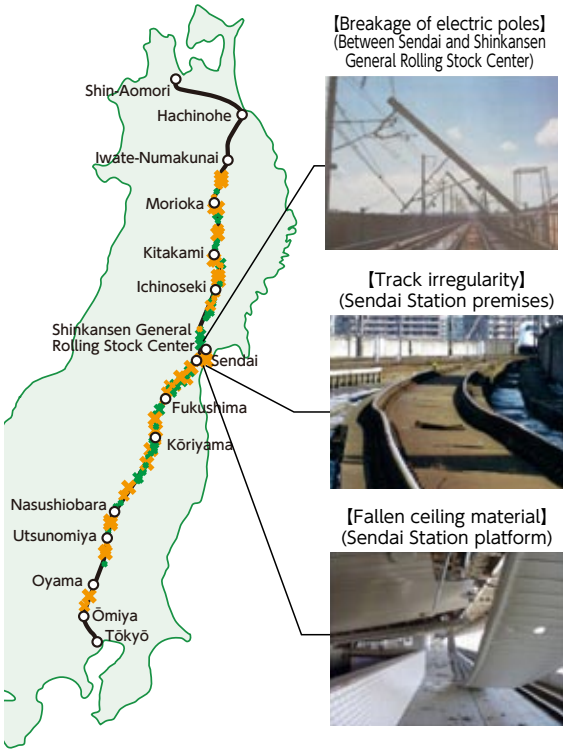
The magnitude 9.0 Tohoku-Pacific Ocean Earthquake occurred on March 11th, 2011, at 14:46, with the epicenter off the Sanriku coast. Zero customer fatalities at stations or on board trains due to the earthquake.

Damage and restoration of railway related facilities following the disaster

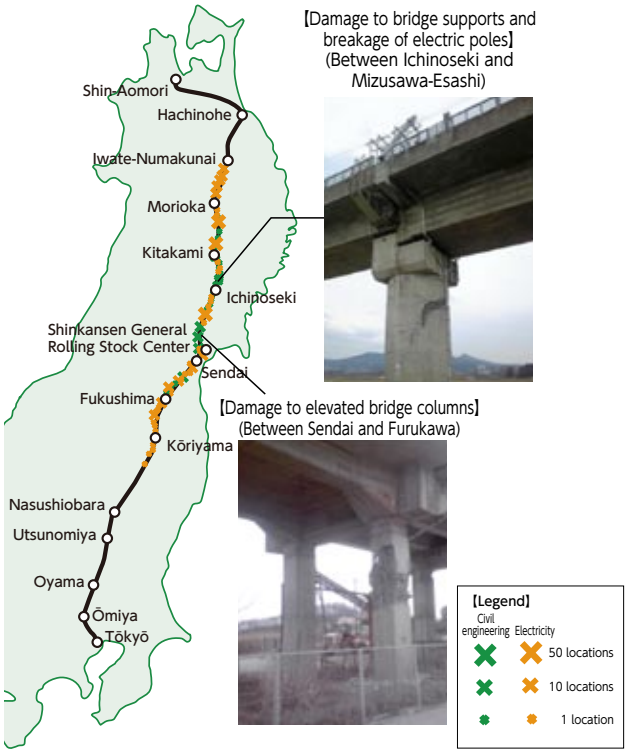
The Great East Japan Earthquake resulted in profound damage to our railway facilities, including the ground facilities for both the Shinkansen and conventional lines.
The following chart outlines the damage incurred by our railway facilities due to the earthquake.

<Major damage to ground facilities for Tohoku Shinkansen>

【Damage caused by the major tremor on Mar. 11th, 2011】



【Damage caused by the aftershock on April 7th, 2011】

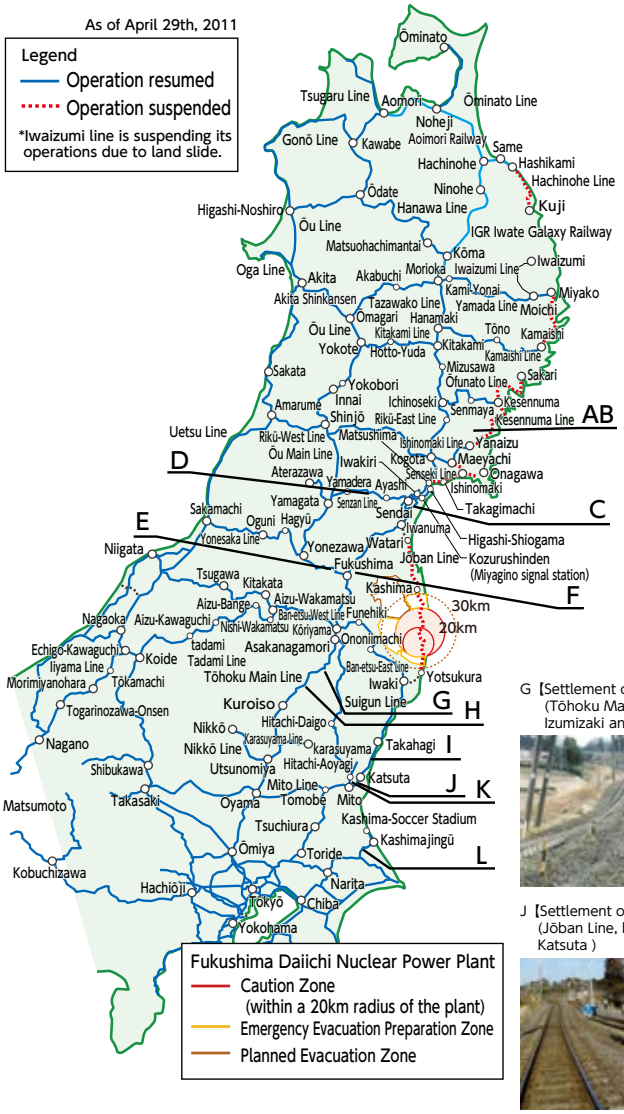


■ Major damage to Tohoku Shinkansen ground facilities

Major damage	March 11 earthquake (main shock)		Aftershocks (after April 7)
	No. of damaged locations	Number of not restored places (as of Apr. 7)	No. of damaged locations
Fractured, tilted, and cracked electric poles	Approx. 540 locations	Approx. 60 locations	Approx. 270 locations
Broken overhead contact lines	Approx. 470 locations	Approx. 30 locations	Approx. 200 locations
Damage to elevated bridge columns	Approx. 100 locations	–	Approx. 20 locations
Track irregularities and damage	Approx. 20 locations	–	Approx. 20 locations
Electrical substation facility failures	Approx. 10 locations	1 location	Approx. 10 locations
Collapse, tilting, and peeling of soundproof walls	Approx. 10 locations	–	2 locations
Breakage and collapse of ceiling materials	5 stations	1 station	2 stations
Sheared bridge girders	2 locations	–	7 locations
Damage to bridge girder supports	Approx. 30 locations	–	Approx. 10 locations
Track damage in tunnels	2 location	–	–
Total	Approx. 1,200 locations	Approx. 90 locations	Approx. 550 locations

* There was no collapse of elevated bridges, bridges, station buildings, or tunnels.

<Major damage to ground facilities for conventional lines>



A【Settlement of embankment】(Tōhoku Main Line, between Nitta and Ishikoshi)

B【Embankment washed away】(Tōhoku Main Line, between Umegasawa and Nitta)

C【Collapse of earth-retaining walls and embankment washed away】(Tōhoku Freight Line, between Nagamachi and Miyagino)

D【Embankment washed away】(Senzan Line, between Sakunami and Yatsumori)

E【Leaning of earth-retaining walls and ballast washed away】(Ōu Main Line, between Niwasaka and Akaiwa)

F【Damage to bridge girder support】(Tōhoku Main Line, between Fukushima and Higashi-Fukushima)

G【Settlement of embankment】(Tōhoku Main Line, between Izumizaki and Yabuki)

H【Collapse of cutting】(Tōhoku Main Line, between Toyohara and Shirasaka)

I【Collapse of platform-retaining walls】Jōban Line, Hitachi-Taga Station)

J【Settlement of embankment】(Jōban Line, between Mito and Katsuta)

K【Leaning of bridge columns】(Suigun Line, between Mito and Hitachi-Aoyagi)

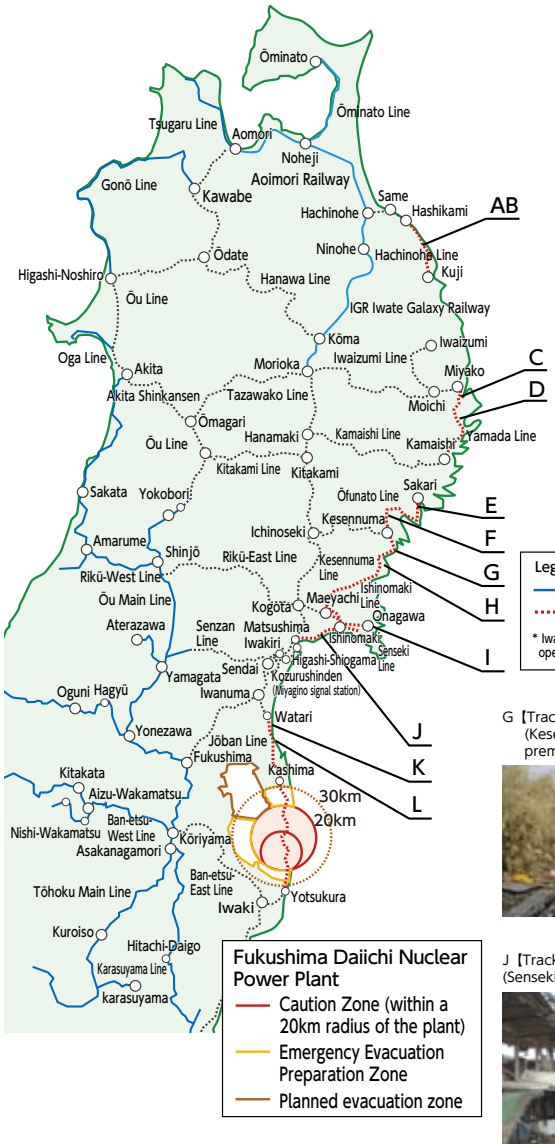
L【Shearing of bridge girders】(Kashima Line, between Nobukata and Kashimajingū)

■ Major damage to the 36 conventional railway lines

Major damage	March 11 earthquake (main shock)		Aftershocks (after April 7)
	No. of damaged locations	Number of not restored places (as of Apr. 7)	No. of damaged locations
Track irregularities	Approx. 2,200 locations	Approx. 130 locations	Approx. 620 locations
Fractured, tilted, and cracked electric poles	Approx. 1,150 locations	Approx. 130 locations	Approx. 90 locations
Outflow of crushed ballast stones	Approx. 220 locations	Approx. 40 locations	1 location
Deformation of platforms	Approx. 220 locations	Approx. 20 locations	Approx. 50 locations
Deformation of civil engineering facilities (embankment, cutting, etc.)	Approx. 170 locations	Approx. 30 locations	Approx. 10 locations
Signal and telecommunication facility failures	Approx. 130 sections	Approx. 30 sections	Approx. 10 sections
Damage to bridges and elevated bridges	Approx. 120 locations	Approx. 20 locations	Approx. 30 locations
Damage to station buildings	Approx. 80 stations	1 station	Approx. 20 stations
Damage to tunnels	Approx. 30 locations	5 locations	2 locations
Electric substation facility failures	Approx. 30 locations	Approx. 10 locations	Approx. 10 locations
Fallen rocks	Approx. 20 locations	–	Approx. 10 locations
Damage to station facilities such as overhead walkways for transfer passengers	Approx. 20 locations	–	4 locations
Broken overhead contact lines	Approx. 10 locations	3 locations	Approx. 10 locations
Total	Approx. 4,400 locations	Approx. 420 locations	Approx. 850 locations

* Major damage to ground facilities on 7 railway lines resulting from the tsunami not included.

<Major damage to ground facilities of seven railway sections resulting from the tsunami>



A【Bridge girder washed away】(Hachinohe Line, between Shukunohe and Rikuchū-Yagi)

B【Tracks washed away】(Hachinohe Line, between Shukunohe and Rikuchū-Yagi)

C【Tracks washed away】(Yamada Line, between Sokei and Tsurugaishi)

D【Bridge girder washed away】(Yamada Line, between Rikuchū-Yamada and Orikasa)

E【Tracks washed away】(Ōfunato Line, Hosoura premises)

F【Tracks washed away】(Ōfunato Line, between Rikuzen-Yahagi and Takekoma)

G【Tracks washed away】(Kesennuma Line, Ōyakaigan premises)

H【Bridge girder washed away】(Kesennuma Line, between Rikuzen-Koizumi and Motoyoshi)

I【Tracks washed away】(Ishinomaki Line, Onagawa premises)

J【Tracks washed away】(Senseki Line, Nobiru premises)

K【Bridge girder washed away】(Jōban Line, between Shinchi and Sakamoto)

L【Tracks washed away】(Jōban Line, Shinchi premises)

■ Major damage (as of May 1st, 2011)

Line name	Railway division	Length	Station building			Track	Total
			No. of stations inspected	No. of stations washed away	No. of other damaged stations	No. of damaged locations	No. of damaged locations
Hachinohe Line	Hashikami–Kuji	Approx. 37 km	12 stations	0 station	2 stations	Approx. 20 locations	Approx. 20 locations
Yamada Line	Miyako–Kamaishi	Approx. 55 km	13 stations	4 stations	4 stations	Approx. 70 locations	Approx. 80 locations
Ōfunato Line	Kesennuma–Sakari	Approx. 44 km	12 stations	6 stations	1 station	Approx. 60 locations	Approx. 70 locations
Kesennuma Line	Maeyachi*–Kesennuma*	Approx. 73 km	21 stations	9 stations	3 stations	Approx. 240 locations	Approx. 250 locations
Ishinomaki Line	Maeyachi–Onagawa	Approx. 32 km	11 stations	1 station	3 stations	Approx. 70 locations	Approx. 70 locations
Senseki Line	Higashi-Shiogama–Ishinomaki*	Approx. 34 km	16 stations	0 station	8 stations	Approx. 380 locations	Approx. 390 locations
Jōban Line	Iwaki–Watari**	Approx. 50 km	14 stations	3 stations	4 stations	Approx. 840 locations	Approx. 850 locations
Total		Approx. 325km	99 stations**	23 stations	25 stations	Approx. 1,680 locations	Approx. 1,730 locations

*The figures do not include station premises.
**The following are excluded from the above data: damage within a 20km radius of the Fukushima Daiichi Nuclear Power Plant; Emergency Evacuation Preparation Zone (between Hisanohama and Kashima: station buildings at 12 stations (excluding Tomioka Station), approx. 70km of track).

Situation of customers on board Shinkansen trains

At the time of the earthquake, 27 Tohoku Shinkansen trains were in operation. However, coastal seismometers of the early earthquake detection system immediately detected the tremor and shut down the electric supply, automatically activating emergency braking to stop all operating Shinkansen trains. Fortunately, the passengers on board Shinkansen trains did not sustain any injury from the tremor.

Evacuating customers to avoid the tsunami

At the time of the earthquake, we evacuated customers from 27 conventional line trains at stations or between stations, and from 34 stations. After the evacuation, five trains were derailed and washed away by the tsunami. However, through the concerted efforts of train crews, station personnel, and dispatchers as well as with the cooperation of customers on board trains and neighboring communities, we were able to safely evacuate our customers and there were no customers hurt by the tsunami at stations or on board trains.


Yamada Line, Tsurugaishi Station, 1647D

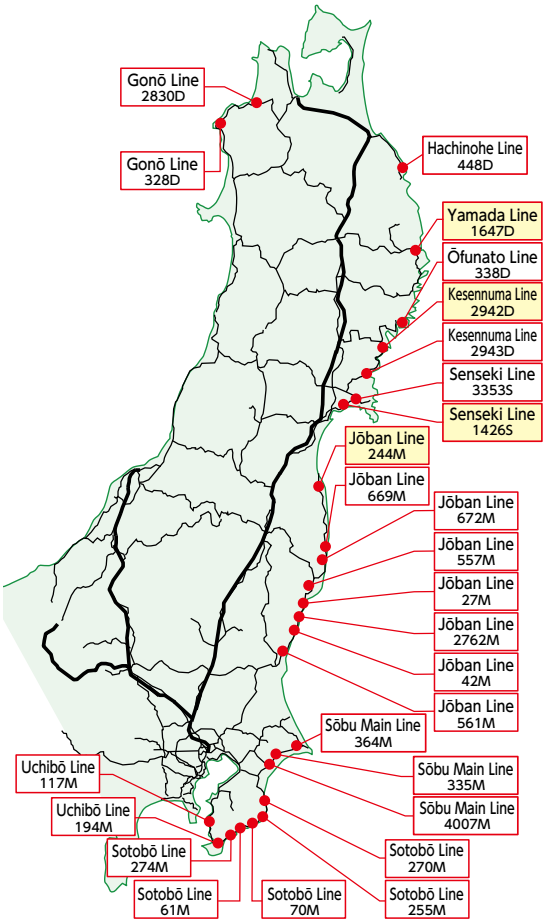

Kesennuma Line, between Saichi and Matsuiwa, 2942D


Senseki Line, Nobiru Station, 1426S


Jōban Line, Shinchi Station, 244M


Ishinomaki Line, Onagawa Station, 1640D

At the time of the earthquake, trains were evacuated to prepare for the tsunami.
(*Trains washed away by the tsunami are indicated in yellow.)



Derailment of a Shinkansen train in a test run

At the time of the earthquake, in the Sendai Station premises of the Tohoku Shinkansen, a test train was in operation at a speed of approx. 70km/h. Though its emergency brake was activated by the earthquake, it derailed at a low speed immediately before stopping. After the derailment, the train ran for approx. 2.5m and then stopped. Since it was on a test run, there were no customers on board the train, resulting in no injury. As anti-earthquake measures for Shinkansen trains, we will steadily take measures such as emergency stopping of trains and seismic reinforcement of facilities and structures, while further promoting research and development of rolling stock and analysis of vibration characteristics of structures such as elevated bridges.



The scene of derailment

Learning from earthquakes in the past such as the Great Hanshin-Awaji Earthquake, the Sanriku Minami Earthquake, Niigata Chuetsu Earthquake, JR East has employed the following three anti-earthquake measures:
①Stopping trains immediately (emergency train stop measures)
②Preventing structural damage (seismic reinforcement measures)
③Minimizing secondary accidents following derailment (preventive measures against derailed trains leaving the track area)

At the time of the Great East Japan Earthquake, in locations with seismic reinforcement, though some of the elevated bridge columns were damaged, we did not observe shear failure and there was no falling or collapsing of elevated bridges. However, on conventional lines some of the bridges without seismic reinforcement were damaged by the tremor. Additionally, the earthquake resulted in the wrecking of electric poles and the collapse of ceiling materials in station buildings. Based on experience derived from the Great East Japan Earthquake, JR East designated the five years from FY2013 as a priority improvement period and has been striving to provide disaster-resilient railways through the introduction of measures such as preparations for a possible earthquake directly beneath the Tokyo metropolitan area, seismic reinforcement for Sendai and other areas, reinforcement of seismic observation systems and anti-disaster telecommunication facilities, with a planned total investment of approximately 300 billion yen.

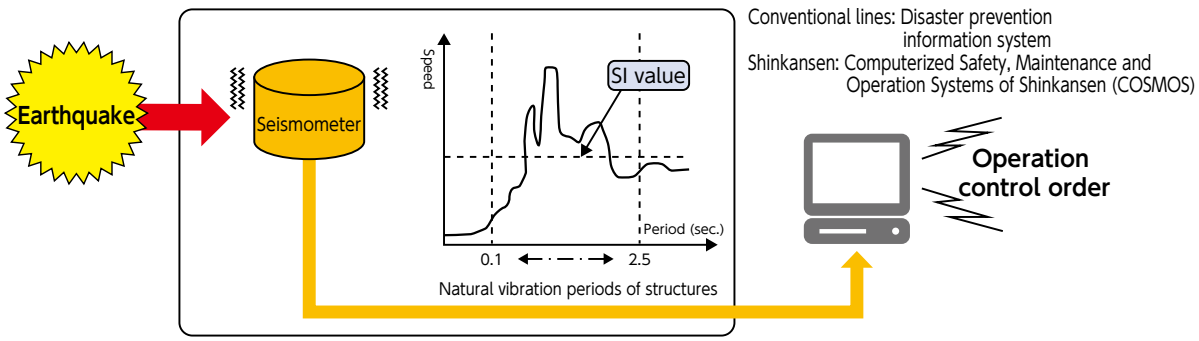
Emergency train stopping measures

Early earthquake alert system for Shinkansen lines

For Shinkansen lines, wayside, coastal, and inland seismometers are installed at 135 locations, and JR East utilizes the Shinkansen early earthquake alert system to detect primary tremors (P-waves) prior to principal shock (S-waves) to stop trains as quickly as possible.
For conventional lines, using information from the Shinkansen early earthquake alert system and also the Earthquake Early Warning of the Japan Meteorological Agency, JR East utilizes systems to activate the emergency brake of trains in the necessary sections. The system has been in service in the Tokyo metropolitan area since December 2007 and in all other areas since April 2009.

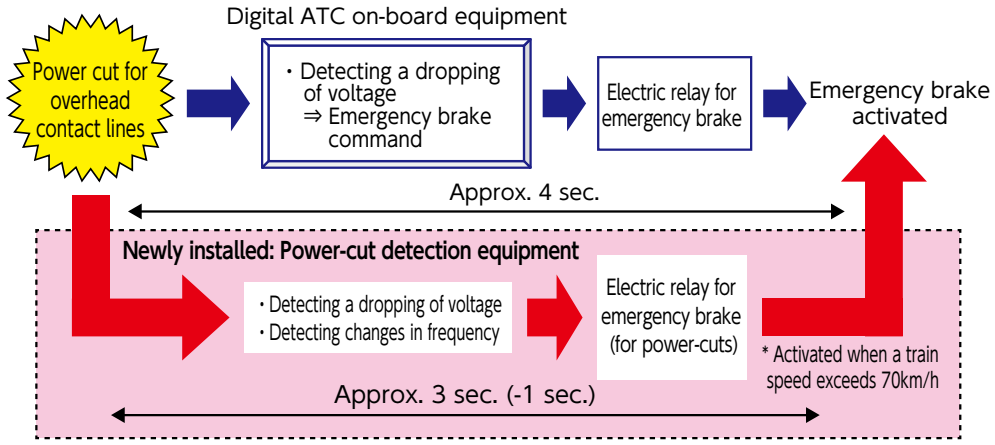
Index for operational restrictions at a time of earthquake

As for operational restrictions for an earthquake, since April 2003 for conventional lines, and since Sep. 2005 for Shinkansen, JR East has been utilizing spectrum intensity (SI value, kine: cm/sec), which is highly relative to damage to structures.
With SI values, JR East is able to take the duration of acceleration force and natural periods of vibration for each structure into consideration to increase the accuracy of its prediction of damage to structures, which was not possible with traditional methods that utilize maximum acceleration (gal: cm/sec2).



Power-cut detection equipment

For Shinkansen, when a wayside seismometer detects the occurrence of an earthquake, the power supply to overhead contact lines is shut off to stop Shinkansen trains. In addition to on-board digital ATC equipment detecting the power cut to the overhead contact line and activating emergency braking, JR East has newly installed power-cut detection equipment to shorten the time required for the detection by approx. 1 sec. to quicken the emergency braking.
Moreover, for E5 and later series of Shinkansen trains, when the power-cut detection equipment activates the emergency brake, an improved braking system can stop the trains with less braking distance by applying stronger braking.

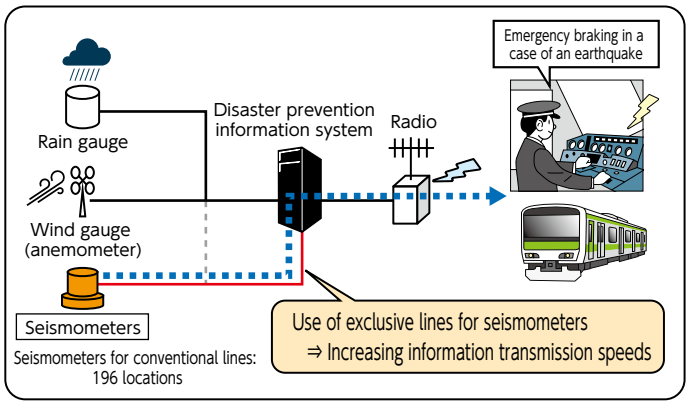


Increased installation of seismometers after the Great East Japan Earthquake

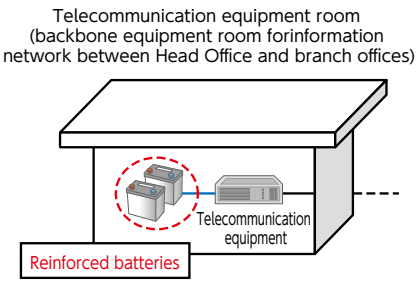
Learning lessons from the Great East Japan Earthquake, JR East installed seismometers at 30 locations inland and in the Tokyo metropolitan area. These seismometers have been in use since Mar. 2012 for conventional lines and since Aug. 2012 for Shinkansen. Additionally, we adopted the Earthquake Early Warning of the Japan Meteorological Agency, which we have been using for conventional lines and Shinkansen since Oct. 2012. Moreover, JR East is working with the relevant ministries and agencies and other railway operators on coordinating and reviewing the utilization of the Seafloor Observation Network for Earthquakes and Tsunamis along the Japan Trench (S-net) created by the National Research Institute for Earth Science and Disaster Prevention.

Increasing transmission speed of earthquake observation values for conventional lines

JR East is increasing the transmission speed of earthquake observation values for conventional lines. At the time of the Great East Japan Earthquake, the power supply was cut for a long time over a wide area and we could not use telecommunication facilities. For this reason, JR East has reinforced telecommunication facilities by strengthening the battery capabilities of telecommunication equipment rooms to 48 hours and by installing emergency outlets for telecommunication equipment in buildings.



Increasing the transmission speed by introducing exclusive lines for seismometers for conventional lines



Reinforced batteries for telecommunication equipment rooms

Seismic reinforcement measures

Seismic reinforcement of elevated bridges

In response to the 1995 Great Hanshin-Awaji Earthquake, JR East reinforced rigid-frame elevated bridges susceptible to shear failure in the Southern Kanto and Sendai areas for both Shinkansen and conventional lines.
Additionally, after the Sanriku Minami Earthquake in 2003, we aimed to complete the seismic reinforcement of elevated bridge columns susceptible to shear failure in all areas for Shinkansen in FY2009. Moreover, at the time of the Niigata Chuetsu Earthquake in 2004, since elevated bridges and bridges were damaged on the Joetsu Shinkansen Line, we completed the seismic reinforcement for Shinkansen in FY2008, a year ahead of schedule and for conventional lines in FY2009 as planned.

<table>
<tr><th></th><th colspan="3"></th><th>Southern Kanto area</th><th>Sendai areas</th><th>Other areas</th></tr>
<tr><td rowspan="4">Shinkansen</td><td>Susceptible to shear failure</td><td colspan="2">Elevated bridges, bridge columns</td><td>Approx. 1,900 columns, approx. 310 units</td><td colspan="2">Approx. 16,600 columns, approx. 2,030 units</td></tr>
<tr><td rowspan="3">Susceptible to failure due to bending</td><td rowspan="2">Elevated bridges</td><td>Without retail premises</td><td>Approx. 3,800 columns</td><td>Approx. 2,900 columns</td><td>Approx. 7,130 columns</td></tr>
<tr><td>With retail premises</td><td>Approx. 1,100 columns</td><td>Approx. 410 columns</td><td></td></tr>
<tr><td colspan="2">Bridge columns</td><td>Approx. 680 units</td><td></td><td></td></tr>
<tr><td rowspan="4">Conventional lines</td><td>Susceptible to shear failure</td><td colspan="2">Elevated bridges, bridge columns</td><td>Approx. 12,500 columns, approx. 530 units</td><td>Approx. 100 columns, approx. 10 units</td><td>Approx. 940 columns, approx. 820 units</td></tr>
<tr><td rowspan="3">Susceptible to failure due to bending</td><td rowspan="2">Elevated bridges</td><td>Without retail premises</td><td>Approx. 5,460 columns</td><td>Approx. 40 columns</td><td></td></tr>
<tr><td>With retail premises</td><td>Approx. 5,630 columns</td><td>Approx. 30 columns</td><td></td></tr>
<tr><td colspan="2">Bridge columns</td><td>Approx. 1,090 units</td><td></td><td></td></tr>
</table>

Completed by FY2009 Completed by FY2015 In progress

Currently, we are reinforcing elevated bridge columns susceptible to failure due to bending by strong earthquake motion for Shinkansen and conventional lines in the Southern Kanto and Sendai areas. For some section of conventional lines in other areas, we are reinforcing elevated bridge columns and bridge columns susceptible to shear failure.


Seismic reinforcement of elevated bridge columns by steel plate wrapping

Seismic reinforcement of station buildings

JR East is also reinforcing station buildings and tunnels. We had completed seismic reinforcement of approx. 170 station buildings serving more than 10,000 passengers per day by the end of FY2012, excluding those earmarked for large-scale improvement.
Currently, we are proceeding with the seismic reinforcement of approx. 85 station buildings serving more than 3,000 passengers per day.



Reinforcement by steel frame braces


Reinforcement of columns by steel plate wrapping

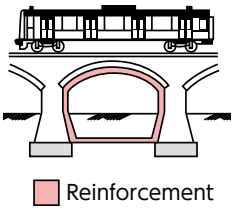
Measures against collapse of civil engineering structures, electric poles, ceilings and walls

Based on the Great East Japan Earthquake and to ensure we are prepared for an earthquake directly beneath the Tokyo metropolitan area, we are proceeding with seismic reinforcement of embankments, cuttings, and brick arched elevated bridges for nine railway sections (approx. 220km) including the Yamanote and Chuo Lines. We will also continue our efforts to complete the seismic reinforcement of bridge columns ahead of schedule.

■ Reinforcement examples for an earthquake directly beneath the Tokyo metropolitan area

Seismic reinforcement of embankment

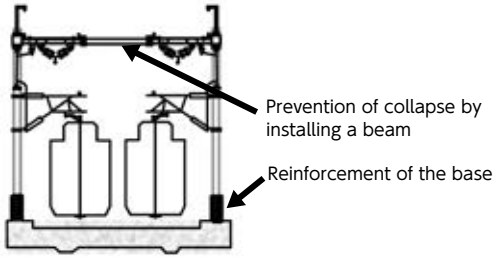
Brick arched elevated bridge



We have also reinforced approx. 2,300 electric poles damaged by the Great East Japan Earthquake on Shinkansen and conventional lines.

■ Electric poles damaged by the Great East Japan Earthquake and reinforcement (image)

【Reinforcement of electric poles and installation of a beam to make it a gate shape】



For station buildings and platforms, we will continue our measures to prevent the collapse of ceilings for approx. 560 stations and of walls for approx. 60 stations.

■ Fallen ceiling material due to the Great East Japan Earthquake and reinforcement by diagonal bracing (image)

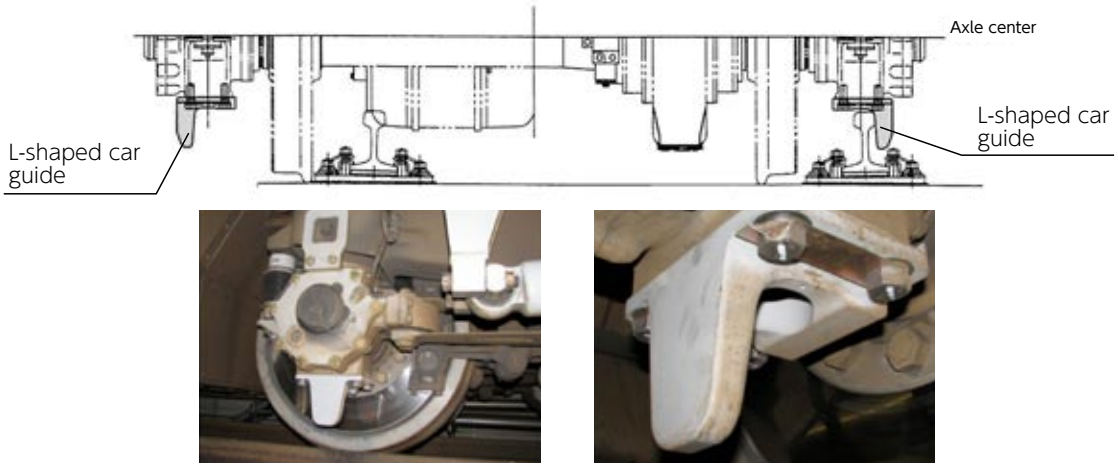
Prevention of secondary accidents after derailment

During the Niigata Chuetsu Earthquake in 2004, one of our Joetsu Shinkansen trains, Toki No. 325, derailed. Based on an investigation of the causes of the derailment, JR East has taken measures such as those described below. At the time of the Great East Japan Earthquake, a test Shinkansen train derailed at low speed. Learning from the results of the investigation of Shinkansen rolling stock and tracks, JR East continues its efforts to further improve its safety measures.

Joetsu Shinkansen trains, Toki No.325

Installation of L-shaped car guides

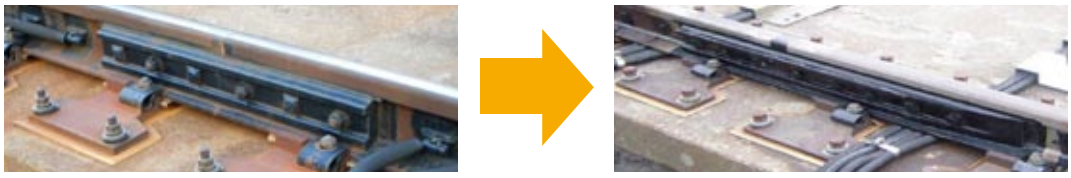
L-shaped car guides are installed on bogies to prevent Shinkansen trains from completely leaving the track in a derailment. We had completed the installation of L-shaped car guides for all Shinkansen by Aug. 2008.



L-shaped car guide

Preventing breakage of glued insulated joints

This is a measure to reduce the impact of wheels and bogie parts on glued insulated joints in a derailment. The glued insulated joints connect rails at transition points for signal circuits. Specifically, the shape of the joint plate was modified to prevent the wheels from directly impacting joint plates and bolts in a derailment. This modification was completed for all railway sections for Shinkansen by the end of FY2012.



Before improving glued insulated joints

After improving glued insulated joints

Rail rollover prevention devices

The device guides the wheels along the rails after a derailment, preventing rail rollover and the rails from completely deviating from the track even when a train derails and its rail fasteners are broken.
As for rail rollover prevention devices for slab tracks, we have been installing the devices since FY2010 in accordance with our plan.

Rail rollover prevention devices

Improvement of emergency telecommunication facilities

To secure information transmission for commercial use when communication is disrupted or communication limits are in place, we have taken the following measures:

Installation of WiMAX terminals and satellite mobile phones

To prepare for disruption in commercial data communication via the in-house intranet, as substitutes we installed WiMAX terminals capable of data communication at Head Office, branch offices and major stations in Dec. 2012.

To prepare for the wrecking of antenna and cables, we have installed satellite mobile phones at Head Office, branch offices and major stations to prevent damage to ground facilities affecting secure commercial communication in Aug. 2012.

WiMAX terminals

Satellite mobile phones

Installation of satellite fixed phones

To prepare for disruption of communication due to physical damage or communication limits, we installed satellite communication facilities capable of commercial audio and data communication via exclusive lines at Head Office, and at Tokyo, Yokohama, Hachioji, Omiya, Takasaki and Chiba branch offices in Mar. 2013.

At Yokohama and Omiya branch offices, we installed satellite communication facilities into automobiles in Mar. 2013, equivalent to those installed at other branch offices.

Satellite fixed phones

An automobile with on-board satellite communication facilities

Measures against tsunamis

Before the Great East Japan Earthquake, we had set operational restriction methods and tsunami danger zones for each location, prepared manuals, and were holding study sessions and conducting drills on guiding passengers to de-board trains for evacuation. We believe that these efforts led to the prompt evacuation of passengers away from tsunami danger zones at the time of the earthquake.

Tsunami evacuation manual

Signs at stations showing evacuation areas

Drill to guide passengers to alight from a train for evacuation

Based on our experiences with tsunamis at times of earthquake, we reviewed the rules, manuals, and drills for the whole JR East Group.

Formulating action guidelines for evacuation to avoid tsunamis

To prepare for a case when there is no time before the arrival of a tsunami, JR East formulated action guidelines for evacuation during tsunamis for each one of its employees to follow in January 2012.

■Action guidelines for evacuation to avoid tsunamis

1. At a time of a large earthquake, be prepared for tsunamis. Gather information by yourselves and if communication lines are disconnected, make your own decisions for evacuation. (Do not afraid to make a mistake.)
2. Once decided to evacuate, by judging conditions of customers, promptly guide customers to evacuate.
3. In alighting from trains, evacuating and gathering information, ask customers and local people to cooperate.
4. Even after evacuation, go to a higher place without being satisfied and thinking this would be high enough.
5. Stay evacuated with customers and do not return to field offices or trains while tsunami warnings are still issued.

Improvement of evacuation signs and routes and conducting drills for evacuation during tsunamis

For railway lines such as the Hachinohe Line, which resumed operations following damage caused by tsunamis, we have improved the signs and routes for evacuation from tsunamis. We will also improve evacuation signs and routes for other railway sections.
Furthermore, in FY2015, we conducted drills on guiding passengers to alight from trains and escape from a tsunami at tsunami-prone locations, assuming that there was no time before the arrival of the tsunami. We will continue these drills every year at the same time of year.

Tsunami evacuation sign (Hachinohe Line)

Evacuation route (Hachinohe Line)

Drill to guide passengers to alight from a train during a tsunami

Efforts to save lives

In the case of an earthquake directly beneath the Tokyo metropolitan area, numerous passengers might be injured and we might need to save the lives of passengers with the help of a limited number of our employees before the arrival of rescuers. For a major earthquake, placing top priority on saving the lives of the injured, JR East has prepared the following first aid kits and is also conducting drills to give personnel necessary first aid skills.

Rescue kits to save injured persons

We installed rescue kits (crowbars, jacks etc.) at each station of the five branch offices in the Tokyo metropolitan area to save injured persons from collapsed walls, furniture and fixtures in Sep. 2012.

Rescue kits

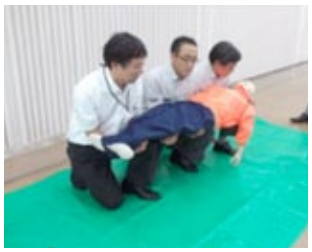
First aid kits to provide first aid to injured persons

We installed first aid kits (triangular bandages, etc.) to care for people's external injuries such as bleeding and fractures at each station within 30km of Tokyo in Mar. 2013.

First aid kits

Training to rescue and save lives

To rescue and save the lives of injured persons by, for example, caring for external injuries and carrying the person to a safer location, we have been conducting training to give personnel the necessary skills since FY2013 in accordance with our plans.



Rescue and life-saving training

General emergency drills

JR East conducts general emergency drills to prepare for an earthquake during disaster preparedness week around Sep. 1st, every year. The drills include the following:

- Drills to operate an on-site disaster countermeasure headquarters at Head Office and each branch office
- Drills for rescuing, life-saving, guiding passengers during an evacuation, and initial firefighting in each district
- Safety confirmation drills for employees and their family members in cooperation with Head Office, branch offices, and field organizations. Additionally, we participate in disaster drills run by local municipalities.

General emergency drills

Participation in drills run by local municipalities

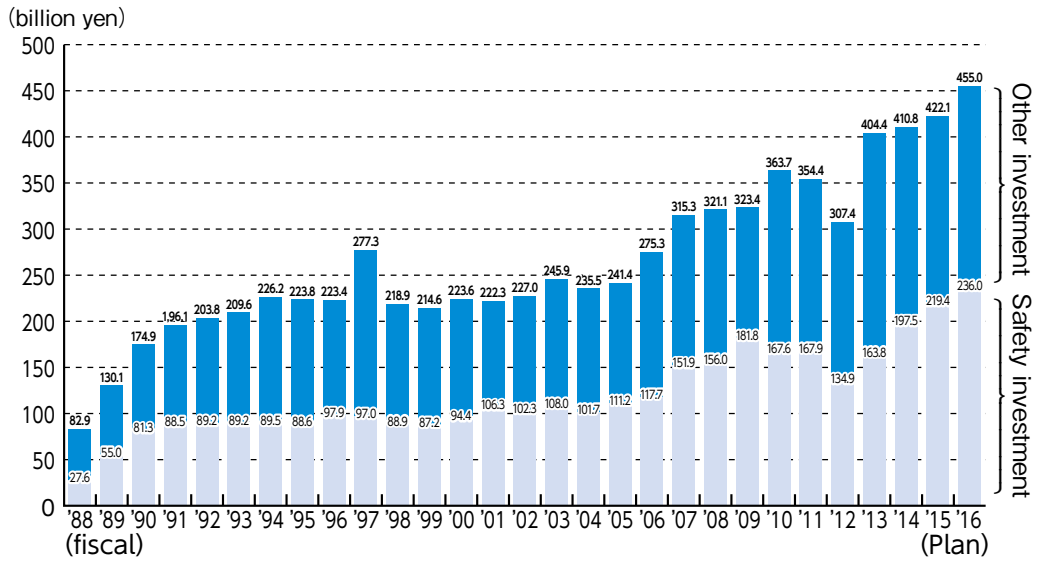
Efforts to further improve safety levels

Investment in safety equipment

Safety facilities investment

JR East has invested more than three trillion yen during the 28 years following the company's establishment. In our Group Safety Plan 2018, JR East's Five-year Safety Plan, which was announced in Feb. 2014, JR East plans to invest approximately one trillion yen in safety measures during the five years from FY2015 to FY2019.

■ Trends in safety investment



Major safety investment in FY2016

In FY2016, JR East will steadily implement improvement of ATS, measures against large-scale earthquakes, local gusts and gales, improvement of platform doors for the Yamanote Line, and safety measures for level crossings.
JR East plans to invest 455 billion yen in total in its facilities and 236 billion yen of that total will be invested in safety.

■ Major safety investment

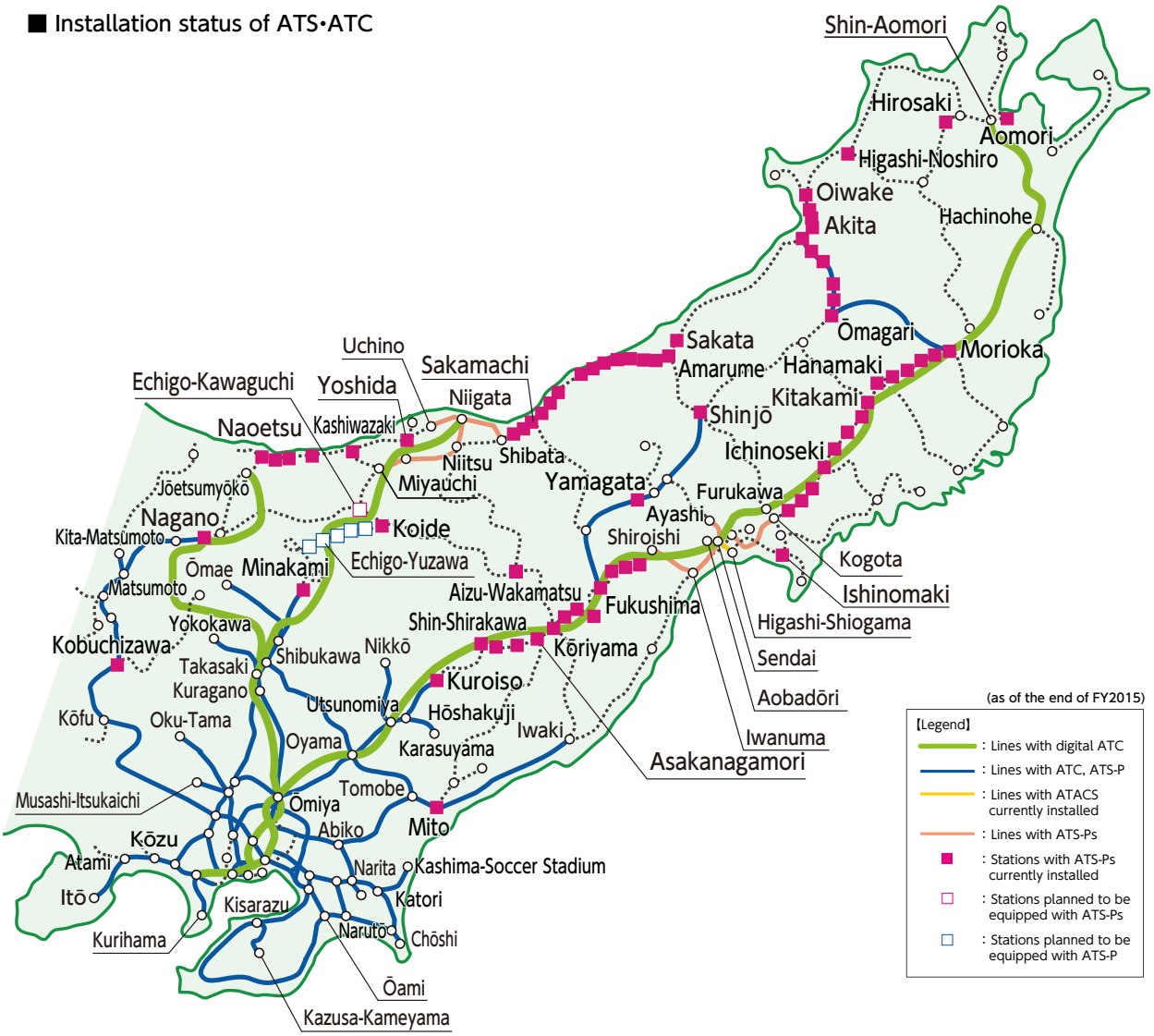
- Improvement of ATS, etc.
- Measures against large-scale earthquakes (seismic reinforcement of elevated bridges, embankments, buildings)
- Safety measures for level crossings (level crossing warning systems, obstacle detectors, etc.)
- Improvement of automatic platform doors for Yamanote Line
- Improvement of dot-Braille blocks that indicate which direction is away from the edge of the platform
- Measures against natural disasters (rainfall, local gusts, and gales, etc.)

Installing safety equipment

ATS and ATC

To prevent collisions between trains, JR East has installed ATS (Automatic Train Stop) and ATC (Automatic Train Control) systems for its conventional lines and ATC for Shinkansen lines on all of its railway lines.

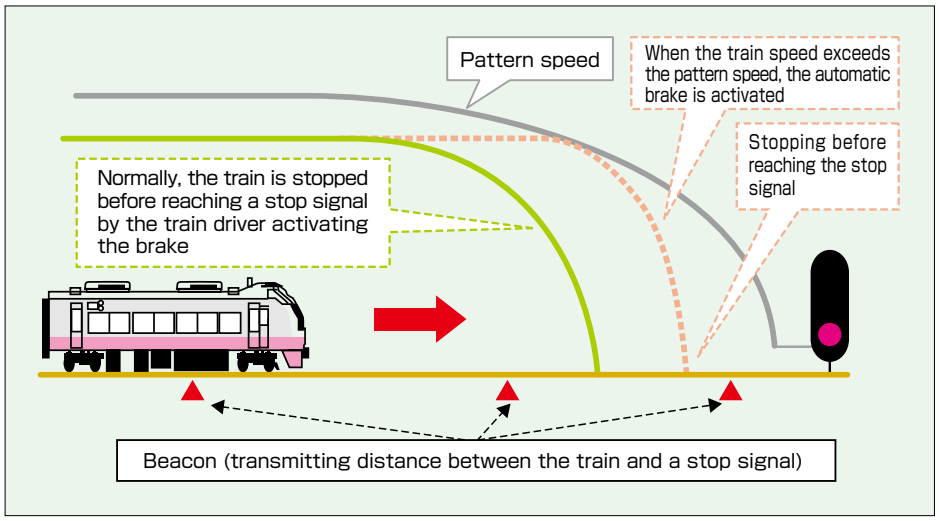
■ Installation status of ATS•ATC



ATS (Automatic Train Stop)

ATS stands for Automatic Train Stop. It is a system to automatically activate brakes so that a train can stop before reaching its stop signal. Currently, JR East is installing ATS-P and ATS-Ps systems with improved safety capabilities on its railway lines.
With ATS-P and ATS-Ps, based on information from ground equipment, on-board equipment calculates the allowed train speed to stop at a stop signal. When the train exceeds the speed pattern, the system automatically activates its automatic brake to stop the train. The system also responds to speed limits for curves and turnouts.

■ Overview of ATS-P system



■ Installation plan for ATS-P and ATS-Ps systems

	Areas for planned installation	Installation status as of the end of FY2015
ATS-P system	Mainly for railway sections with frequent train operations in Tokyo metropolitan area	Completed installation in railway sections for 2,405.8 km (service km)
ATS-Ps system	Provincial city areas and major railway sections excluding Tokyo metropolitan area	Completed installation in 71 major stations and railway sections for 210.5km

We plan to complete installation of ATS at curves, turnouts, track ends, and descending gradients by the end of FY2016. This will comply with the 10-year time limit for installation that is required by the July 2006 revisions to the Ministry Ordinance for technological standards for railways.

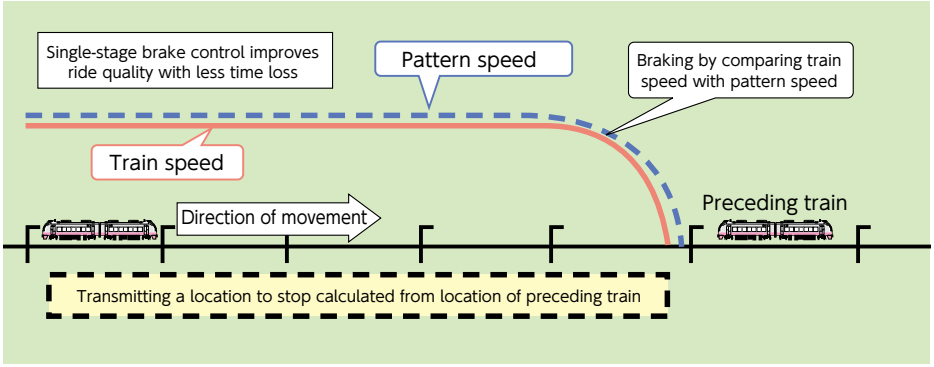
■ Installation status of ATS for mandatory locations by the July 2006 revisions

Category	Target locations	Installations as of the end of FY2015	Progress	Completion or planned completion
Curves	934 locations	934 locations	100%	FY2010
Turnouts	466 stations	460 stations	99%	FY2016
Track ends	38 stations	37 stations	97%	FY2016
Descending gradients	707 locations	707 locations	100%	FY2012

ATC (Automatic Train Control)

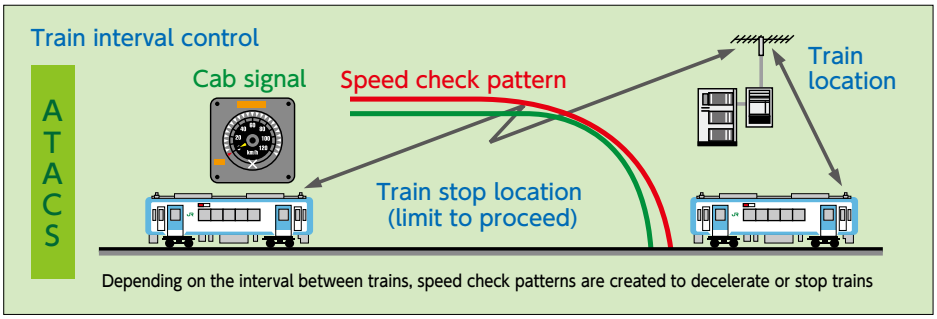
ATC stands for Automatic Train Control. In this system, ground equipment continuously transmits signals to trains via the rails. The transmitted signals are indicated on the driver's cab and the system automatically activates the emergency brake if the train exceeds its permitted speed. JR East has introduced the system on the Tohoku, Joetsu and Hokuriku Shinkansen Lines and on several conventional lines: the Yamanote, Keihin Tohoku, Negishi, Saikyo (between Ikebukuro and Omiya), and Joban Lines (local trains).
On the Shinkansen and the Yamanote, Keihin Tohoku and Negishi Lines, we have replaced the systems with digital ATC. This system transmits the location information of the preceding trains to the following train so that on-board equipment can control the train speed based on a speed pattern calculated from the information. With the introduction of the digital ATC, we can further improve the safety levels of our railway operations, as well as enhance the ride quality, shorten headways, and simplify facilities.

■ Digital ATC



ATACS (Advanced Train Administration and Communications System)

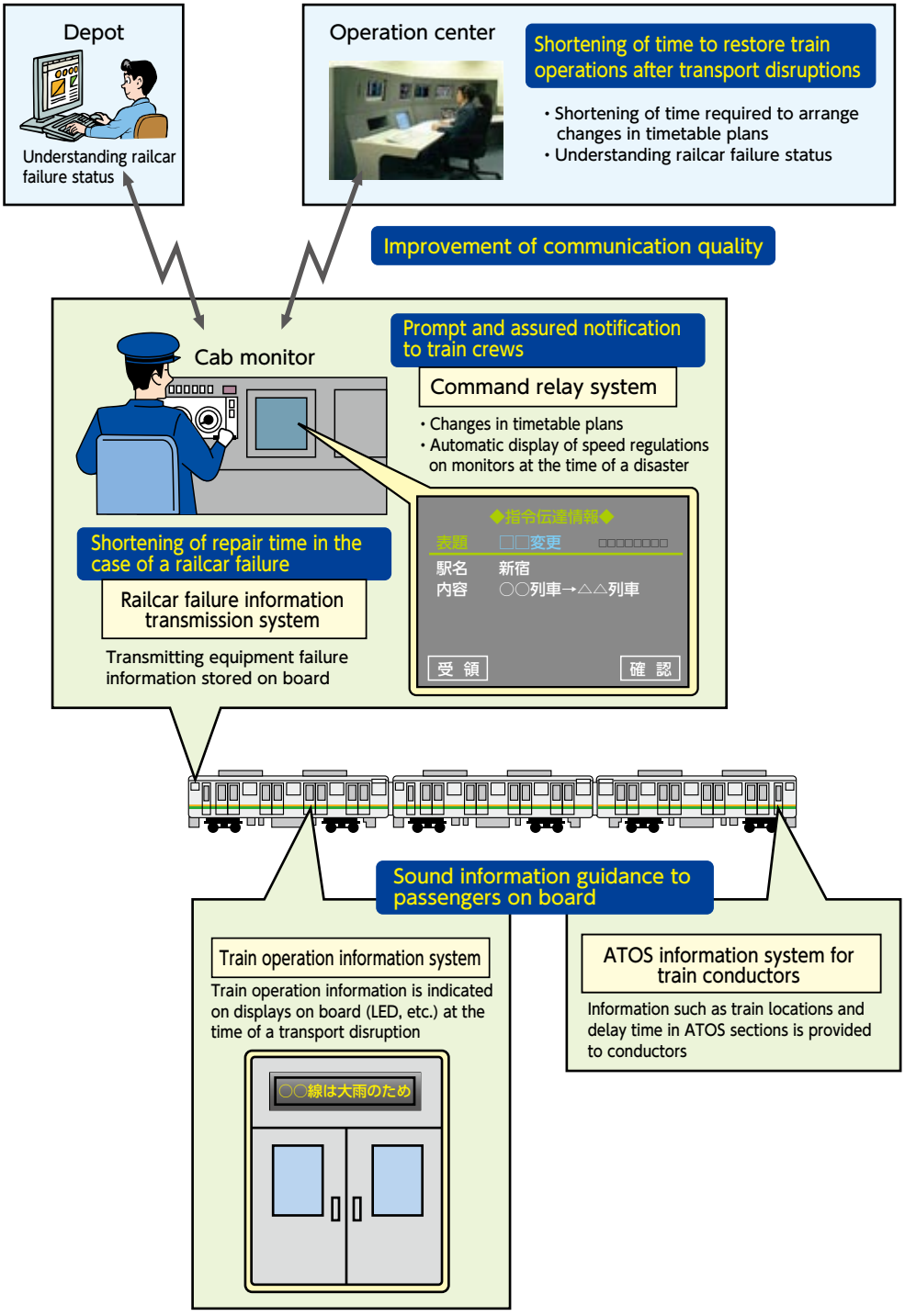
ATACS is a train control system that utilizes radio transmissions. It is a totally new system for trains to detect ATACS is a train control system that utilizes radio transmissions. It is a totally new system for trains to detect their own locations instead of using traditional methods of train location detection with track circuits. By using radio communications for the transmission of train location information between ground and on-board facilities, we can control train operations. JR East began using ATACS in October 2011 on the Senseki Line between Aoba-dori and Higashi-Shiogama.



Improvement of other safety facilities

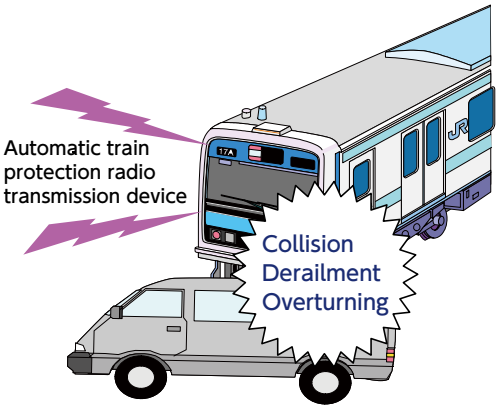
Digital train radio system for conventional lines

We completed the introduction of a digital train radio system for conventional lines for railway sections in the Tokyo metropolitan area in July 2010. Currently, to extend the introduction of the system to other areas outside Tokyo metropolitan area, we are working on design and construction for its introduction along 1,040km of 11 railway sections in a first phase and along 1,240km of 20 railway sections in a second phase. We plan to start to use it on the railway sections of the first phase by FY2017 and on those of the second phase by FY2019.
In comparison to traditional analog systems, digitalized systems improve audio communication quality and make the communication between train dispatchers clearer. Additionally, the digital train radio systems for conventional lines introduced for railway sections of the Tokyo metropolitan area have made various data communications possible so that we can offer information to customers when an issue occurs, and prompt and accurate notifications to train crews are possible.



Automatic train protection radio transmission device

When an emergency occurs such as a derailment accident, train crews use a train protection radio in the driver's cab to stop neighboring trains. Other trains receive a train protection radio signal to activate emergency braking, and secondary accidents such as train collisions can be avoided.
JR East has developed a system to automatically transmit a train protection radio signal to prevent secondary accidents even when train crews cannot promptly transmit a train protection radio signal at the time of a major accident. In FY2009, we started to use the system with E233 Series trains on the Keihin Tohoku and Negishi Lines. Currently, we are introducing the system to conventional lines in the Tokyo metropolitan area to further heighten the safety of train operations.

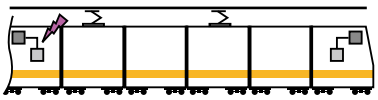


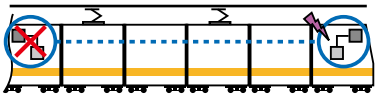
In this automatic radio transmission system, acceleration sensors monitor the vibration and tilting of trains. When the system detects collisions, derailments or overturning of trains based on the vibration and tilting of the trains, the train protection radio automatically transmits emergency stop signals.
Additionally, by installing the systems in the driver's cab in both the front and end railcars of a trainset, even when the train protection radio or the acceleration sensor of the front railcar is damaged due to a collision, the other train protection radio in the rear railcar can automatically transmit emergency stop signals to other trains to prevent secondary accidents.

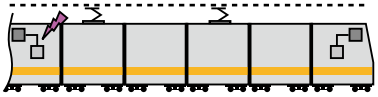

Automatic train protection radio transmission device

Cab monitor

■ Major functions

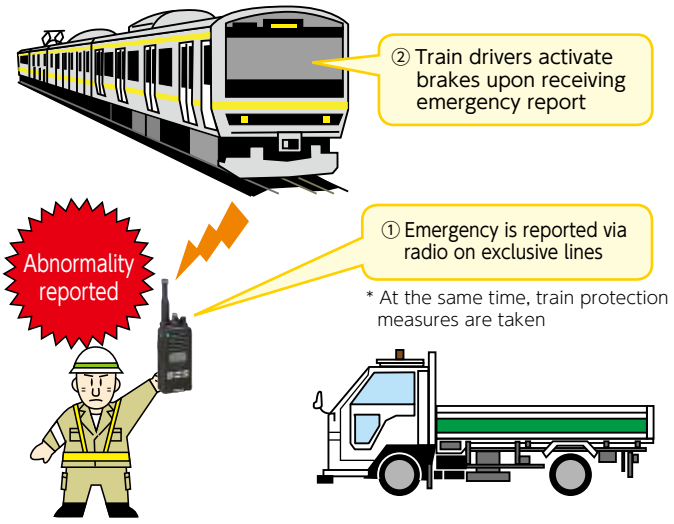

Prompt automatic transmission of train protection signals after a collision


Even when the lead car fails, the rear car can automatically transmit train protection signals.


Even when the power supply is cut off, automatic transmission will continue.

Collision prevention support radio system

Learning lessons from the derailment accident at the Kawasaki Station premises of the Keihin Tohoku Line, JR East introduced a collision prevention support radio system to help maintenance workers stop trains in case of an emergency during maintenance work.
The system utilizes an exclusive radio to notify train crew of an abnormality to help stop trains when an emergency arises that requires to stop trains immediately.



The collision prevention support radio system alerts neighboring trains of an emergency by operating exclusive radio terminals in the case of an abnormality to immediately stop trains. The system is installed on all conventional line trains and when the emergency signal is transmitted, drivers receiving the signal promptly stop their trains.
However, depending on radio and line availability, the signal might not reach all neighboring trains. For this reason, the collision prevention support radio system is used as a supplementary method for train protection.

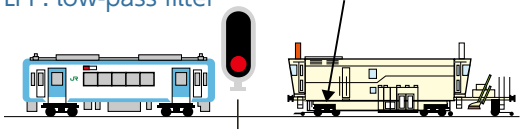
Track circuit shorting by maintenance vehicles

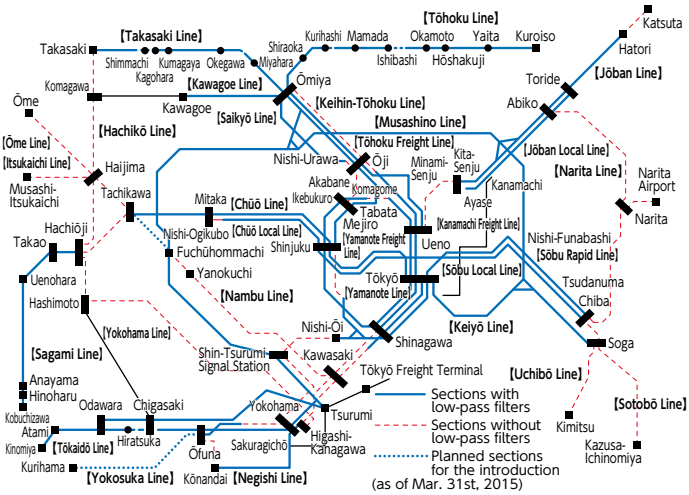
This is an improvement to prevent a collision between a train and a maintenance vehicle. Railway signals turn red to indicate a stop signal when a train short-circuits the rails and electric current flows between the rails, as a standard method of preventing train collisions. This short-circuit current also activates warning and barrier devices at level crossings.However, since track maintenance vehicles may occupy a track ffor a long time during maintenance work, their axles are insulated so that they do not cause lebel crossings to be blocked by short-circuiting the rails, and therefore are not protected by the railway signal system.
JR East has developed low-pass filters (LPFs) to allow electric current to flow for signal control while at the same time stopping current flow for level crossing control, so that maintenance vehicles can be protected from train collisions without blocking road traffic at level crossings. Currently, we are steadily installing LPFs in our maintenance vehicles.

Track short-circuits by maintenance vehicles set railway signals to stop, to prevent collisions of trains and maintenance vehicles.

Train
Red signal
⇒ A train stops before the signal.
LPF: low-pass filter

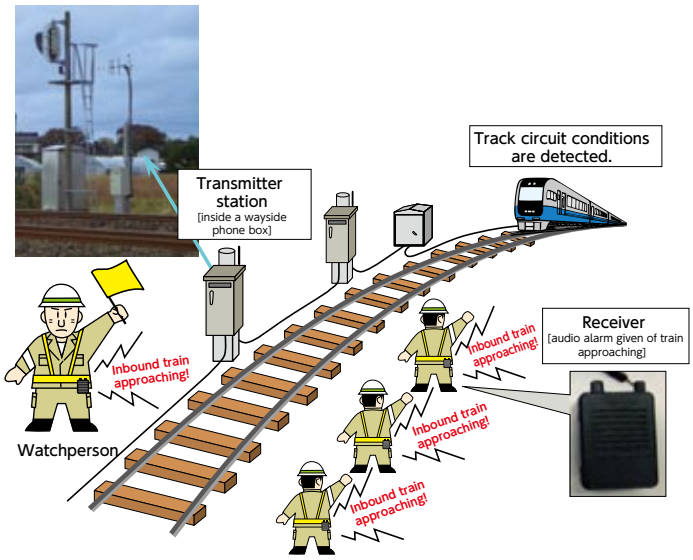

LPF: low-pass filter





TC-type wireless train approach alarm device

Since inspections of railway facilities are mainly conducted wayside, inspection work involves risk for maintenance workers as they could come into contact with trains. For this reason, JR East takes accident prevention measures such as assigning watchpersons to look out for approaching trains. Additionally, we are introducing a TC-type wireless train approach alarm device to inform watchpersons and maintenance workers of approaching trains to further improve safety levels, so as not to solely depend on the attentiveness of watchpersons.



The TC-type wireless train approach alarm device detects approaching trains via track circuits, transmits the information via wayside phone lines, and the transmitter station inside the wayside phone box transmits alarm radio waves. Maintenance workers receive the transmitted alarms via their mobile receivers and the alarm notifies them of approaching trains by audio notifications such as inbound train approaching, outbound train approaching, or both inbound and outbound trains approaching.
When a train is not approaching, the receiver emits confirmation beeps at a certain interval so that failure of a receiver can be noticed.

Efforts against natural disaster

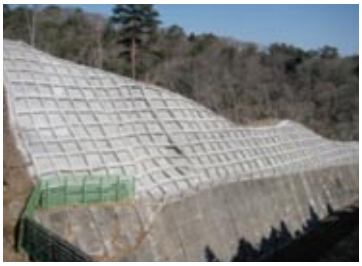
Measures for rainfall

To protect tracks from landslides due to rainfall, JR East takes disaster prevention measures for wayside embankments in all railway sections in accordance with its plans. Especially, in the Tokyo metropolitan area and for all Shinkansen routes we take thorough measures to secure safe and stable transport.
To date, for the Yamanote, Keihin Tōhoku, Akabane, Jōban, Tōkaidō Main, Yokosuka, and Chūō Main Lines and Narita Express routes (between Higashi-Chiba and Narita International Airport), we have completed our countermeasures projects and revised our operational restriction values for rainfall.
Additionally, from Oct. 2013, we have been working on disaster prevention measures against rainfall for the Yamagata Shinkansen (between Akayu and Kaminoyam-Onsen).

■ Countermeasures for rainfall

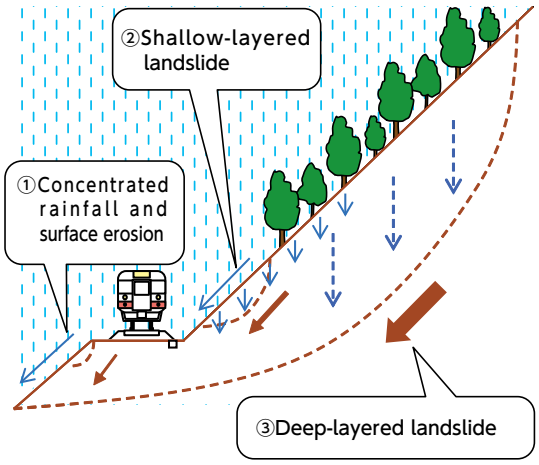

Cutting slope protection
(spray frame work)

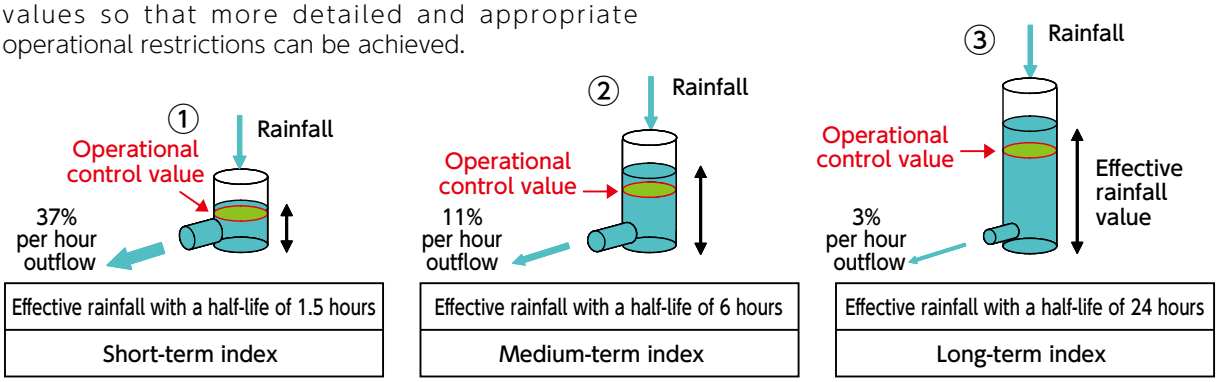

Embankment slope protection
(spray frame work)


Natural slope protection
(spray frame work)

Introduction of “effective rainfall” as an operational restriction indicator for rainfall

For operational restrictions for heavy rainfall, we have been using hourly rainfall and continuous precipitation as our indices. Since June 2008, we have been using three indices, including “effective rainfall” as a new indicator that is effective in the prevention of landslide disasters due to rainfall.
Effective rainfall is the amount of underground water remaining after changes over time in ground penetration and outflow. Since many of the disasters due to rainfall result from rainwater seeping into the ground, the effective rainfall index is more appropriate as an operational restriction index for railways. With this indicator, we can more precisely predict the occurrence of landslide disasters, thereby improving the safety and reliability of our train operations.
Taking into consideration the tracks, neighboring topography and geography, and the past history of disasters, we utilize three levels of effective rainfall values so that more detailed and appropriate operational restrictions can be achieved.





Half-life: Time it takes for the tank water to be reduced by half

Efforts against wind

Uetsu Main Line train derailment accident

On December 25th, 2005, a derailment of the limited express train Inaho No.14 on the Uetsu Main Line between the Sagoshi and Kita-Amarume Stations caused the death of five passengers and injured 31. We pray for the souls of those who lost their lives, and offer our deepest apologies to the victims of the accident and their families.
To prevent accidents such as this from happening again, JR East is committed to taking all possible preventative measures and continuing our efforts to further improve the safety levels of our railways.
We would like to report on the measures we have taken since this accident.

State of derailment accident

Issuing tentative early restrictions

For railway sections of conventional lines with operational restrictions due to wind, after the resumption of operations of the Uetsu Main Line on January 19th, 2006 we reviewed the criteria for operational restrictions as indicated below and are issuing temporary early restrictions for all railway sections.
However, for locations with windbreak fences, by taking the effects of windbreak fences into consideration, we use general restrictions instead of early restrictions.

Restriction type	Wind speed (meters/sec.)	
	General restrictions	Early restrictions
Speed restriction (max. 25 km/h)	25 - 30	20 - 25
Operation halted	30 -	25 -

Increased number of anemometers (wind meters)

To date, JR East has increased the number of anemometers at the accident site between Sagoshi and Kita-Amarume Stations on the Uetsu Main Line. In addition, for sections with operational restrictions for strong winds, we have installed multiple anemometers as standard. By reconfirming the requirements for wind restrictions on sections of railway lines, using information from front-line employees, topography, and wind conditions in these areas, and adding new operational restriction sections, we are working to improve our safety observation network to counter the effects of these strong winds. With this reinforcement, since the accident JR East has installed a total of 651 anemometers on its conventional and Shinkansen lines, and we had a total of 968 anemometers installed.

	As of Dec. 25, 2005: A	As of Mar. 31, 2014: B	Increase (B-A)
Conventional lines	228 units	806 units	+578 units
Shinkansen lines	89 units	162 units	+73 units
Total	317 units	968 units	+651 units


Anemometer

Reviewing operational restriction sections

We have been deciding on the operational restriction sections for strong winds based on a past field study and the experiences of field staffs. We have newly utilized gale maps of the areas based on wind conditions and topography and reviewed operational restriction sections based on information from field staffs. As a result, we have newly installed 75 operational restriction sections.

Installation of windbreak fences

In order to reduce wind force on trains, we have installed wind break fences at the following locations:

(as of the end of FY2015)

	Line name	Section	Location of installation	Time completed
1	Tōkaidō Main Line	Bridge next to Nebukawa Station	Both sides of the line	Jul. 1991
2	Jōban Line	Between Yonomori and Ōno	West side only	Feb. 1996
3	Kawagoe Line	Between Sashiōgi and Minami-Furuya	North side	Apr. 1998, extended in Jun. 2009
4	Uetsu Main Line	Between Sagoshi and Kita-Amarume	West side only	Nov. 2006
5	Tōhoku Main Line	Between Fujita and Kaida	West side only	Nov. 2006
6	Tōhoku Main Line	Between Kurihashi and Koga	Both sides of the line	North side: Mar. 2007 South side: Jun. 2007
7	Jōban Line	Between Fujishiro and Sanuki	Both sides of the line	Mar. 2007
8	Keiyō Line	Between Kasairinkaikōen and Maihama	South side only	Mar. 2007
9	Keiyō Line	Between Ichikawashiohama and Futamatashinmachi	South side only	Mar. 2007
10	Keiyō Line	Between Kaihinmakuhari and Kemigawahama	South side only	Mar. 2007
11	Musashino Line	Between Misato and Minami-Nagareyama	Both sides of the line	South side: Mar. 2007 North side: Jun. 2009
12	Keiyō Line	Between Shiomi and Shin-Kiba	Both sides of the line	South side: Jun. 2007 North side: Oct. 2012 South side: extended in Oct. 2012
13	Keiyō Line	Between Shin-Kiba and Kasairinkaikōen	Both sides of the line	South side: Aug. 2007 North side: Oct. 2012 South side: extended in Oct. 2012
14	Keiyō Line	Between Futamatashinmachi and Minami-Funabashi	South side only	Aug. 2007, extended in Oct. 2012
15	Musashino Line	Between Minami-Koshigaya and Yoshikawa	Both sides on brige section North side	Both sides on bridge sections: Mar. 2009 North side: Feb. 2010
16	Musashino Line	Between Kita-Asaka and Nishi-Urawa	Both sides of the line	South side: Dec. 2009 North side: Aug. 2010
17	Uetsu Main Line	Between Atsumi-Onsen and Kobato	West side only	Dec. 2011
18	Uchibō Line	Between Sanukimachi and Kazusa-Minato	West side only	Mar. 2012
19	Keiyō Line	Between Shin-Narashino and Kaihinmakuhari	South side only	Dec. 2013
20	Sōbu Main Line	Between Koiwa and Ichikawa	South side only	Mar. 2014
21	Sōbu Main Line	Between Hirai and Shinkoiwa	South side only	May 2014
22	Shinetsu Main Line	Between Yoneyama and Kasashima	West side only	Oct. 2014
23	Jōban Line	Between Kanamachi and Matsudo	South side only	Mar. 2015
24	Jōban Line	Between Tennōdai and Toride	Both sides of the line	Mar. 2015
25	Jōban Line	Between Mito and Katsuta	North side only	Mar. 2015

Uetsu Main Line, between Sagoshi and Kita-Amarume

Keiyō Line, between Shin-Narashino and Kaihinmakuhari

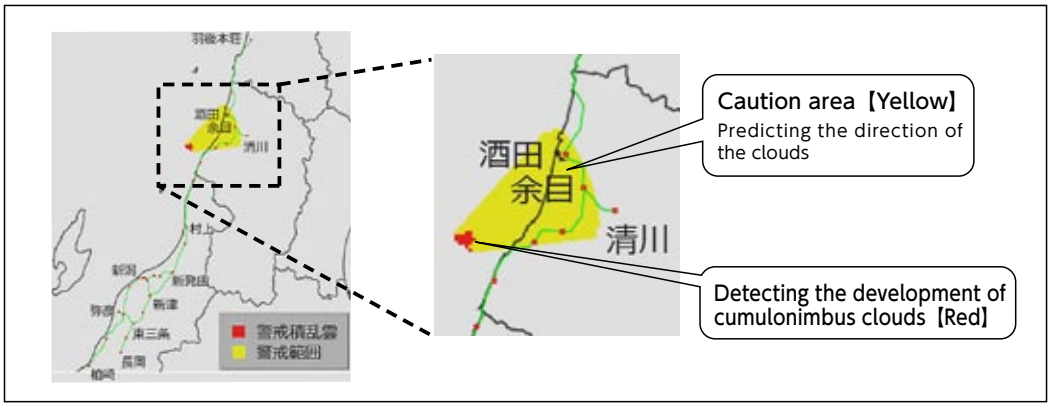
Gale warning system

JR East has been using gale warning systems on the Keiyō Line since Aug. 2005 and has installed the systems in all locations on its conventional lines with a gale operational restriction, including the accident location between Sagoshi and Kita-Amarume of the Uetsu Main Line. Since the gale warning system restricts operations not only when the actual wind speed measured by anemometers exceeds restriction thresholds, but also when the projected maximum wind speed exceeds these limits, we can further raise the level of safety of our operations.

Utilizing meteorological information to test methods for operational restrictions

Local gusts are meteorological phenomena, and are difficult to observe with conventional observation equipment such as anemometers. Through meteorological information obtained from the Japan Meteorological Agency's radars and Nowcast that supports detection of tornados, and by detecting the development of cumulonimbus clouds, we have been investigating how to forecast the occurrence of local gusts and to apply that information to our operational restrictions. Every year between November and the following March, we test the system in six sections of railway lines along the Sea of Japan including the Uetsu Main Line between Niitsu and Ugo Honjo.

■ Display of operational restriction area by utilizing meteorological information (image)

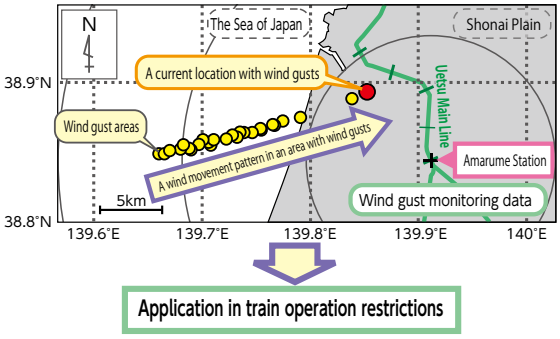


Research on a Doppler radar observation method

Since July 2007, in cooperation with specialized institutes, we have been developing systems to detect the development of cumulonimbus clouds and produce alerts for railway sections for trains' planned routes.

Doppler radar installed on the roof of Amarume Station on the Uetsu Main Line

Doppler radar main body



Introduction of operational restriction methods by evaluating wind force on trains

The wind force on trains constantly changes. We have introduced methods to properly evaluate the wind force on our trains and have further improved our operational restrictions to enhance the safety levels of our operations. The following two measures were introduced to the Uetsu Main, Keiyo and Echigo Lines, and the second measure was introduced to the Ominato Line; a total of 12 sections on these four lines.

1) Further improved wind observation methods by anemometers

By installing three anemometers at approximately 5 to10m intervals within the length of a traincar(20m). we can acquire more accurate values for the wind velocity exerted on our trains.

2) Calculation methods for rolling stock windproof stress taking account of track conditions and railcar shapes

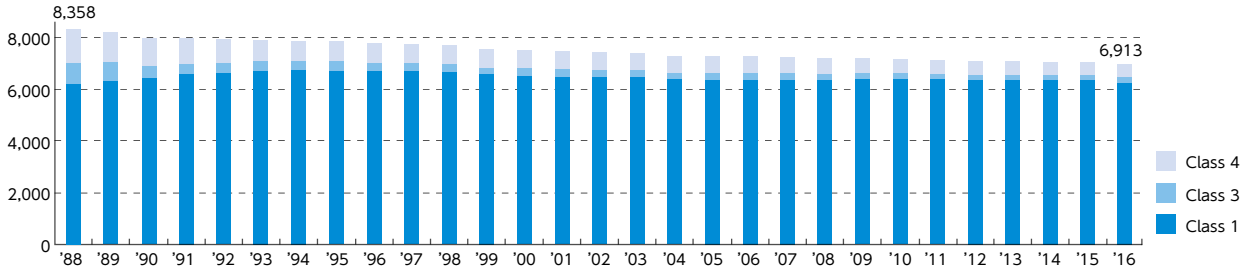
By using the new calculation method proposed by the Railway Technical Research Institute (RTRI detailed method) based on the traditional calculation method (Kunieda method), we can calculate a windproof stress for our trains that is closer to real conditions. The windproof stress of a train is the operable speed of the train against wind.

Other safety measures in progress

Measures to prevent accidents at level crossings

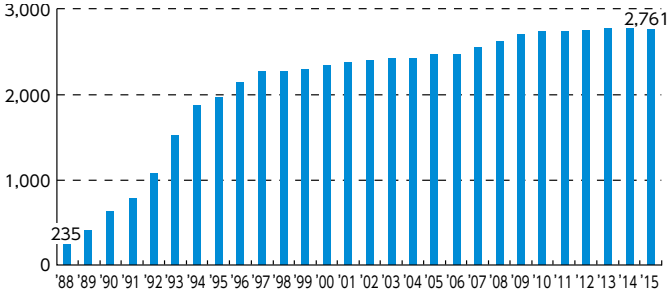
To improve our safety measures, we are further increasing the installation of obstacle detectors and level crossing alarm systems. Additionally, as a measure to improve visibility at level crossings, we are installing crossing warning devices in a higher position for better visibility.
Moreover, we are promoting level crossing zero accident campaigns to ask for the cooperation of pedestrians and automobile drivers in accident prevention at level crossings.

Changes to the number of level crossings (as of April every year)



Obstacle detectors

The detectors notify trains of danger by detecting a stalled automobile or an obstacle on a level crossing.



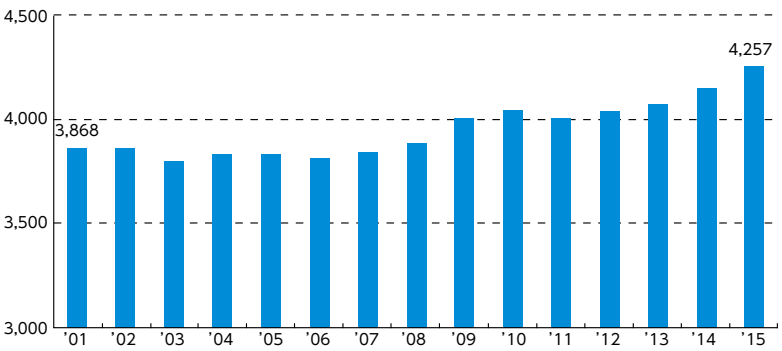
* We have installed these detectors at 2,761 level crossings as of the end of FY2015.

Three-dimensional laser radar obstacle detection method

Based on three-dimensional data measured by laser beams, the system detects obstacles in predetermined monitoring areas.

Level crossing alarm system

Automobile drivers or pedestrians can notify trains of dangers by using the system when they are stuck on level crossings.



* We have installed the systems at 4,257 level crossings as of the end of FY2015.

Level crossing alarm system

Measures to improve visibility at level crossings

JR East implements various measures to improve visibility at level crossings for pedestrians and automobile drivers.

A crossing warning device located in a higher position for better visibility

By installing alarms at a higher position, level crossings become more visible to pedestrians and drivers.

A large crossing gate

Larger crossing gates have been installed; the barrier arms are thicker than usual.

Separating level crossings for pedestrians and for automobiles

In cooperation with road administrators, we are increasing the width of level crossings and separating crossings for pedestrians and for automobiles.

Efforts in snowfall areas

We utilize road heating for level crossings with heavy traffic in snowfall areas.

Measures to prevent accidents at Class 4 rail crossings without crossing gates and alarms

To prevent accidents at Class 4 level crossings that do not have crossing gates or alarms, we take measures such as installing solar-powered illuminated signs to alert pedestrians and automobile drivers of the rail crossings. We are also continuing our efforts to install crossing gates and alarms for these Class 4 crossings to make them Class 1 crossings with crossing gates and alarms. Additionally, mainly for level crossings with prohibition of automobile crossings, we have installed fences to block automobile traffic.

Installation of fences to prohibit automobile traffic at level crossings where automobile crossings are banned

We have installed solar-powered illuminated alarm signs for all Class 4 level crossings without crossing bars and alarms to notify pedestrians and drivers of the crossings by blinking of lights for improved visibility.

Efforts to abolish level crossings

While improving various safety facilities for level crossings, in cooperation with neighboring communities we are also taking drastic measures such as the introduction of grade-separated crossings instead of level crossings and integrating and decreasing the number of level crossings.

■ No. of level crossings abolished due to measures such as the introduction of grade-separated crossings (excluding those transferred to semi-public sectors)

FY	2011	2012	2013	2014	2015
No. of abolished level crossings	22	11	24	12	37

Level crossing zero accident campaigns

Since trains cannot stop immediately, it is extremely dangerous for automobiles and pedestrians to enter level crossings while the alarms are sounding.
We have been conducting level crossing accident prevention campaigns every year since 1991. Through the campaigns, we ask our customers and neighboring communities to understand the risk involved in railway operations and cooperate in the safe use of level crossings.

During the campaigns, we post campaign posters and distribute pocketable tissue packs with campaign information at stations.

In cooperation with local police stations, we visit local elementary schools near Class 4 level crossings without crossing gates and alarms for educational activities.

Measures taken after the Daikonbara level crossing accident on the Iiyama Line

On Feb. 1st, 2011, at the Daikonbara level crossing between Morimiyanohara and Ashidaki on the Iiyama Line, the level crossing gates failed to operate correctly and the crossing gates had to be opened manually by staff on both sides of the crossing. This resulted in a collision between a train and an automobile, with the driver of the automobile being killed in the collision. We offer our deepest condolences and sincerest apologies to the driver and family. To ensure that accidents such as this do not happen again, JR East will take all possible preventative measures as we continue our efforts to further improve the safety levels of our railways.

■ Countermeasures

When alarms continue to sound due to causes such as failures of gates at level crossings and we need to allow pedestrians and automobiles to cross the failed level crossings, we stop the trains at stations and make sure that the trains do not pass through that crossing so that pedestrians and automobiles can cross the level crossings safely. Additionally, we prepare procedure manuals to ensure the safety of level crossings and to prevent human error.

Safety measures at platforms

To secure the safety of customers on platforms, we are installing emergency train stop warning systems and image-processing fall detection equipment.
Moreover, we are proceeding with the introduction of platform doors for the Yamanote Line. Excluding six stations with planned large-scale improvements (Shinagawa, Hamamatsucho, Tokyo, Shimbashi, Shinjuku, and Shibuya Stations), by the end of FY2016 we plan to start using platform doors at 23 stations. Additionally, we are considering the introduction of platform doors at Oimachi Station on the Keihin Tohoku Line and at Shin Koiwa Station on the Sobu Rapid Line.
For stations where the daily number of passengers exceeds 100,000, JR East is currently working to install an increased number of dot-Braille blocks that indicate which direction is away from the edge of the platform by the end of FY2016. Even for stations where the daily number of passengers is less than 100,000, we are considering the installation of dot-Braille blocks, mainly at stations used frequently by visually challenged customers.
Additionally, we are running station platform safety campaigns every year to ask for the cooperation of customers using our stations.

Platform doors

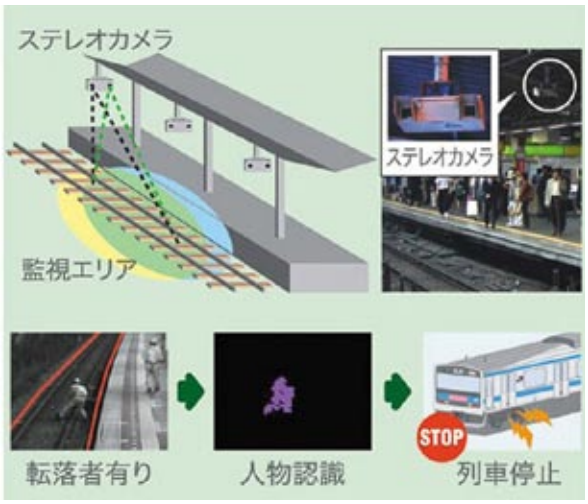
Dot-Braille blocks that indicate which direction is away from the edge of the platform

The inner line of the blocks is trimmed with lined bumps so that visually challenged customers can tell which side is away from the edge of the platform.
*Dot-Braille blocks have been installed at 427 stations for conventional lines and 23 stations for Shinkansen lines as of the end of FY2015.

Emergency stop buttons on platforms

By pushing an emergency stop button installed on platform pillars, people on platforms can notify drivers, conductors, and station staffs of danger.
* The system has been installed at 366 stations for conventional lines and 39 stations for Shinkansen lines as of the end of FY2015.

Image-processing fall detection equipment



By monitoring a three-dimensional image of the above-track space with stereo cameras, the equipment can detect that a person has fallen onto the track and notify incoming trains to stop.
* The equipment has been installed on four platforms at Shinjuku Station and two platforms at Shinagawa Station as of the end of FY2015.

Fall detection mat

A mat placed on the tracks along the platform detects whether a person has fallen onto the tracks and notify incoming trains to stop.
* The mat has been installed at 31 stations for conventional lines and three stations for Shinkansen lines as of the end of FY2015.

Platform steps

Steps help people climb back onto platforms even when they have fallen onto the tracks.
* The steps have been installed at 161 stations for conventional lines as of the end of FY2015.

Fall protection hood between railcars

Rubber hoods are installed between railcars to prevent customers from falling between railcars.
* The hoods have been installed on approx. 11,000 railcars as of the end of FY2015.

Functions to detect persons or objects stuck between railcar doors

209 Series and later railcars are equipped with a function to weaken the closing power of doors when the system detects that the bodies of customers or their belongings are stuck between train doors. For the rubber part of the door, from the floor to 30cm height, hard rubber is used so that the system can detect objects such as strollers.

ITV for station platforms and concourses

By installing monitoring cameras on station platforms and in concourses, we continue our efforts to improve safety on platforms and strengthen security in station premises.

Station platform safety campaign

We are running station platform safety campaigns to ask for the cooperation of customers by utilizing station posters and the Train Channel to promote safety on platforms. The Train Channel is an on-board information display installed on railway lines including the Yamanote and Chuo Rapid Lines. In FY2015, JR East conducted a station platform safety campaign together with 24 other railway operators.

Measures against train fire

JR East has taken the following measures by learning lessons from past train fire accidents.

■Sakuragicho train fire accident on April 24th, 1951

Measures:

① Changing gangway doors of trains from inward-opening to sliding doors. Introduction of flame-resistant materials for seats, hand straps, and floors of trains. Changing carbody roof material from wood to metal. Clarification of displays for instructions for operating door cocks.

■Hokuriku tunnel train fire accident on Nov. 6th, 1972

Measures:

① Introduction of flame-resistant materials for railcar materials and installation of fire extinguishers in railcars

② Installation of lighting facilities for long and large tunnels exceeding 5km. Installation of radio telecommunication facilities for communication to the outside from tunnels. Installation of fire extinguishers in tunnels. Improvement of signs to display distance to tunnel exits.

■Subway fire accident in Taegu, the Republic of Korea on Feb. 18th, 2003 (Korea Railroad Corporation)

【Measures for new railcars and those requiring major remodeling】

① Changing ceiling materials to those with fire resistance and melt and drip proof performance against radiant heat in addition to the current non-flammable performance

② Installation of gangway doors that can be closed normally between passenger cabins

③ Easy-to-see displays of fire extinguisher locations for passengers

【Formulating rules for underground stations and tunnels connected to these stations】

① Use of fire-proof materials for structures

② Improvement of disaster prevention control room

③ Improvement of fire alarm facilities, emergency report facilities, signs to guide evacuations, etc.

④ Improvement of fire-extinguisher facilities

■Sekisho Line train derailment and fire accident on May 27th, 2011 (JR Hokkaido)

【Tangible measures】

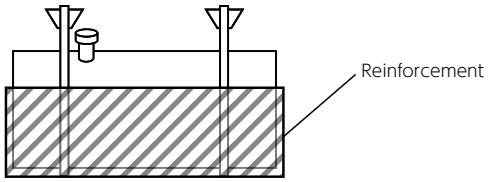
① Installation of lighting facilities and signs to locate light switches in tunnels exceeding 500m in length. Installation of signs indicating distance to tunnel exits every 100m.

Sign for a light switch

Sign to indicate distance to a tunnel exit

② Installation of metal fittings on diesel railcars that will prevent the pins that support reduction gears from unfastening. Improvement of durability of fuel tanks. Installation of flashlights.


Metal fittings to prevent unfastening of the pins that support reduction gears



Fuel tank reinforcement (image)

【Intangible measures】

① Conducting emergency drills to prepare for a train fire accident inside a tunnel on a regular basis

② Placing the priority on initial firefighting by allowing decision making at accident sites

③ Preparing educational materials and continuing education on a regular basis


Emergency drill to prepare for fire in a tunnel

■Two train fire accidents in FY2013

We are taking preventative measures such as measures to rectify faulty insulation for rolling stock and enhancing education of employees.

Fostering the skills of safety-related personnel

Safety education and training

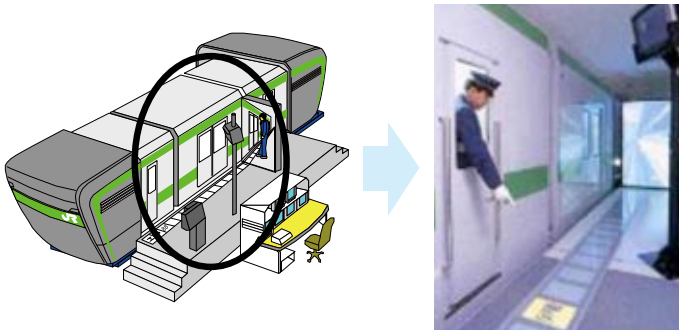
To heighten safety awareness among employees, by placing priority on safety education and training JR East is offering educational and training opportunities to its employees at the JR East General Education Center (Shirakawa City, Fukushima Prefecture) and General Training Centers (branch offices), and on-the-job training in each workplace.
The JR East General Education Center offers group training for personnel development and improvement of knowledge and skills, fostering the development of new train crews and also providing the necessary training for job transfers.
The General Training Centers in each of our branch offices offer education and training to improve the skills of train crews by utilizing accident prevention simulators on a regular basis.
In OJT (on-the-job training), we offer education and training to suit the situations of each workplace.

JR East General Education Center

Cab simulator

Train protection drills on training tracks

Training train and training tracks at Tokyo/Omiya General Training Center



Accident prevention simulator installed at General Training Centers at branch offices

In FY2015, JR East offered safety-related training to approx. 27,970 employees at the JR East General Education Center and the General Training Centers of branch offices.

JR East General Education Center	Subtotal: Approx. 10,270 persons
Train crew and transport related Driver development training　Instructor training　Conductor training Dispatcher training, etc.	Approx. 4,700 persons
Facilities, electricity, and rolling stock related Training for maintenance vehicle managers　Accident prevention training Accident countermeasure expert training　Technical training for each field, etc	Approx. 5,500 persons
Safety culture and safety instructors, etc. Key safety leader training　Basic safety training, etc	Approx. 70 persons
General Training Centers at branch offices, etc.	Subtotal: Approx. 17,700 persons
Total	Approx. 27,970 persons

Accident History Exhibition Hall

Many of the safety-related rules and facilities have been created from our experiences of and reflection on past accidents. With the objective to further improve our safety levels by learning lessons from accidents, which is our basic policy for safety, we will never forget past accidents and are committed to pass on these valuable experiences learned from those lost lives. To this end, JR East established the Accident History Exhibition Hall at JR East General Education Center and the hall is used for various trainings to learn the importance of safety in railway operations. Additionally, by expanding the Accident History Exhibition Hall, in Mar. 2014 we opened accident train preservation center for the preservation of actual trains damaged in accidents or disasters.



Accident History Exhibition Hall

The Challenge Safety Campaign

In Sep. 1988, we started the Challenge Safety Campaign with the aim of encouraging our employees to actively take on the challenge of further improving safety levels, rather than just passively maintaining safety, with each one of our employees thinking about safety and autonomously taking actions. With initiatives of field staffs, in a consorted campaign with all employees JR East is working to create a corporate climate in which its employees actively engage in pursuing higher safety levels in our operations. In the campaign, each one of our employees finds their own safety issues and takes actions to solve these safety issues with support from branch offices and Head Office.
In Group Safety Plan 2018, by placing importance on the CS Campaign's three characteristics, "think, discuss, and share with the whole workplace," we are working on solving safety issues with open minds to vitalize the discussions.

Development of safety-related discussions in each workplace

Examples of CS Campaigns (realizing and sharing)

Safety portal

JR East established an intranet portal site, the Safety Portal, to offer tools for accident prevention. Employees can search for necessary educational materials for CS Campaigns and their study sessions. We are increasing the amount of safety-related information so that employees can learn whenever they want. From Nov. 2014, we started the operation of the safety portal bulletin board, as an interactive communication tool for employees to introduce their CS Campaign activities and also share their questions and answers on safety-related issues.

Safety portal

Challenge Safety *Aoshingo* (Challenge Safety Green Light)

Since April 1989, we have been publishing a monthly safety information magazine, Challenge Safety *Aoshingo*, to comprehensively distribute safety information to our employees. The magazine offers useful information for CS Campaigns in each workplace such as specific efforts of the campaigns in each workplace and details of past accidents.

Challenge Safety
Aoshingo (Nov. 2014 issue)

Fostering integral safety leaders and professionals

In this time of rapid change in generations, since it is of the utmost importance to enable our employees to play major roles in securing safety in our operations, we assign Key Safety Leaders in field organizations and Safety Professionals at branch offices to further improve our safety levels.
Additionally, we have assigned nine ex-employees of JR who possess an abundance of knowledge and applied skills in railway safety to act as our "Chroniclers of Safety" (narrators of oral history)," and they pass their accumulated experiences and skills down to future generations through seminars.

Key Safety Leaders

We are fostering three capabilities in Key Safety Leaders in field organizations: comprehensively understand situations, training and fostering successors in each workplace. Key Safety Leaders have a thorough understanding of the safety rules, details of past accidents and safety weaknesses in their own workplace, offer guidance to other employees on a regular basis in the workplace, and contribute to the betterment of safety levels in field organizations.

Key Safety Leaders' meeting

Safety Professionals

Since FY2010, we have selected 17 persons from each branch office and construction work office to train them as Safety Professionals. They are expected to be professionals capable of guiding other employees through their long experience in railways and abundance of knowledge of safety rules and details of past accidents as well as their countermeasures.

Safety Professional certification ceremony

Chroniclers of Safety (narrators of oral history)

JR East is currently experiencing a rapid change in the generations of its employees including frontline staffs and therefore needs to steadily instill successors with safety-related knowledge, leadership, and technical capabilities.
On Oct. 14th, 2009, on the Railway Day, we assigned eight ex-employees of JR who possess an abundance of knowledge and applied skills in railway safety to act as our "Chroniclers of Safety" (narrators of oral history). They have played an active role in accident prevention in each of their specialty fields from the time of Japanese National Railways.
In Dec. 2014, we also assigned one ex-employee as one of our Chroniclers of Safety. We will continue to enable them to pass on their expertise to future generations through their experiences and knowledge of past accidents.


Toshiyuki Iijima
(rolling stock)


Takao Okuma
(transport)


Masahiro Osanai
(track maintenance)


Katsumi Kato
(construction work)


Haruyoshi Shibamata
(civil engineering and disaster prevention)


Naokazu Naiki
(signaling)


Katsutoshi Nakaya
(safety regulations)


Isao Matsumoto
(stations and traffic control)


Teruo Yabe
(safety systems)

Chroniclers of Safety seminars

Currently, Chronicler of Safety seminars are being conducted by the Chroniclers at Head Office and branch offices. In FY2015, they held 48 seminars with the participation of approx. 2,200 employees.
By reflecting requests from past participants, we are holding seminars at each branch office and construction office. By gathering opinions prior to seminars, we make it possible to deepen discussions at the seminars. On other occasions, we arrange for field visits to have discussions in small groups to share their findings. Sometimes, seminars are in lecture style with a large audience. In each seminar, we pay attention to incorporating the experiences and opinions of both the Chroniclers of Safety (narrators of oral history) and participating employees.



Scenes from seminars

Railway Safety Symposium

With objectives to improve the safety awareness of each one of our employees and to further vitalize various safety improvement activities including Challenge Safety Campaigns, JR East started Railway Safety Symposiums in 1990. Symposiums are attended by approximately 700 people including employees of group companies. We invite key figures from outside of the company to host panel discussions and introduce detailed safety examples of other companies. Participants bring back what they learn at symposiums to their workplaces and share safety awareness with other employees.
The theme for the 23rd symposium in FY2015 was, "What we need to improve in the capabilities of each one of us."
Apart from annual Railway Safety Symposiums, we hold safety forums at branch offices and construction offices.


The 23rd Railway Safety Symposium in FY2015


Opening speech by Tetsuro Tomita, President and CEO, JR East

Lectures and discussions based on the theme


A scene of the symposium

Round table discussions between front-line employees and executive officers

By drastically increasing the frequency of visits by executive officers from Head Office involved in our traditional Head Office Safety Campaign, we are increasing the frequency of opportunities for the exchange of opinions between front-line employees and executive officers to further deepen mutual understanding.
In FY2015, we experienced a derailment accident in Kawasaki station premise and incidents requiring further attention. Through direct discussions between front-line employees and Head Office executive officers, we have mutually confirmed efforts to solve safety-related issues in order to take specific measures to further improve the safety levels of our operations.



Round table discussions with front-line employees

JES-Net (JR East Safety Network)

JR East and its group and partner companies are required to share common safety values and offer railway services trusted by our customers.
To this end, the JR East Safety Network (JES-Net) was established in FY2005 as a safety promotion network consisting of 25 JR East Group and partner companies that are engaged in work directly affecting train operations. As of April 1st, 2015, the number of companies in this network had expanded to 36.
In coalition with JR East Group companies, we will further improve safety levels in our operations.


JES-Net presidents' meeting


Safety review

Safety-related research and development

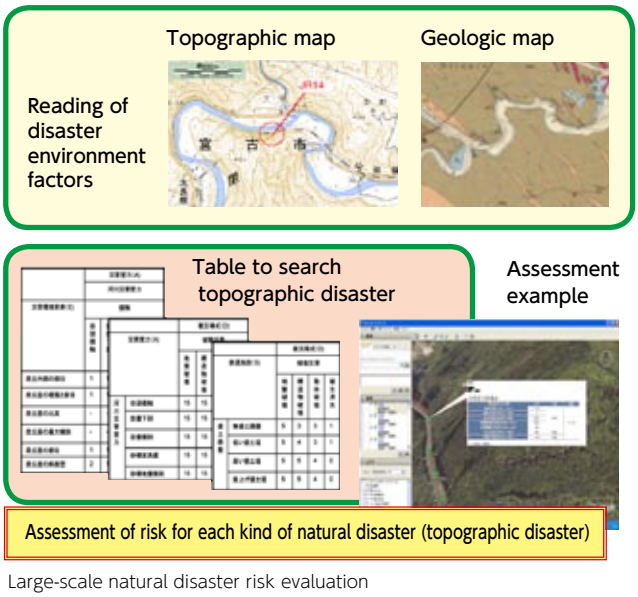
JR East Group conducts various safety-related research and development activities with the Research & Development Center of JR East Group as its core.
At the center, depending on roles and missions, six research organizations promote their research and development in each specific field to pursue extreme safety levels, while at the same time working in unison. These six research organizations are the Frontier Service Development Laboratory, Advanced Railway System Development Center, Safety Research Laboratory, Environment Engineering Research Laboratory, Technical Center and Disaster Prevention Research Laboratory.
Research themes at these organizations include those related to human factors to prevent accidents by accurately understanding accidents and the sources of accidents and analyzing their causes; development of systems to prevent accidents due to failures in maintenance work procedures; research on safety evaluation of natural disasters such as wind, earthquake, heavy rain and snow; research on the safety of railcars to prevent flange climb derailment at low speed; and research to ensure the safety of customers at stations.

A stone from another mountain: a tool to learn lessons from failures of others and a scene of a study session with the tool

* Visualization of maintenance work procedures

Maintenance work procedures (image)

Utilization of areal precipitation information from weather radars in decision making for train operations



Large-scale natural disaster risk evaluation

Special Topic 1 Toward Recovery from the Earthquake and Revitalization of Communities

Earthquake Countermeasures

Following the Great Hanshin-Awaji Earthquake in January 1995, Sanriku earthquake in May 2003, Niigata Chuetsu earthquake in October 2004, and other disasters, JR East has continued to take steps such as emergency stop measures for trains, seismic reinforcement of viaduct columns, bridge supports, tunnels, station buildings, etc., measures to prevent trains derailing, and installation of additional seismometers.
Thanks in part to these measures, no passengers traveling on board JR East trains suffered injuries during the Great East Japan Earthquake which occurred on March 11, 2011.
Since FY2010, we have expanded the scope of our measures and are proceeding with the second phase of seismic reinforcement measures, such as seismic reinforcement of viaduct columns. As a further countermeasure for earthquakes, we are pushing forward with the creation of a highly disaster-resistant railway by working on the following measures, which will mainly be implemented during the five-year period that started in FY2013.

1) In preparation for an earthquake occurring directly below the Tokyo metropolitan area, in addition to the seismic reinforcement of viaduct columns and bridge supports undertaken to date, we are carrying out seismic reinforcement of embankments, cuttings, arched brick viaducts, power poles, etc., measures to prevent the collapse of station platform ceilings and walls, and so forth.
2) As a result of the Great East Japan Earthquake, we are working on seismic reinforcement of station buildings used by over 3,000 passengers per day and shinkansen track power poles, which suffered major damage during the earthquake.
3) We plan to reinforce our communication functions in the event of an earthquake through measures such as higher-speed transmission of seismographic data and enhanced backup power for communication networks.

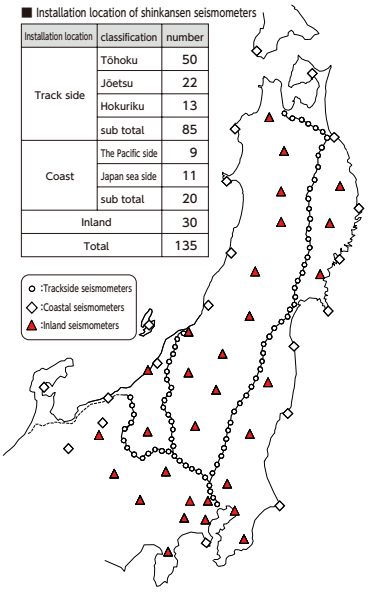
- Incorporating reinforcing material into embankment
- Installation of guard rails

Example and Image of Reinforced Embankment

Examples of Seismic Reinforcement

■ Installation location of shinkansen seismometers

Installation location	classification	number
Track side	Tōhoku	50
	Jōetsu	22
	Hokuriku	13
	sub total	85
Coast	The Pacific side	9
	Japan sea side	11
	sub total	20
Inland		30
Total		135



Installation status of seismometers
(As of Mar 31, 2015)

Handling of Stranded Passengers and Provision of Training

Given that many passengers were stranded in the vicinity of stations during the Great East Japan Earthquake, in the event of another earthquake we will do our utmost to make passenger restrooms and public phones available and provide information at stations throughout the Tokyo area. We have also established a system that will make it possible to temporarily accommodate passengers in concourses and other locations at around 200 stations after confirming the safety of the facilities. These stations are stocked with supplies such as drinking water, blankets, first-aid kits, and so forth, especially for children and the elderly.
In addition, we have conducted training in handling stranded passengers in partnership with relevant local governments, etc., focusing on major terminal stations, and we are pursuing discussions with local municipalities on evacuation management methods in the event of a disaster and working together with communities to improve our disaster preparedness.

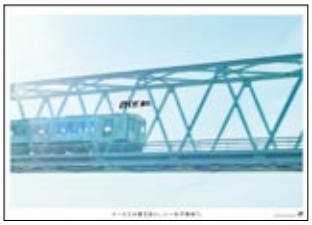
Stockpiled supplies

Training drill for handling stranded passengers

Recovery Support Measures Undertaken in FY2015

The areas affected by the Great East Japan Earthquake are still in the process of recovery, and helping to revitalize these communities via the power of tourism is an important mission for our company. In FY2015, we continued to conduct activities promoting travel to Tohoku, including the Yamagata Destination Campaign (DC) from June to September 2014 and the ongoing GO! TOHOKU campaign launched in FY2013, which was run throughout the year as a symbol of the region's recovery. In addition, with the aim of supporting restoration and revitalizing communities via tourism, a new excursion train, the SL Ginga (running between Hanamaki and Kamaishi on the Kamaishi Line), made its debut in April 2014.

The SL Ginga is powered by a restored steam locomotive (C58 239) and the train's overall concept is based on Kenji Miyazawa's novel Night on the Galactic Railroad. Thanks to the efforts of specialists in various fields, the train interior has been turned into a space that leads passengers on a voyage of the imagination via Tohoku's culture, nature, and scenery.


Tourism campaign


SL Ginga

Basic Restoration Policy and Current Status of Tsunami-Damaged Sections

We have been steadily proceeding with restoration work and resumption of operations in sections on the northeastern Pacific Coast that suffered extensive damage due to the tsunami, beginning with sections where safety can be ensured.

With the aim of restoration integrated with urban planning, we have been proceeding with construction work between Soma and Hamayoshida on the Joban Line, Takagimachi and Rikuzenono on the Senseki Line, and Urashuku and Onagawa on the Ishinomaki Line. Operation was resumed on the entire Ishinomaki Line in March 2015 and on the entire Senseki Line in May of the same year; in addition, service was begun on the Senseki-Tohoku Line, a new link between the Senseki Line and the Tohoku Main Line. We are aiming to resume full service on the Joban Line in the spring of 2017. In June 2014, we resumed service on the section of the Joban Line between Hirono and Tatsuta. The section between Tatsuta and Haranomachi passes within 20 km of the Fukushima Daiichi Power Station, and in January 2015, we began running a shuttle bus covering the section between Tatsuta and Haranomachi. In terms of our future policy, in areas that are preparing to lift evacuation orders, with the support and collaboration of national and local governments, we are continuing to make preparations to resume operations through the necessary environmental improvements, such as decontaminating trackside areas and starting preparations for the return of residents, and we are aiming to open services passing through difficult-to-return zones after restoring damaged facilities as well as completing the required decontamination and measures to ensure users' safety in the event of an emergency, again with the support and collaboration of national and local governments.

With regard to the Kesennuma Line and Ofunato Line, with the aim of rapidly providing safe, highly convenient transportation services, we are offering an interim BRT service and have enhanced its convenience by extending the route and introducing Odeca IC card tickets. In June 2015, in order to further improve convenience and efficiency in the direction of Ishinomaki and Sendai, many Kesennuma Line BRT trips were extended from Yanaizu to Maeyachi.*

With regard to the Yamada Line, with a view to promoting use through community-based operation and providing a compact, highly sustainable means of local transport, we proposed joint operation with the north and south Riasu Lines run by Sanriku Railway to the local government and other parties. A broad agreement was reached in December 2014, a letter of intent and memorandum were signed in February 2015, and a groundbreaking ceremony was held in March to mark the start of railway reconstruction work.

As of September 1, 2015, sections where operation has been suspended had been reduced from approximately 400 km immediately after the earthquake to approximately 220 km. Going forward, we will continue to collaborate with national and local governments in order to restore damaged lines in tandem with restoration of the overall community and urban development, while ensuring the safety of our customers.


Resume operation of Senseki Line


Resume operation of Ishinomaki Line

*Also, in July, with urban development activities aimed at restoring earthquake-hit areas gathering momentum, we proposed BRT as a sustainable means of transportation that will contribute to recovery, with the purpose of further developing the area.

Relationship with Customers

Our fundamental concept of service quality

The "JR East Group Management Vision V" states that "Service Quality Reform" is one of the group's eternal missions. In order to become a corporate group that is the preferred choice of customers and local communities, JR East will reform service quality through cross-divisional and cross-sectional teamwork with the aim of becoming Japan's number-one railway in terms of customer satisfaction. In order to achieve this, we will work to increase safety and convenience and further improve transport quality while promoting the creation of railways that passengers can use confidently and pursuing the comprehensive delivery of customer-friendly railway services.

Medium-term Vision for Service Quality Reforms 2017

Customer satisfaction levels have continued to increase since the first year of service quality reforms in 2011. However, in order for the JR East Group to continue growing amid the various changes occurring in the surrounding environment, we formulated the "Medium-term Vision for Service Quality Reforms 2017," a three-year plan starting in 2015. With the aim of being number one in the Japanese railway industry when it comes to customer satisfaction, this vision is founded on enhancing mutual communication with customer feedback as the starting point and developing personnel and organizations that proactively think and act from the customer's perspective. It specifies five pillars for further improvement: safety, information provision during service disruptions, confidence, comfort, and service.

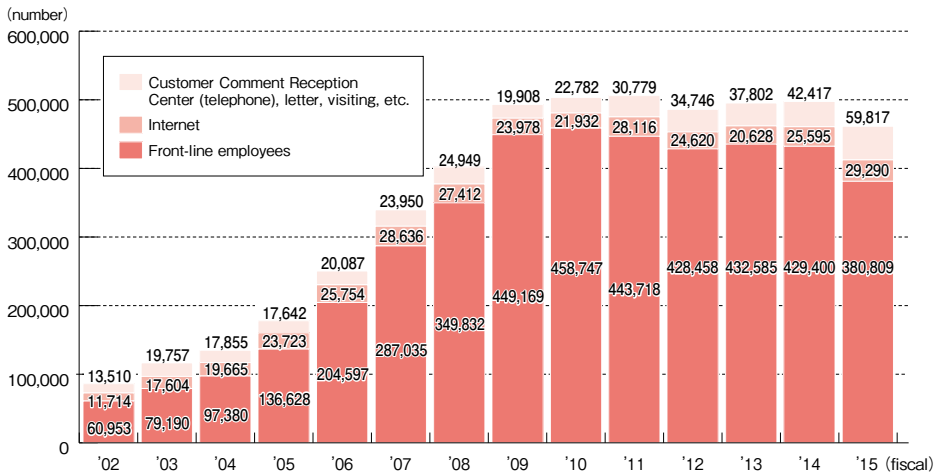
Increase mutual communication with customer feedback as starting point

Customer comments

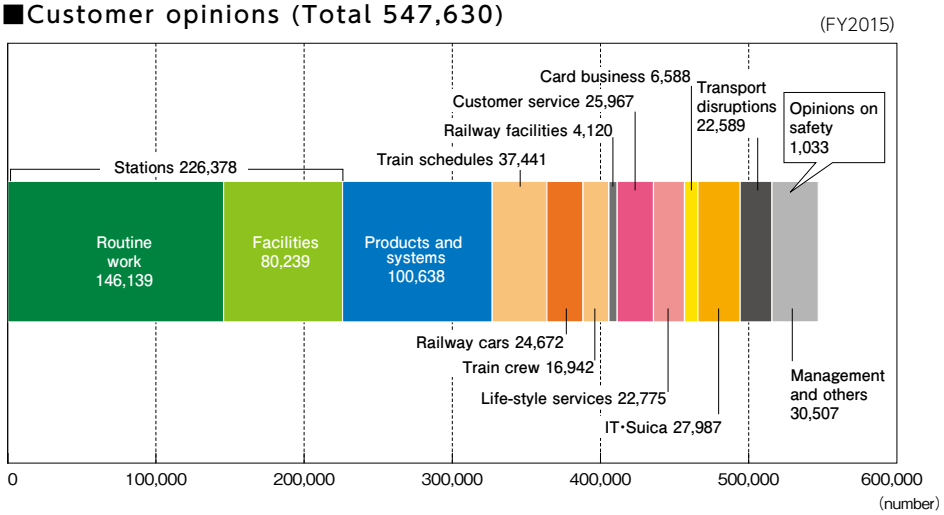
The core of improved quality of service in JR East has been our constant attention to customer comments, and we will continue to monitor customer desires and quickly introduce service quality reforms in line with their expectations. To constantly improve our services it is vital for us to listen carefully to customer comments, including their interests and complaints, and then promptly respond to their requests through service improvements.

JR East has various methods of collecting large numbers of customer comments on a daily basis, including those passed directly to front-line employees, those posted on the Internet, and those given over the telephone. All of these comments are quickly shared and analyzed on a companywide basis, and form the core of our improvements. We believe that each and every individual customer comment contributes to the core of improved customer satisfaction.

■Trends in the number of customer comments by channel (FY2002～)



■Customer opinions (Total 547,630)

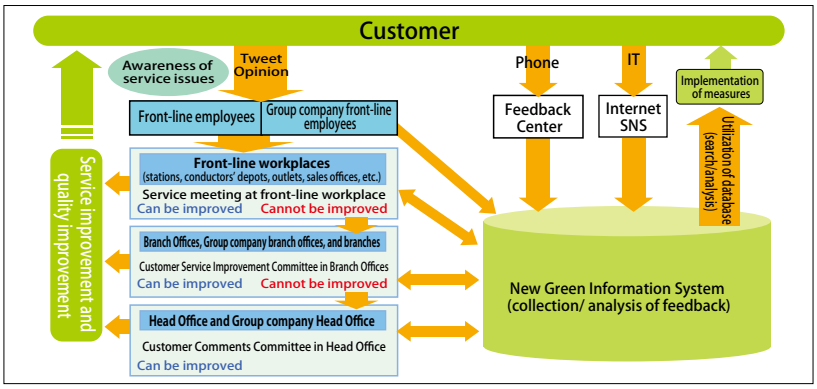


* The chart shows the number of comments on each subject. Some customers commented on more than one subject.

Prompt service quality improvements with customer comments at the core

Customer comments are considered at various levels within the company. Initially, a decision as to whether or not some action of improvement is possible is made at the level that initially received the original customer comments. The action will reflect this decision. If action is difficult to take at that level, then the comments are passed on to higher levels, where potential improvements can be discussed.
At the very top level, we have also established the Customer Comments Committee, which considers the possible implementation of improvement measures based on collected customer comments. Through this system, we are constantly striving for the attainment of improved customer services.

■ Systematic improvements based on customer comments



Customer Satisfaction Surveys

We conduct customer satisfaction surveys via our JR East Customer Questionnaires to enable us to gain an understanding of how customers evaluate our services that we cannot get simply through customer feedback and to quantitatively check levels of customer satisfaction. The survey results are used to decide which issues JR East should most urgently address as well as to confirm the efficacy of previous measures.

Railway Line Wayside Monitors

We instituted a Wayside Monitors System beginning in FY2012 to gain a more specific understanding of the needs of our customers and of the way they use our services on each of our railway lines. This is in addition to customers' comments we receive daily and our JR East Customer Questionnaires. We have recruited the monitors from among our customers who live along our railway lines, and sought their views through questionnaires on the Internet and interviews to understand their needs from different perspectives, so that we can increase the attractiveness of living alongside or near our railway lines.

Projects for Improving Service Quality

The "Projects for Improving Service Quality," designed to identify customer needs and to promptly improve service quality and transmit information, began in March 2013. We will continue to work to improve service quality in light of the needs and characteristics of each area along our railway lines, and provide information about our service quality reforms via various media with an aim to encourage customers to recognize our company as a railway company that pursues passenger-friendly railway services.

Projects for Improving Service Quality
(JR EAST APP edition)

Two-way Communications

JR East considers it necessary not simply to wait for information from customers, but also to be active in ascertaining what they really need. We therefore strive to discover their potential opinions by making use of social media. The "JR East Official Facebook", launched in May 2012, provides information about our various campaigns and proposals.
As the times and environment change, customers' demands change constantly. To address such changing needs, we learn about customers' demands from their comments and use this information to develop specific improvements. It is through such two-way communications with our customers that we endeavor to upgrade our service quality.

JR EAST Official Facebook

SQ Network

To prompt improvements in the quality of our services by reflecting customer comments, with the entire Group working as a single team, our Company and group companies closely involved in transport service established the SQ (Service Quality) Network in October 2011. The SQ Network holds meetings of representatives of JR East and group companies at stations, branch offices and the head office, to share customers' comments and devise solutions and improvements through teamwork, which goes beyond individual departments or group companies. In this way the JR East Group as a whole can dedicate itself to enhancing customers' satisfaction.

Service Quality Coordinator

For overall improvement of railway service quality focused on team efforts for service improvement and for providing reliable railway transport, we stationed Service Quality Coordinators in district and branch offices beginning in October 2011. The coordinator's job is to supervise the area-wide improvement of service quality, as well as to support and promote solution of cross-organizational problems. In this way efforts will be made to improve service quality rapidly from the front-line field operations.

Service Quality Meetings

To improve our service quality further with field operations, branch offices and the head office working as a team, we instituted Service Quality Meetings, in which senior executives from our head office visit field operations and exchange views with field supervisors. In the fiscal year ended March 2015, with "the strengthening of collaboration in an emergency of Shinkansen" set as the main theme, "establishment of a structure to strengthen collaboration among Shinkansen Transport Department, branch offices and the field in an emergency" and "responses to operation schedule when conducting turnback operations and provision of information to customers" were discussed. JR East identifies the problems faced by each railway section and area and strives to improve quality of service by means of teamwork, without being constrained by the organizational framework of the company.

Develop personnel and organizations that proactively think and act from the customer's perspective

Human resources development to enhance service quality

With the goal of achieving even more service improvements, we hold regular service quality training sessions and symposiums, and are working to create a workplace environment in which employees think and act by themselves.

FY2015 service quality symposium

Provide reliable transportation services

Prevention of transport disruptions and prompt resumption of train operation after transport disruptions, and minimization of the effects of disruptions to other sections.

We are implementing various measures to improve transport quality by striving to prevent transport disruptions and by stepping up early resumption of operations after transport disruptions, as well as preventing disruptions impacting on connecting lines.
We continue to implement expanded introduction of railcars with dual systems* and installation of track switches of next-generation design making equipment failure less likely, measures to prevent lightning strike damage to electric facilities and other disruption countermeasures.
For early resumption of operations, we maintain efforts to enhance our post-disruption response abilities by such measures as drills to deal with accidents resulting in casualties and rescuing passengers. Notably, concerning accidents resulting in casualties, cooperation with police and fire services is important and we thus implement drills, etc. for employees jointly with police and fire services on a regular basis. In addition, we try to turn trains back before they enter the disrupted section or operate other routes wherever possible in an effort to minimize the impact on customers.
When a disruption has occurred, each worksite involved reflects on how it was dealt with, learns the lessons from this, and uses the knowledge to study and implement measures to prevent recurrences, which are then widely disseminated in-house to raise the level of each and every employee.

Drills to rescue passengers

* Railcars with dual systems: Railcars with increased reliability through duplication of major equipment.

Suicide Prevention Measures

Along with such measures as supporting NPOs in their efforts to prevent suicides, we handed out free pocket tissues, which contained a card with information about the "Inochi no Denwa" telephone counseling service, around major stations in the Tokyo metropolitan area on September 10, 2014 in conjunction with "Suicide Prevention Week" set by the Japanese government and "World Suicide Prevention Day."
In addition, we carried out a suicide prevention campaign named "JR East ♥ Life Assisting Month" in conjunction with the Japanese government's "Suicide Prevention Enhancement Month" in March 2015.
During this period, we informed people about consultation services, etc. through posters, operated "Support Life Trains," introduced "Inochi no Hotline" (telephone counseling service in collaboration with the Federation of Inochi no Denwa Inc.) and conducted a "Personal Greeting" campaign, in which former JR East employees and consultants of Japanese Association of Mental Health Services, a non-profit organization, jointly patrol stations and talk to customers.

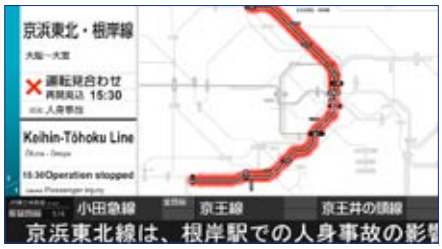
Suicide prevention campaign
"JR East ♥ Life Assisting Month"

Enhance information provision during transportation service disruptions

Information Enhancement

For better information provision in an emergency, JR East is taking steps to provide our customers with more accurate information by having the anticipated time at which operations should resume announced within ten minutes of a suspension of operations following an accident that caused casualties, and giving subsequent updates depending on the situation. In addition, as tools for providing transport information, we have installed emergency information displays and are working to enhance display functions, such as displaying in four languages and showing information on turnback operations, disruptions on other lines and other events as well as to continue installment of displays (installed at 235 stations as of March 2015). We also provide information through various media, such as onboard liquid crystal displays and the contents of cell phone carriers. In addition, on our website, we provide information on service suspensions of conventional line limited express trains, etc. and distribute delay certificates on major lines in the Tokyo metropolitan area. Furthermore, for smartphones, on top of the "JR East Train Operation Information Push Notification," a service for notifying information on train operations on our conventional and Shinkansen lines, we expanded service areas for "Doko-Train," a train operation information service that enables customers to confirm the operating status of individual trains by using their computers or smartphones, from 12 lines in the Tohoku area to 39 lines in the Joshinetsu, Kanto and other areas.

Doko-Train



Information display during transport disruptions

Train Operation Information Push Notification app

Realize railway services customers can use confidently

Barrier-free Stations

JR East has been working with local governments and other entities to install elevators at stations in accordance with the Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc. As of the end of March 2015 we had completed the installation of elevators in 517 stations.

Chuo Line (Rapid Service) platform in Shinjuku Station

Saikyo Line up-direction train platform in Jujo Station

Barrier-free Railcars

To improve accessibility for persons with vision impairments, in the fiscal year ended March 2006 we installed Braille maps and stickers indicating the passenger's current location and the locations of various facilities on all Shinkansen trains. On conventional lines we also are placing Braille stickers identifying car numbers and door locations.
In December 2006, the universal design E233 series railcars started being introduced sequentially to the Chuo Rapid, Saikyo, Yokohama and other Lines. Spacious toilet rooms capable of accommodating advanced electric wheelchairs with handles have been introduced on new Narita Express E259 series cars; on the Shinkansen E5 series "Hayabusa" and the new limited-express E657 series trains on the Joban Line since October 2009; and on the Shinkansen E7 series railcar since March 2014.

Placement of Automated External Defibrillators (AEDs)

AEDs are medical electroshock devices for the treatment of ventricular fibrillation caused by cardiac arrest. The devices have been widely used in the United States and Europe since around 2000. JR East has been placing AEDs near ticket gates at stations that have many customers, and, as of the end of March 2015, 405 stations have been equipped with one or more AEDs (557 AEDs in total). In addition, we started placing AEDs on Shinkansen trains in February 2009; on new Narita Express E259 series cars in October 2009; on Nikko Kinugawa trains in June 2011; on new limited express trains of series E657 on the Joban Line in March 2012; and on Cassiopeia and Hokutosei limited express trains in March 2015. There were 192 AED units installed on trains as of March 31, 2015.

Creating an environment where customers with baby strollers can use our services safely

To increase safety for customers with baby strollers who use our stations and trains, we have been working to improve the response of railcar doors in the event that baby stroller frames and other devices are caught by the doors. In addition, we carried out a campaign organized by the "Council for use of baby strollers on public transportation, etc.," which was formed by the Ministry of Land, Infrastructure, Transport and Tourism, transport operators including our company, baby stroller manufacturers and others, to urge customers with baby strollers to be careful, as well as asking customers with baby strollers and other customers to give way to each other when boarding trains. In FY2015, we posted baby stroller signs, which were selected by the council, in the spaces for wheelchair users on local trains, to create an environment where baby stroller users can safely use our services.

Baby stroller campaign


Baby stroller sign

Escalator Safety Measures

To prevent injuries to customers when they use escalators, we are carrying out safety enhancements, including measures that will prevent sandals from getting caught, prevent falls during emergency stops, and prevent steps from descending when escalators stop. In addition, we are also working together with other railway companies, retailers and other facilities to carry out campaigns in an effort to draw the attention of customers through such means as posters and handing out free pocket tissues that call for the safe and proper use of escalators.

In FY 2015, campaigns took place during the summer holiday season, continuing an ongoing effort to concentrate people's attention upon the proper use of escalators and upon caring for those customers who, due to injury or various other reasons, are able to stand only on the right side of the escalator steps, which are normally used by people who are walking while on the escalator. In addition to railway operators, those involved with office buildings, shopping centers and the JR East Group companies are collaborating in the production and use of these campaign posters, due to the area coverage of corporate partners being expanded nationwide in the campaigns.

"Escalator Safety" campaign

Measures against Female Molestation

In addition to adding women-only cars during certain hours, and with the aim of enabling female passengers to travel stress-free, we have been installing SOS buttons on major Tokyo metropolitan area lines that women can use to alert train crews if they are improperly touched or otherwise molested.

Furthermore, in cooperation with police and other railway operators we are actively conducting a campaign to eliminate on-train molestation and have significantly increased security surveillance on trains and in stations. As a further step in the discouragement of female molestation, we have installed on-board security cameras in the leading cars on all Saikyo Line trains.

Improvement of onboard service in the limited express trains, E657 series, on the Joban Line and crime prevention measures

As part of improvement of onboard service, we are providing up-to-date information via WiMAX. Inside the E657 series limited express trains that started commercial operation in March 2012, we have installed LED displays in full color showing newscasts through WiMAX as well as destinations and other transport information. Customers can also avail themselves of Internet connections on these trains through WiMAX and WiFi.
As part of our crime prevention measures, in addition to Car No.1 of each of the trains on the Saikyo Line, surveillance cameras are installed in Series E259 and E657 limited express trains on the conventional lines and in the two-level green cars on the Tokaido, Tohoku, Takasaki and Joban lines, and in new railcars of the E3 series in the 2000s and E5, E6 and E7 series Shinkansen railcars.


E657 series limited express trains

Transport Services Improvements

We are continuously striving to enhance the convenience of both Shinkansen and conventional lines and to reduce rush-hour congestion through increased frequency of operations and the introduction of wider-bodied cars. In March 2015, the opening of the Hokuriku Shinkansen between Nagano and Kanazawa reduced travel time between Tokyo and Kanazawa to as little as 2 hours 28 minutes, greatly increasing the time available at the destination for travelers making one-day return trips. On the conventional line network, through services between the Utsunomiya and Takasaki Lines and the Tokaido Line became possible with the opening of the Ueno Tokyo Line, and the Joban Line began direct service to Shinagawa Station. We also increased the frequency of operations during the morning commuting hours for the Musashino and Keiyo Lines to reduce congestion and enhance convenience.
In the fiscal year ended March 2015 the average level of in-train congestion during morning commuting hours was 174%, 64 percentage points below the rate in the fiscal year ended March 1988. We will continue our efforts for reliable transport by reducing transport disruptions and by other means, to meet customer needs.

Ueno Tokyo Line logo mark

* Tokyo Mega Loop: the loop formed by the Musashino, Keiyo, Nambu and Yokohama lines in the Tokyo metropolitan area that has many connections with other JR lines and lines of other railway companies.

Personal Greetings Campaign

We have a campaign in which our employees personally greet all customers in need, including those customers with disabilities, elderly customers and others who require particular attention, to make sure that they can use our stations and other facilities safely and with a sense of security. The purpose of this campaign is to inspire society as a whole to watch out for and support such people with special needs.
Our employees are instructed to greet and support, to the extent possible, when they spot customers in need. This campaign is being expanded to include employees of other JR East Group companies as well as our own employees.

"Personal Greetings" campaign poster

Realize railway services customers can use comfortably

Improvements in Station Toilets

In order to dispel the image of station toilets as dark, dirty, and malodorous and to enable customers to be able to use them comfortably, since its establishment JR East has been steadily upgrading its toilet facilities.
Measures taken include a change to western-style toilets, improved ventilation and the use of larger floor tiles. The upgrading also includes water-saving type toilets and automatic faucets in the washbasins, to reduce water consumption.
During this fiscal year ending March 2015, we renovated the toilets in 14 more stations, as a way to increase customer comfort and satisfaction.


Tokyo Station (Keiyo Line B-1F) toilets

More Comfortable On-board Air Conditioning

JR East is working on improvements to railcar air conditioning (cooling and heating) to make railway travel more comfortable. Fully-automatic air-conditioners are installed on E231, E233, E5, E6 and E7 series, etc. On other cars, continuous efforts are being made to provide the most comfortable environments possible by having conductors carry out frequent temperature checks, thermostat changes and other adjustments, and by other actions appropriate for the different conditions on individual railway lines.

JR EAST APP

With the widespread use of smartphones and to be able to give timely information to meet individual customer needs, we released the smartphone app "JR EAST APP" on March 10, 2014. "JR EAST APP" allows customers to view information on our train operations, all our stations and real-time information on the location of lines in the Tokyo metropolis (Keihin-Tohoku and Negishi, Chuo Rapid, Chuo and Sobu Local, Saikyo, Kawagoe, Musashino and Shonan Shinjuku). The app also allows customers to easily and quickly access information on lines and stations they frequently use. In addition, customers using the Yamanote Line can view their boarding position (car number), information on stops for the section (transfer routes, platform map and station map), and the congestion status and temperature of each car of the Yamanote Line train they have boarded or that is in operation.


JR EAST APP

Installation and Usage of WiMAX Base Stations

Since February 2009, UQ Communications Inc. has been offering an Internet connection service using UQ WiMax. In conjunction with this service, we have been setting up WiMAX base stations that enable Internet connection in station concourses where connection had previously been difficult or impossible, and easy connections are now available at 164 stations.
Furthermore, the company launched WiMAX2+ service which enables high-speed high-capacity telecommunications in October 2013 and has been rolling it out nationwide. We intend to further enhance convenience at stations by setting up WiMAX2+ base stations in station concourses.

Provide impressive customer service

Service Managers

JR East staff at major stations includes service managers who make rounds of stations and are in position to assist elderly customers and those not used to traveling. They provide relevant and timely information and guidance and other fine-tuned services, using tablet computer terminals, in times of emergency as well as during regular operations. (As of April 1, 2015, the services are provided at 49 stations.)

Hospitality

We have also encouraged our employees to qualify themselves for Service Assistance certification, with the aim of instilling in them a spirit of hospitality. As of the end of March 2015, approximately 10,200 employees had received level two certification.

Special Topic 2 Expansion of the Railway Network

Opening of the Hokuriku Shinkansen

In preparation for the opening of the Hokuriku Shinkansen Line to Kanazawa, we conducted a "Japanese Beauty Hokuriku Campaign" as one of the original measures beforehand in October 2014 and highlighted the attractions of the Hokuriku region to foster the mood for its opening. In addition, as our focus on the Hokuriku Sales Center set up in April 2013, we joined forces with local governments and JR West to prepare development of tourism routes covering a wide area, including the Hokuriku region (Fukui, Ishikawa and Toyama Prefectures) and the Shin'etsu region (Niigata and Nagano Prefectures). We will also conduct a "Hokuriku Destination Campaign" in October 2015 and continue to work closely together with JR West and local communities in preparation.

"Smile! The Opening of the Hokuriku Shinkansen" footage from TV commercial

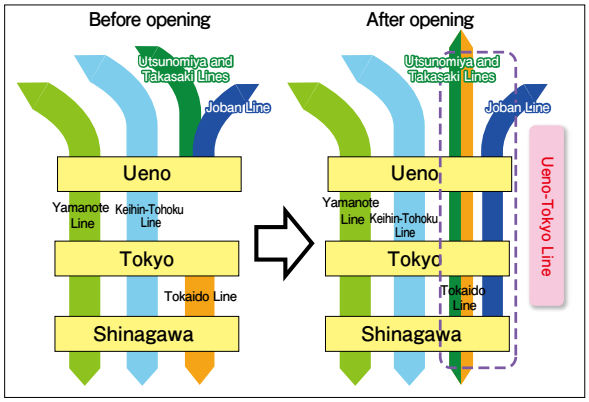

"Japanese Beauty Hokuriku: The Japan I Wanted to Visit" poster

Opening of the Ueno-Tokyo Line

The Ueno-Tokyo Line, the newest link in the Tokyo metropolitan area railway network, opened on March 14, 2015, Trains now run through between the Utsunomiya and Takasaki lines, which serve northern suburbs, and the Tokaido Line to the south and southwest. This greatly enhances convenience for many passengers on these lines, who no longer need to change at Ueno or Tokyo to trains on the Yamanote Line and Keihin-Tohoku Line. Many Joban Line trains also use the Ueno-Tokyo Line and go as far south as Shinagawa.

Joban Line express trains have been renamed as "Hitachi" for services to and from Iwaki and "Tokiwa" for shorter-distance runs that make more stops at intermediate stations. Most of the express trains also operate to and from Shinagawa.

Other improvements for express-train users include our "Eki-Net Ticketless Service", more comfortable seating, and a simpler schedule of saving charges for express service.



Transport System after the opening of "Ueno-Tokyo Line"

Toward Opening of the Hokkaido Shinkansen to Shin-Hakodate-Hokuto

In preparation for the opening of the Hokkaido Shinkansen to Shin-Hakodate-Hokuto at the end of fiscal 2016, JR East joined forces with JR Hokkaido to publicize the name of the Hokkaido Shinkansen rolling stock and unveil the H5 series trains, which are based on the E5 series used on the Tohoku Shinkansen.

A Rail Fastening Ceremony was held in the yard of Hokkaido Shinkansen Kikonai Station on November 1, 2014 and running tests were conducted between Shin-Hakodate-Hokuto and Okutsugaruimabetsu from December 1, 2014 to March 31, 2015. Running tests between Shin-Aomori and Shin-Hakodate-Hokuto were also conducted in collaboration with Japan Railway Construction, Transport and Technology Agency (JRTT) and JR Hokkaido to prepare for the opening.

VOICE

<Hokuriku Marketing Center>

To Transmit Attractive Information that will Not End as a Temporary Boom

The Hokuriku Marketing Center is located in front of Kanazawa Station to gather attention for the opening of Hokuriku Shinkansen. Since this Kanazawa Station is under the jurisdiction of JR West, it is the first sales office set up outside of the JR East service area.

The main business concept is information gathering, investigation and analysis in terms of tourism covering Ishikawa, Toyama and Fukui Prefectures and development of tourism routes on the basis of this information. By drawing the "Attraction of Plus Alpha" of places that the locals want visitors to sightsee or experience fun as well as well-known sightseeing spots, we continue to introduce such to customers along the JR East Line including the metropolitan area.

When we think of the opening of the Shinkansen, what of the "Hokuriku has been bound with Tokyo" is the first thing that comes to mind. In fact, access to Nagano makes remarkable progress and visitors to Hokuriku are increasing. In addition, the fact is that the 10% of visitors are from Sendai or surrounding areas since the opening. Though the locals also seemed to hold the image that Hokuriku bound to Tokyo as a point and a point, they surely feel closer to the entire sales area of JR East after welcoming visitors from various regions.

We are aiming that the current situation will not end as a temporary boom, but by analyzing the attraction of regions deeply and conveying this in a simple way for visitors to come sustainably, and providing local products or specialties to enjoy their attraction. We would like to remember to transmit attractive information for visitors to come to Kanazawa as a starting point of the Hokuriku region, the surrounding areas including Kaga and Noto, in addition to Toyama and Fukui Prefectures.

Therefore, it is necessary that we work together with the local communities. While we have a wealth of knowhow about tourism, we have little on the deep attraction of the Hokuriku region. On the other hand, local governments and tourism facilities have strengths in local information, but there is a limit to PR activities in the metropolitan area. We suppose that the mutual cooperation of the three entities of JR East, local governments and tourism facilities enables effective PR activities and drives sustainable tourism demand.

Two years have passed since the Hokuriku Marketing Center was set up. We have kept in mind that we are not considered a "Passerby" by locals. Judgement from shallow knowledge from just seeing and hearing a little makes it easy to miss the true attraction and causes misunderstanding, so it cannot be helped that we are considered a "Passersby" by locals. In order for the JR East working outside the original sales area to gain trust from locals: see the current situations of the regions, listen carefully to what locals say and know as the origin of sightseeing sources and the histories of towns. We think of this as a cardinal rule.

When we see the current bustle of Kanazawa Station, we feel great satisfaction from playing a role in binding the customers of the Hokuriku region with the those of the East Japan area and that it is greatly due to our being able to put into practice "Seeing, Listening and Knowing Carefully" that we could receive appreciative words from many customers.

Railway Operations Headquarters
Marketing Department
Hokuriku Marketing Center
Director
Hideaki Kuroda

JR East's Life-style Business

JR East operates a broad range of lifestyle businesses and provides services to support the everyday lives of our customers in their various lifestyles and life stages. These services include retail stores within station buildings, hotels, office buildings and fitness clubs that benefit from their locations near stations, advertising in stations and on trains, childcare support in areas adjoining railway lines, and housing.

Appealing to Overseas Visitors

Products that Appeal to Overseas Visitors

We offer the "JR EAST PASS," which allows unlimited travel within the JR East service area, and the "JR Kanto Area Pass," which allows unlimited travel within the Kanto area. In March 2015, we began to offer "N'EX TOKYO Round Trip Ticket" as a product providing access from Narita Airport to Tokyo. In addition, we offer the "Mt. Fuji Round Trip Ticket" to promote demand for trips to Mt. Fuji, and the "GALA Option Ticket" as an option that can be added to the "JR Kanto Area Pass" for customers to enjoy snow in winter. With these highly convenient seasonal travel products, we can give visitors suggestions and recommendations for different train trips in our service area.

Free Public Wireless LAN Service for Overseas Visitors

As overseas visitors feel that the free public wireless LAN environment in Japan is inconvenient, we provide and have installed free public wireless LAN services at 41 stations (mainly on the Yamanote Line) and at the "JR EAST Travel Service Centers" which are used by many overseas visitors. (This service is provided in four languages: English, Chinese, Korean and Japanese.)

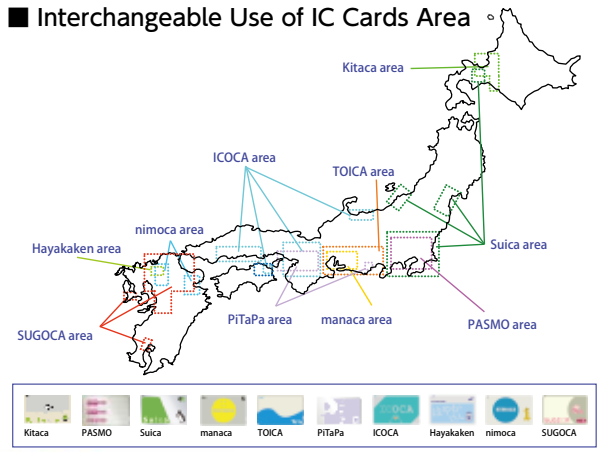
JR-EAST FREE Wi-Fi

Suica Business

As an IC Ticket

Ten IC cards, including Suica, used in public transport throughout the country were made interchangeable in March 2013. In addition, partial service of Suica was newly made available at 36 stations on 13 lines of our company in 2014 and service of Suica on Fujikyuko Line, and Kesennuma and Ofunato Line BRTs in March 2015. Furthermore, we will begin interchangeable use of Suica with "icsca," IC cards issued by Sendai City Transportation Bureau, in the Sendai region in spring 2016.
The number of Suica cards issued reached approximately 53.11 million at the end of June 2015.

■ Interchangeable Use of IC Cards Area



The symbol of nationwide interchangeable use

As Electronic Money

The number of places where Suica can be used as electronic money has been increased, to include shops not only inside but also outside stations. Examples of where Suica can be used include major convenience stores and supermarkets as well as restaurant chains and drugstore chains. In addition to these, we have expanded its use to places other than regular shops and to services, such as taxis, tourist spots, ANA's in-flight shopping on domestic lines, Nintendo's game machines and events, as well as online shopping sites like "Amazon" and "Rakuten Ichiba."
As of the end of June 2015, the number of shops which accept payment with Suica has expanded to approximately 303,470 and the maximum number of uses on a single day reached approximately 5.18 million on July 31, 2015.

Responding to Diverse Needs

The number of users of "Mobile Suica," which combines the functions of a Suica card and a smartphone or cell phone, reached approximately 3.61 million at the end of July 2015. As a result of our efforts to increase the membership shops and companies with which points can be exchanged, the membership of "Suica Point Club" reached around 2.06 million as of the end of July 2015. "View Suica," combining the functions of Suica and View cards, was issued to enrich functions so as to meet a wide range of customer needs. We have also been working to enhance convenience in railway business and the life-style business and to further develop customer services by utilizing information obtained from Suica and View cards.
Going forward, JR East will continue to make efforts to realize services that will bring convenience to customers' everyday life.


Mobile Suica

Suica Point

View Suica Card

Relationship with Society

Basic Approach to Collaborating with Communities

The JR East Group's very existence depends on the health of the east Japan area and of Japan as a whole. As a company responsible for a form of social infrastructure (i.e., railways), and as a member of the community, we work together with communities in order to take actions aimed at achieving their desired future.
In addition, we actively implement community vitalization and tourism promotion measures that leverage the unique capabilities of our group, as well as pushing forward with the creation of appealing urban areas centering on train stations.

With communities

As a member of the local community, JR East has a strong interest in the community's future and works for its improvement by enhancing the areas along our railway lines to establish a lineside brand that will be chosen by customers, through developments such as our "Station Renaissance" program.
At Tokyo Station, on the Marunouchi side, the work to preserve and restore Tokyo Station's Marunouchi station building was completed. On the Yaesu side, in addition to GranTokyo North Tower and South Tower and the GranRoof, a square was completed in front of the Yaesu Exit in fall 2014. These developments are called Tokyo Station City and form part of the concept of developing Tokyo Station into a complete city. Our goal is to create a station that will serve as a center that represents new cultures, while also serving as a spectacular gateway to Metropolitan Tokyo.
We are promoting the Chuo Line Mall Project for utilization of the space under elevated railway tracks between Mitaka and Tachikawa Stations on the Chuo Line. This is part of an overall aim to develop lineside area brands that will be chosen by customers, as part of a project constructing a series of railway overpasses that will unify towns. Looking at a railway line and the area alongside it as a unit rather than just as "points" (stations), we are promoting development that is based on the concept of "connecting greenery, people and towns". By doing so, we aim to establish a lineside "brand" as an area where customers want to live.
We are also cooperating with local governments in the creation of new stations, in line with their city planning, and the improvement of existing station buildings with free passages and other facilities, based on requests from local authorities. In the fiscal year ended March 2015 we opened a new station, Tendominami, on the Ou Main Line, and we improved Iiyama Station on the Hokuriku Shinkansen and the Iiyama Line by building a tourist information desk, etc. (local government facility). As a result, since our establishment in 1987 we have introduced local government facilities into a total of 86 stations (as of March 31, 2015). Kataoka Station on the Tohoku Main Line, Sodegaura Station on the Uchibo Line, Kobayashi Station on the Narita Line and Uchino Station on the Echigo Line were also improved by construction of free passages in the fiscal year ended March 2015.


Square in front of the Yaesu Exit, Tokyo Station


Tendominami Station on the Ou Main Line


Free passage at Kobayashi Station on the Narita Line


nonowa Kunitachi

Participating in the program to support migration to regional cities

In the "JR East Group Management Vision V," we are supporting programs that local community encourages people to move to regional cities from the Tokyo metropolitan area, with the aims of contributing to the revitalization of those local communities and of encouraging such migration. We are currently cooperating in promoting migration and exchange with Nagano Prefecture, Aomori Prefecture, Toyama Prefecture and Ishikawa Prefecture.

Seminar on migration & migration trial tour

This Tour gives people interested in moving away from the Tokyo area an opportunity to take part in seminars and visits in order to dispel their misgivings about migration. By combining local community activities (seminars on living conditions, agricultural experience) with information about Shinkansen trains, we can support local government migration policies through our sales channels and media activities (membership, homepage, and others).

Post-migration support

In order to make the travel to Tokyo easier even after relocating, we started a service in December 2014 which supports travelling between Sakudaira, a relocation destination, and the Tokyo metropolitan area.

List of support utilizing Group resources

People moving to regional cities or making short stays there sometimes need support, especially in the aspect of mobility. We offer support using Group resources, such as long-term car rental discount plans for members of the Otona no Kyujitsu Club.

Migration trial tour

Contribution of Railway Overpasses to Unifying Towns and Eliminating Traffic Congestion

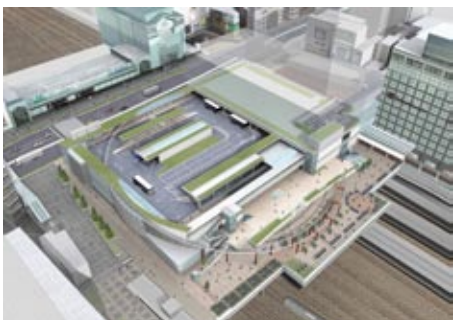
JR East continues to cooperate with local governments in projects for railway overpasses near Inagi-Naganuma Station on the Nambu Line and Niigata Station on the Shin-etsu Line. These projects aim to unify towns that are split by railway tracks, eliminate traffic congestion, and improve the safety of both road and rail transportation.
In the project to construct a series of railway overpasses near Inagi-Naganuma Station on the Nambu Line, all 15 level crossings in the section subject to the project were removed by placing the railway on a viaduct in December 2013; and in the project to construct a railway overpass near Niigata Station on the Shin-etsu Line, we finished switching to temporary lines in November 2014 and are currently constructing the main structure. As these projects help eliminate traffic congestion and unify towns, we are contributing to city planning and smoother traffic by cooperating in such projects.

Railway overpass construction project near Inagi-Naganuma Station on the Nambu Line

Railway overpass construction project near Niigata Station on the Shin-etsu Line

Enhancing Convenience of Multi-mode Travel through Improving and Developing Transfer Nodes functions at Stations

Large numbers of people pass through stations where different transport services meet. To reduce urban area congestion and to make travel more convenient, we have been increasing the number of through services and improving our connections with other means of transport, in cooperation with national and local governments. We are also improving transfer nodes to other transport, such as to bus terminals and taxi loading areas. One example is constructing a bus terminal above the railway tracks at Shinjuku Station, in collaboration with the Ministry of Land, Infrastructure, Transport and Tourism, which contributes to the convenience of the entire multi-mode transportation system.

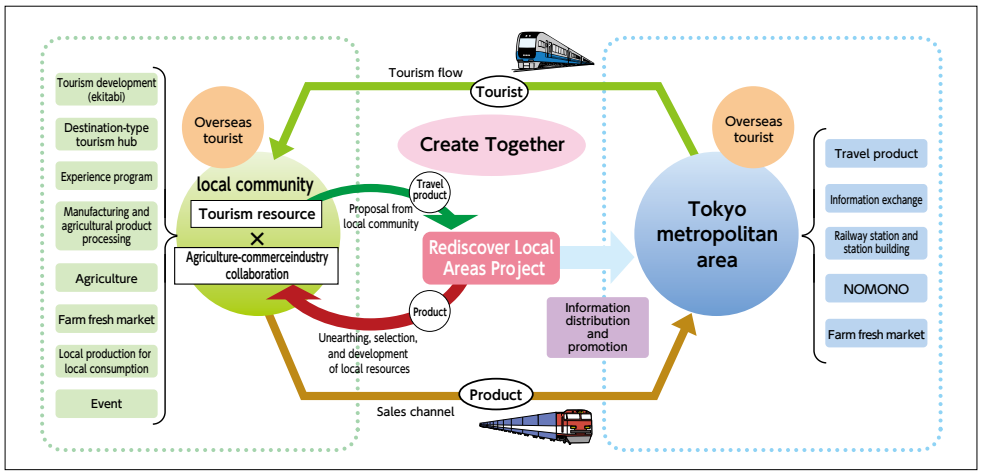


Upgrading of Transfer Node in Shinjuku

Rediscover Local Areas Project

Development of the Rediscover Local Areas Project

Under the "Create Together" strategy, which specifies enhanced cooperation between JR East and local communities, we are promoting the Rediscover Local Areas Project. The aim is to create new potential markets that bring increased circulation of people and goods between the Tokyo metropolitan area and other regions and also attract overseas visitors to Japan. The JR East Group has railway networks that link Japan's various regions, stations that serve as centers of local communities, business know-how, sales channels and advertising power that all radiate out from the Tokyo metropolitan area, along with employees who continuously make social contributions as members of local communities. The strategy utilizes JR's unique abilities to make full use of traditional cultures, festivals, local produce, and other tangible and intangible tourist resources, expand sales channels, and promote the interactive exchange of information between the Tokyo metropolitan area and local communities.



Conceptual diagram of "Rediscover Local Areas Project"

In the Tokyo metropolitan area, we have been working mainly to expand demand for local products. In collaboration with destination campaigns and other marketing tools, we are hosting "Rediscover Local Areas Project: Farm fresh markets" at Ueno Station to sell local produce and promote local tourism. We opened "NOMONO," a shop selling local products (mainly food) from eastern Japan and designed to communicate local information, at Ueno Station (January 2012) and Akihabara Station (March 2014). NOMONO shops emphasize products that are typical of the season, region and traditions. Various efforts to expand demand for local products have been put forth across JR East's business areas, and altogether 3,477 farm fresh markets were held among the entire group as well as many other events to revitalize communities in the fiscal year ended March 2015.

In regional areas, we have been promoting manufacturing that integrates the primary industry with secondary and tertiary industries, by combining attractive local agricultural produce and such with advanced processing technologies. We opened A-FACTORY, a complex that consists of a craft center where Aomori-grown apples are made into sparkling apple wine "Cider," etc., and a market which sells local agricultural produce and such, in front of Aomori Station in December 2010. Products that are processed here are distributed not only within the area but also to the Tokyo metropolitan area utilizing our group's network. We are also pursuing regional revitalization by deepening ties with the local people through various events and other means.

We are working to revitalize the local food industry by holding farm fresh markets and through encouraging the expansion of agriculture, forestry and fisheries to include food processing, logistics and marketing.

Rediscover Local Areas Project
"Farm fresh market"

NOMONO, the local produce shop

Childcare Support Services HAPPY CHILD PROJECT

JR East Group is striving to develop communities along its railway lines in which people can live in comfort and can benefit from adequate childcare support, as envisaged by the HAPPY CHILD PROJECT. More specifically, these communities will benefit from elements of social infrastructure such as nursery schools near stations for supporting childcare and community cafés for parents and children. It is hoped that these may contribute to the development of local communities and be used as venues for various events that both parents and children can enjoy.
We will respond actively to various needs associated with childcare, contribute to the local community and upgrade the value of areas adjacent to the railway lines.

Childcare Support Facilities — Support for working parents

JR East has opened childcare support facilities such as "nursery schools near stations" located in easily accessible areas that are usually within a five-minute walk from the station, to support the combination of childcare and commuting to work. A total of 82 childcare support facilities were opened from 1996 through April 2015, and JR East is continuing to increase the number of these facilities. These nursery schools near stations have the advantage that parents can drop and pick up their children on the way to and from work. As evidenced by the scene that children come to the nursery with fathers, our childcare support encourages fathers' participation in childcare as well.

Nursery school near station along the Shinkansen line(Taishido Suisen Nursery School)

Children playing on station rooftop playground (J-Kids LUMINE Kitasenju Nursery School)

Parent-Child Community Cafés - Facility to encourage parents to go out

JR East is working to open parent-child community cafés that provide space where families can enjoy spending time together. The Parent-Child Community Cafés incorporate functions and services to help meet this goal, and are not only for families with children, but also for all members of the community and all generations.
For example, the "Kizuna 937" Parent-Child Community Café operated by JR East is on the second floor of E'site Kagohara, in front of Kagohara Station on the Takasaki Line.

Events for supporting Childcare

Children's Train Craftwork Exhibition

This exhibition, displaying craftworks produced by children attending our nursery schools adjacent to stations, is held on a regular basis in the Railway Museum (Saitama City, Saitama Prefecture).
With "trains" as its theme, original, creative and fantastic works created by children are enjoyed by many visitors. It also provides a space for displaying the activities of nursery schools and observing child development.

Sixth Children's Train Craftwork Exhibition

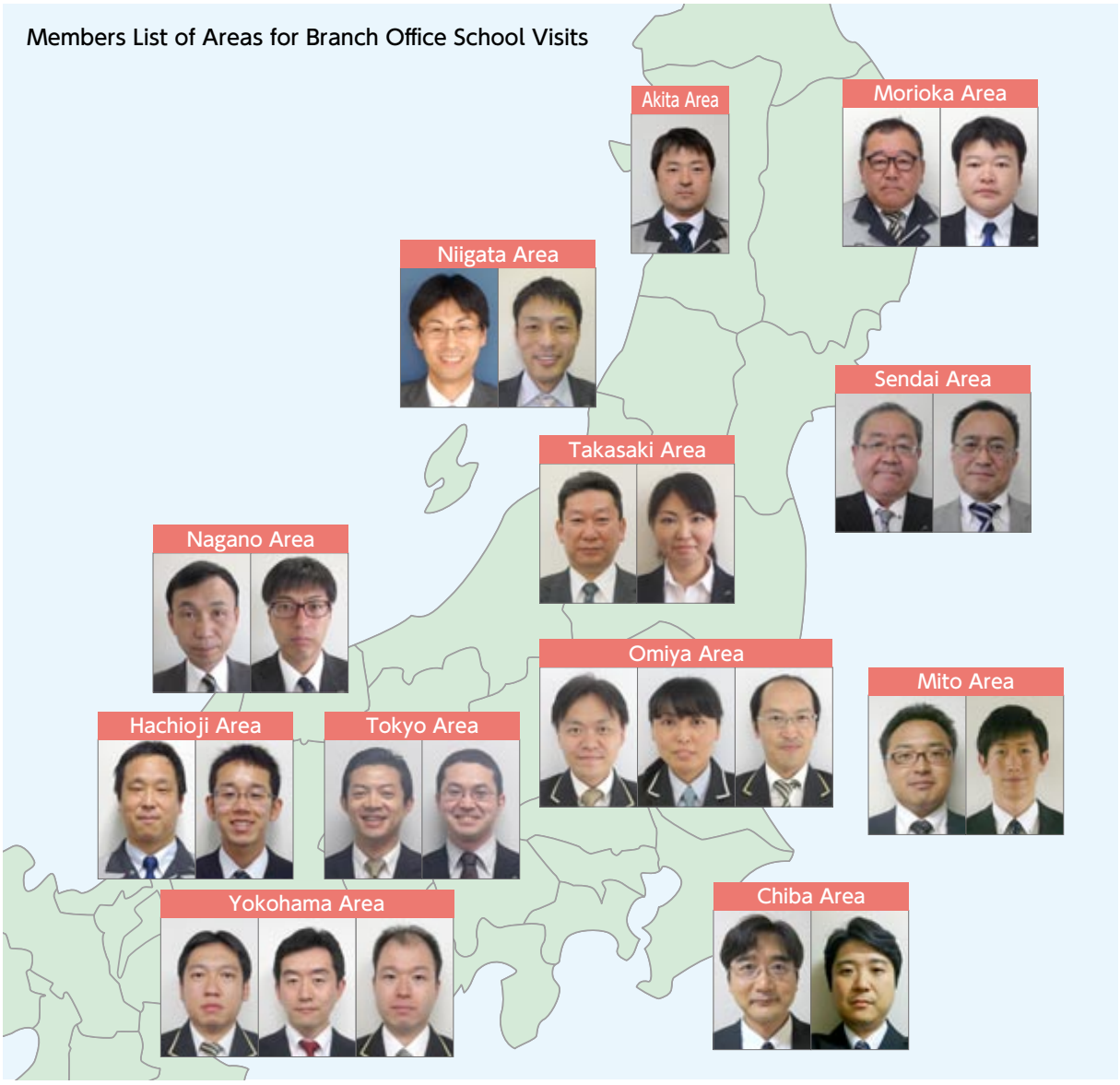
Paper-craft Class

Various events that parents and children can enjoy together, such as a Paper-craft Class showing how to make a 3-D Shinkansen mock-up from special paper, take place in a variety of locations.

Image of completed paper-craft work

Development of environmental education by delivering lectures on request

In the fiscal year ending March 2010, to contribute to the development of a sustainable society, JR East initiated environmental education programs for children. They will lead the next generation and they need to understand environmental issues and their relationship to society. The program aims to help children understand the environment and life through materials related to railways. In FY2015, the program was implemented at 54 schools, primarily elementary schools, in the JR East area. We will continue it.



※As of July 1, 2015. The area names have been created for JR East internal use.

Culture

East Japan Railway Culture Foundation

In order to continuously utilize its management resources for social contributions, in 1992 JR East established the East Japan Railway Culture Foundation, which became a public interest incorporated foundation in April 2010. This organization has successfully promoted local culture, studied and researched railways, and taken part in international cultural exchanges through our railway business. The Foundation's major activities include operating the Railway Museum, Tokyo Station Gallery, the Old Shimbashi Station building and Old Manseibashi Station, sponsoring local cultural activities and accepting trainees from railway operators in Asian countries. The Foundation provides information on its website (http://www.ejrcf.or.jp/english/index.html).

The Railway Museum

On October 14, 2007, the Railway Day, the Railway Museum was opened in Saitama City, and it is based on three major concepts. It was designed to be a museum that systematically conducts surveys and research using railway-related heritage and reference materials, a history museum that depicts the history of railways focusing on exhibits of locomotives and cars, and an educational museum where visitors can learn about railway principles, systems and technologies through hands-on experience. Since its opening, The Railway Museum has proved to be a great success, attracting about 800,000 visitors in the fiscal year ended March 2014. Going forward, renewal work of building interior and construction of a new building are scheduled in time for its 10th anniversary in October 2017.


The Railway Museum

With the Next Generation

Children's Railway Association

The Children's Railway Association is managed by the Traffic Manners Association, with the aim of raising children's awareness of proper manners on public transportation. In Japan, there are approximately 1,000 active members, with 400 of them in our service area. JR East has established related facilities in each of our branch offices and actively supports the association as a way to contribute to the improvement of manners on public transportation by the next generation, and provides opportunities for such activities as clean-up work in railway stations and field trips to railway facilities and branch offices.

International

International Cooperation

JR East is actively involved in international cooperation through dispatching railway experts to Asian countries in order to explain our technologies and provide the expertise we have nurtured in Japan over the years, taking in trainees from developing countries to provide tuition in professional fields, and meeting requests from agencies such as the Ministry of Land, Infrastructure, Transport and Tourism and the Japan International Cooperation Agency (JICA).
JR East also receives inspection visits by overseas visitors involved in railway operations. During the fiscal year ended March 2015, for example, we had approximately 1,300 visitors from 49 countries. The visitors have included government officials from each country, people engaged in railway operation and researchers from universities and research institutes. These visits help to promote mutual understanding.

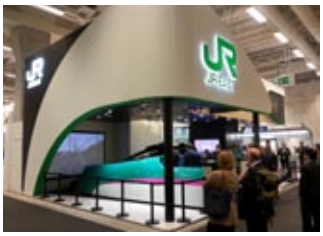

Training for overseas railway operators (Akita branch office)


Inspection by the embassy staff (Shinkansen General Rolling Stock Center)

Global Contribution through International Institutions

In addition to actively collecting and providing information through international conferences and publications organized by the International Union of Railways (UIC), the International Association of Public Transport (UITP), Community of European Railway and Infrastructure Companies (CER), the Association of American Railroads (AAR), the American Public Transportation Association (APTA), and other international railway organizations to which JR East belongs, we have been working toward the global development of railways and the resolution of railway-related issues through serving as chair of the UIC Asia-Pacific regional assembly since January 2013 and President and Director of the UITP Policy Board since June 2015, and other activities.
In order to showcase features of Japanese railway systems to overseas railway-related parties, we have been actively participating in overseas trade shows, seminars and so on as well as inviting international conferences. In September 2014, we participated in InnoTrans, one of the largest international railway shows. In July 2015, we held the "UIC World Congress on High Speed Rail," the world's largest international conference and exhibition focusing on high-speed railways, in Tokyo in collaboration with UIC and attracted over 1,200 individuals from railway-related parties.

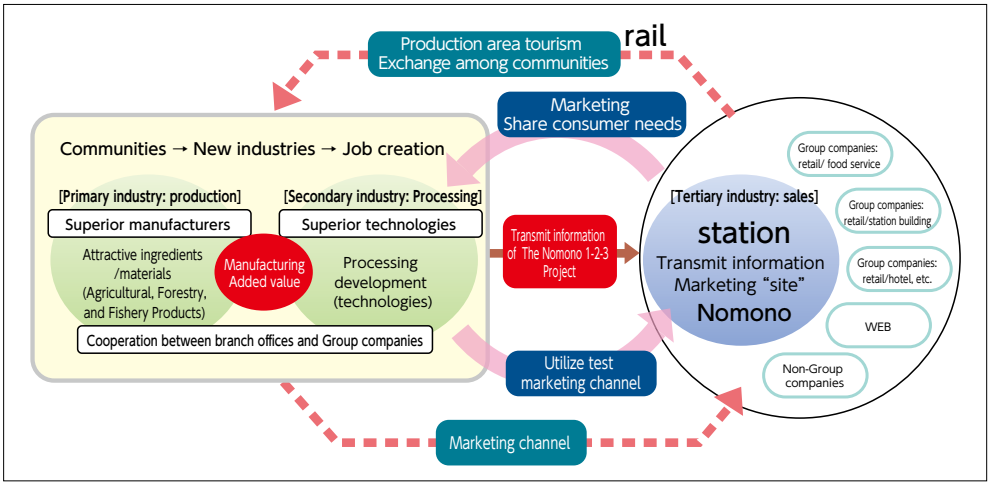
The 9th UIC World Congress on High Speed Rail (Tokyo, July 2015)


Participation in InnoTrans (Berlin, Germany, September 2014)

Special Topic 3 Strengthening Collaboration with Communities

Nomono 1-2-3 Project

In order to further strengthen collaboration with regional communities, our ongoing Rediscover the Region Project features products that combine high-quality ingredients such as local produce with superior processing techniques. Through this initiative, the JR East Group is encouraging manufacturing that integrates regional primary, secondary, and tertiary industries.
The Nomono 1-2-3 Project is a manufacturing project that supports the east Japan area via product development and sales in collaboration with regional farming, forestry, and fishing industries. The name Nomono 1-2-3 derives from the idea of discovering local "shun no mono" (seasonal goods), "chi no mono" (regional goods), and "yukari no mono" (traditional goods) and JR East's promotion of manufacturing aimed at sextic industrialization, which links primary, secondary, and tertiary industries.



Conceptual diagram of the Nomono 1-2-3 project


Shinshu Jibie Venison Burger


Sanriku Sanma Iwate-bako


Aomori Cidre

Tokamachi Sukoyaka Factory

As an example of a specific initiative aimed at strengthening collaboration with communities, in September 2014, we opened a food processing plant in the town of Tokamachi in Niigata Prefecture that uses a special local product, Uonuma Koshihikari rice flour. Using no eggs, milk, or wheat, this facility produces and distributes cakes, baked sweets, and the like that can be eaten even by children with food allergies and is contributing to local job creation and regional economic development.


Tokamachi Sukoyaka Factory


Sukoyaka Cake

VOICE

<JR Tomato Land Iwaki Farm>

A Company that Partners and Thrives with Communities

JR Tomato Land Iwaki Farm is a collaboration between JR East and forward-thinking farmers in the town of Iwaki in Fukushima Prefecture. It is a tomato-growing facility centering on a sunlight-based plant factory that is currently under development, with the aim of launching in the spring of 2016. I believe this project, more than any other, achieves the goal of "thriving with communities," which is part of our Group Management Vision V concept, in an easy-to-understand way.

Iwaki is an area that is blessed with abundant sunlight, receiving about 2,200 hours of sunshine annually. We are planning to build a large sunlight-based plant factory occupying around 2.5 ha here, where we will cultivate about 600 tons of tomatoes each year. These 600 tons will be used as ingredients in food served by JR East Group companies such as hotels and restaurants in the Tokyo metropolitan area, the restaurant of Wonder Farm, a sextic industrialization* facility located nearby, and vegetable stands, and in particular, local markets.

The factory, unlike plant factories with artificial light such as LED lighting, is devoted to cultivation using sunlight. We want to make JR Tomato Land Iwaki Farm a high-quality plant factory that makes it possible to harvest bright-red tomatoes nourished by abundant sunlight multiple times during the year.

To achieve this, it is necessary to create a safe, secure, stable production system. We intend to introduce a computer-managed production system developed in Holland, which will allow us to deliver produce that people can enjoy without worrying about food safety by constantly controlling the factory in an appropriate manner via this system, including everything from opening and closing the interior windows and roof to adjusting the air-conditioning, water supply, agricultural equipment, and nutrient solution.

JR East's entry into the agricultural field in collaboration with local communities has been extremely well received, especially here in the Tohoku region, where it is also significant in terms of earthquake recovery. Having received personal words of gratitude and encouragement from the Mayor of Iwaki and others, we are aware of the high expectations for this project every day. Once the facility opens, we want to do what we can to revitalize the region's farming industry by growing safe, high-quality tomatoes as well as identifying demand in the Tokyo area and attracting tourists through the efficient provision of information, which is one of JR East's areas of expertise. As long as we make effective use of the JR East Group's transportation networks, which connect people to each other, and facilities such as stations, where large numbers of people gather together, I believe various initiatives will be possible.

JR Tomato Land Iwaki Farm
Hiroyuki Suzuki
Director

Sextic Industrialization

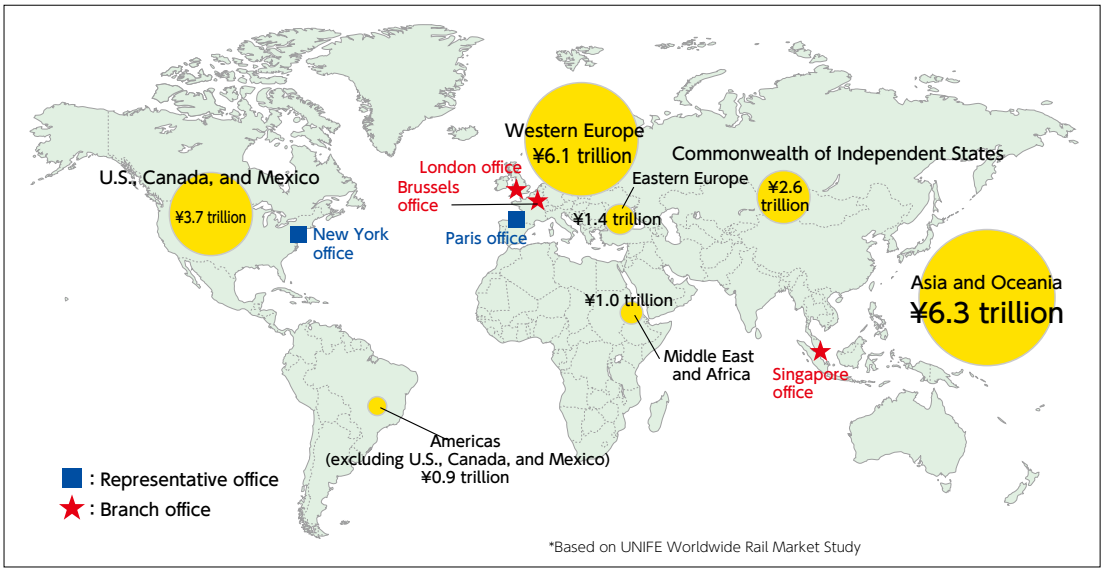
Initiatives to broaden the potential of agriculture and forestry industries, where the agriculture/forestry operator (primary industry) is involved with not only conducting manufacturing but with processing and distribution in a unified manner, or where agriculture/forestry operators develop business in cooperation with commercial/industrial operators. It is called "sextiary (6th) industry" based on the combination of primary(1st), secondary(2nd), and tertiary (3rd) industries.

(Source: Public Relations Office, Government of Japan)

Special Topic 4 Tackling International Projects

Developing Railways around the World

Based on the Group Management Vision V, the JR East Group continues to venture into new business areas. With the overseas railway market expected to expand, we are actively planning and participating in international railway business projects in partnership with domestic and foreign companies, with the aim of growing the group. For the purpose of information gathering and so forth for these projects, we have established a total of five overseas offices in New York, Paris, Brussels, Singapore, and London.



Locations of Overseas Offices

Supporting Overseas Railway Operators

We provide support to overseas railway operators in order to help these operators and expand the scope of our business. Since 2013, we have transferred a total of 356 205-series trains used on the Saikyo Line and Yokohama Line to the PT KAI Commuter Jabodetabek urban rail system in Indonesia.* And in April 2015, we began transferring 120 205-series trains used on the Nanbu Line. In addition to this, we have provided support for maintenance of the transferred rolling stock by dispatching in-house technicians and support for inspection and servicing of rolling stock by crew (drivers). Furthermore, we have transferred diesel trains to the Republic of the Union of Myanmar, and in July 2015 we transferred 19 diesel railcars(KiHa 40 Series/ KiHa 48 Series) to Myanma Railways and dispatched employees to provide technical support for rolling stock maintenance.
We will continue to pursue further collaboration in future, such as offering more comprehensive technical support.

*PT KAI Commuter Jabodetabek: railway company that operates commuter railways in the Jakarta metropolitan area in Indonesia.


Transferred 205-series Nanbu Line train

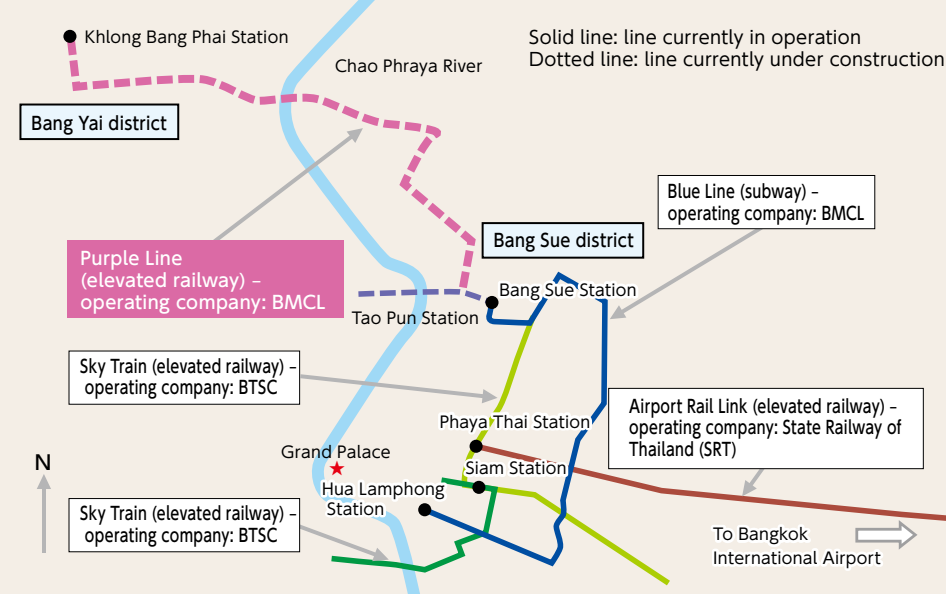

Technical support by crew (Indonesia)


Diesel train transferred to Myanmar

Developing International Railway Projects

Along with supplying rolling stock overseas, we are moving forward with various international railway projects, including some in the fields of operation and maintenance. In December 2013, in partnership with Marubeni and Toshiba, we established an operating company (Japan Transportation Technology (Thailand) Co., Ltd.) to perform comprehensive maintenance for rolling stock and ground installations for the Purple Line, a mass rapid transit system currently under construction in Bangkok, Thailand, and we are continuing to move forward with this project. In terms of rolling stock, the JR East Group's Japan Transport Engineering Company will provide 21 sets of three-car stainless steel trains (63 cars in total). This project will be the first time that Japanese-made rolling stock is used on the rapid transit rail network in Bangkok, and it is also the first case of an alliance of companies that includes a Japanese railway operator participating in railway maintenance business outside of Japan. The start of operation is scheduled for 2016.

*Purple Line: a railway line in Thailand's capital of Bangkok intended to link the Bang Sue district in the northern part of the city to the Bang Yai district in the northwestern suburbs (16 stations; approx. 23 km). It will be managed by the Bangkok Metro Public Company Limited, a Thai railway operator.



Bangkok Urban Transportation: Route Map

Rolling stock for Purple Line (image)

Relationship with Employees

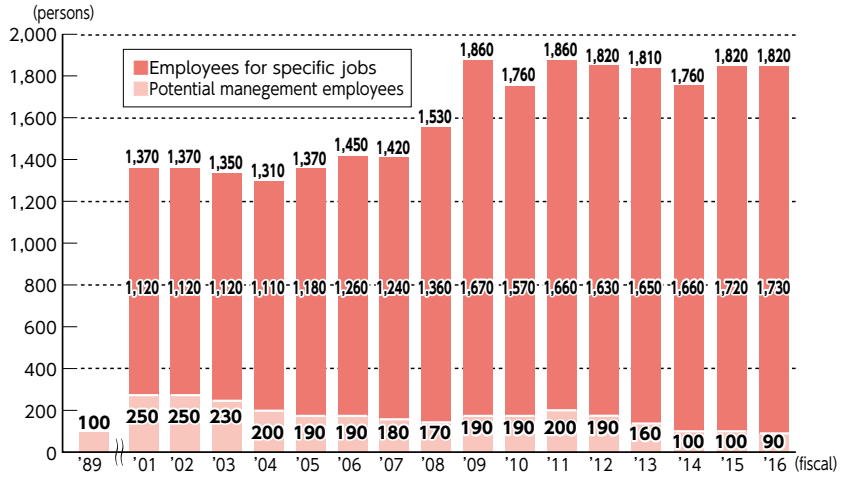
Demonstrating the power of human resources

In order to ensure safe and reliable rail transport and provide services that will satisfy customers, it is vitally important for us to create an environment where JR East's personnel can fully exercise their abilities. Our success in enabling our people to be able to personally decide what they need to achieve and then act on their decisions will determine the future of our entire organization.
We also have to face the fact that society is in a continual state of change, and this includes both the awareness of working people and their working environments. As a result of this, we believe that JR East must constantly respond to the motivation of all our employees as they work to meet their responsibilities, and thereby bring about improved safety and increased customer satisfaction.
JR East continues to work to provide an environment in which all employees can enjoy their jobs while constantly striving to attain even higher goals. To that end, we are determined to face the challenge of creating a company where people grow through their work from the perspectives of how to respond to the motivation of each employee to meet challenges, how to ensure a suitable work-life balance, and how to make full use of the diversity of our human resources.
In "JR East Group Management Vision V- Ever Onward", the company advocated reforms to its culture, including opening up our organization to young employees and giving increased opportunities for motivated people to apply for inclusion in training and other new projects, exchanging people with other companies, passing on technical knowledge and skills to the next generation, and participating in technological innovation and overseas railway projects.

Recruitment

JR East's main supports are the capabilities of each and every employee. Our basic philosophy is to employ people based chiefly on their personalities and abilities and then to steadily nurture them until they reach the full flowering of their abilities. Because of the large number of employees reaching retirement age and the constant necessity for human resources development and the transfer of knowledge and technologies to the next generation, we have recruited about 1,800 new employees in the fiscal year ending March 2016.

■ Number of new employees by fiscal year



Skills Development

The development of human resources and the steady and continuous introduction of new technologies and skills are vital to the sustainable growth of the JR East Group. Based on a perspective of nurturing quality through work, we are striving to enhance the organizational power of the Group and to develop human resources capable of shouldering the burdens of the future.
With this in mind we constantly conduct training programs at our General Education Center and in branch offices and many kinds of seminars at our Head Office. And as part of our support for all employees to set their own challenges for self-education and to thereby heighten their abilities, we offer both internal and external correspondence courses. The internal courses are aimed at the acquisition of knowledge and skills directly connected to our employees' duties, while the external courses are connected to indispensable business skills and knowledge, including management know-how, qualifications acquisition, languages, and office automation.

My Project

In order to encourage our employees to face the challenges of taking the next steps in their careers, in January 2011 we upgraded our small groups and proposal activities and initiated the My Project program. This program is comprised of three aspects: self-starting, freedom of method and importance of process, with the fruit being the employee's personal growth. The project is based on the belief that working for personal improvement is an opportunity for the fostering of human resources, and, thereby, aims to nurture employees capable of thinking and acting independently.

JR East Technical Academy

In order to motivate our young employees and encourage them to develop into professionals capable of playing leading roles in all fields of railway technology, we established the JR East Technical Academy in March 2009. The 7th year class which started in March 2015 includes 61 employees from 12 technological fields; 8 of them are from Group companies and partner companies, and 5 are participating only in some programs as listeners. They will be working together as a group for one year to improve their technical capability and strength. The program has been designed to enable participants to thoroughly learn the theory and structure of their individual professional fields as well as to provide them with a comprehensive overview of railway technologies and systems in general. Through research at universities and from practical training sessions at manufacturers, furthermore, we hope to enable all participants to acquire a broad range of knowledge.

Skills Training Centers: Develop engineers for future railway transportation

Integral to our efforts to ensure that experienced employees pass on their technologies and skills to the next generation of technical staff, who will carry the responsibilities for railways in the future, is our establishment of skills training centers designed to support the continuity of railway-specific technologies and skills in individual workplaces. We have established 104 centers by also making use of existing training facilities. In our skills training center for rolling stock maintenance, for example, railway car component mockups (power collection equipment, door opening-closing devices, and braking equipment) have been set up, while in our facilities maintenance section, railway facilities (tracks, turnouts, platforms, overhead line equipment, signals, etc.) have been installed, so training sessions can take place in virtually real environments.

Training at skills training centers

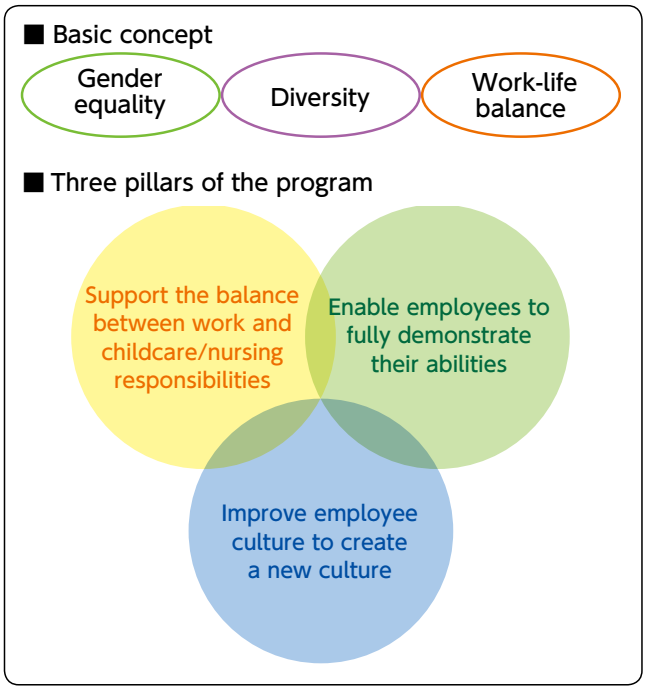
Promotion of Diversity

JR East believes that employees who derive satisfaction from doing challenging work and who can maximize their skills are able to enhance the company's competitiveness.
We have initiated a "Work-Life Program" whose aim is to encourage all employees, both male and female, to participate independently.
Specifically, individual organizations hold seminars and forums and operate a diversity portal. They also participate in the various activities of a Work-Life network, upon which the Work-Life program in the workplace is based, with the aims of encouraging employees to revise their way of thinking and of creating a new corporate culture. For enhancing the employees' awareness of Work-Life balance, the company invites its employees' families to come to its Family Day event.

Family Day at Head Office

We are encouraging employees to be well aware of the Work-Life Program and are using a program nickname, "Wara-Pro", and a logo.

■ Concept of Work-Life Program



Main action contents

- Promoting the Work-Life Program, which is aimed at all employees regardless of gender.
- Introducing the first-ever program offered by a railway operator that allows employees to work shorter hours or a reduced number of days, including those working in positions that require alternating between day and night shifts (station staff, train crews, etc.).
- Introducing a multiple-track personnel promotion system that provides fair and equal opportunities and supporting career development.
- Creating a structure that enables employees with disabilities to participate actively at various worksites.
- Balancing business and CSR through the Happy Child Project's nursery schools near stations.

These initiatives have been well received, and in FY2015, JR East became the first-ever railway operator chosen in the Ministry of Economy, Trade, and Industry's "Diversity Management Selection 100."

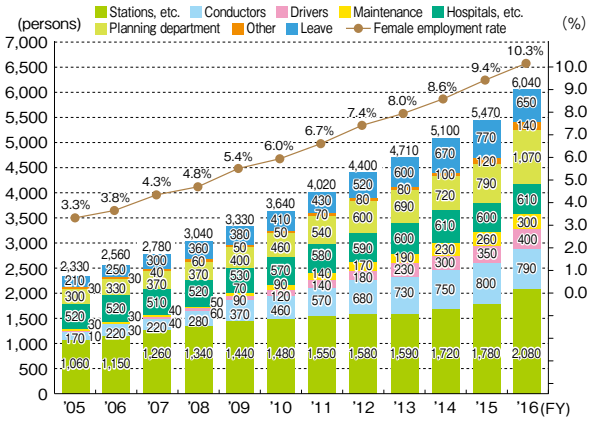
DIVERSITY MANAGEMENT SELECTION 100 2015

Other External Recognition
- 2012 Equality and Work-Childcare Balance Promotion Company Commendation (Ministry of Health, Labor, and Welfare)
  Excellent Performance Award, Family Friendly Company Section
  Tokyo Labor Department Award, Equality Promotion Company Section
- Excellence Award, 6th Annual Work-Life Balance Awards (Japan Productivity Center)
- 2010 Nikkei Child-Raising Support Award (Nihon Keizai Shimbun newspaper)

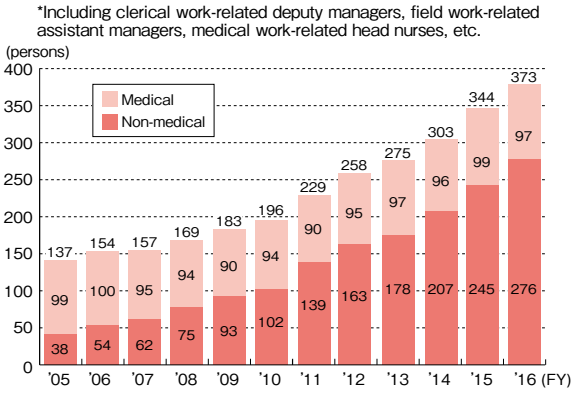
Expanding Employment Opportunities for Women

In order to expand employment opportunities for women, first of all we have already achieved a female employment rate of over 20%, in addition to which we are also expanding the positions available to women in the field, planning department, and so forth, through the development of various child-rearing support programs and our internal culture. As well, we have increased the retention rate among female employees. The proportion of female employees, which was a mere 0.8% at the time of JR's inception, had reached 10.3% as of April 1, 2015. Today, for example, around 40% of the crew on the Yamanote Line are female employees, while the number of female managers is also increasing year by year, so that more and more women are now occupying important positions such as deputy general managers at the head office and branch offices, supervisors of facilities in the field (station managers, etc.), and executives of group companies. Employment opportunities for women are also expanding as seen in the fact that we now have the first female corporate officer and so forth.

■ Expansion of Employment Opportunities for Female Employees



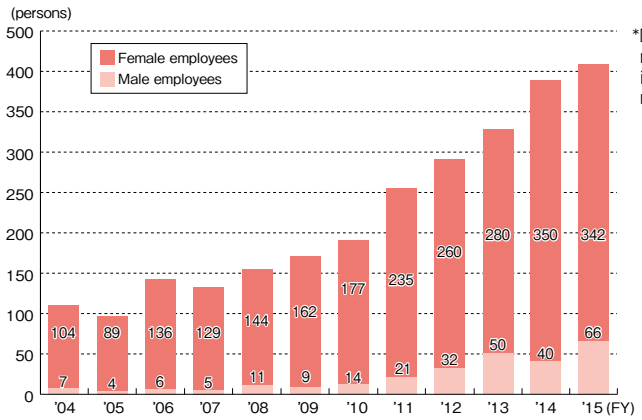
■ Changes in Number of Female Managers Over Time



Support the balance between work and childcare/nursing responsibilities

Based on the concept of increasing the options for achieving the balance between work and childcare/nursing, regardless of occupation, JR East introduced "Working with Childcare/Nursing A" in FY2011.
In this program, all employees are eligible for shorter working days (six daytime hours) until their child reaches three years of age.
In addition, with the desire to continue to provide support thereafter as much as possible, we also introduced "Working with Childcare/Nursing B." In this program, employees with children who have not reached the third elementary school grade are entitled to four days a month as days off for childcare/nursing. Furthermore, Working with Childcare/Nursing A and B both also apply to "nursing" (care of other family members). We also revised programs, such as extending the availability of childcare leave to the time when the child reaches three years of age and expanding the scope of coverage of" parental leave" (entitled to take up to five days off a month for taking care of a child) and" sick/injured child care leave" (entitled to take up to five days off a year for looking after a child in the event of the child's sickness or injury; ten days permitted for those with two or more children), which also applies until the child reaches the third grade of elementary school. In this manner, there is a growing range of options for ways of working during childcare/nursing periods.

■ Changes in Employees Taking Childcare Leave



*Data includes only the number of regular employees and does not include that of green staff or non-regular employees.

■ Changes in Employees Opting to Work Shorter Hours or Fewer Days

A = Working shorter hours
B = Working fewer days

Gender	FY2010			FY2011			FY2012			FY2013			FY2014			FY2015		
	A	B	Total	A	B	Total	A	B	Total	A	B	Total	A	B	Total	A	B	Total
Male	2	2	4	2	4	6	2	2	4	2	0	2	5	6	11	2	10	12
Female	27	29	56	60	44	104	80	74	154	105	98	203	103	154	257	125	176	301
Total	29	31	60	62	48	110	82	76	158	107	98	205	108	160	268	127	186	313

Concrete action example

- Extended the availability of childcare leave for one year until the child reaches three years of age (April 2010)
- Introduced a system of reduced daily working hours and increased holiday entitlement (April 2010)
- Established workplace nursery schools (two in Tokyo and one in Sendai) and a hospital nursery school (JR Tokyo General Hospital)
- Implementing a seminar to support the achievement of the balance between work and home life (childcare/nursing)

A seminar for supporting the achievement of balanced work and home life (childcare)

Welfare and Other Programs

We are also dedicating efforts to the establishment of welfare and other various programs, including annual paid leave, in order to support employees so that they may work with enthusiasm, feel challenged and have job satisfaction, and thereby demonstrating their fullest potential.

Average number of days of annual paid leave taken	Average rate of annual paid leave taken
17.7 days	Approx. 90.8% of allowed annual paid leave was actually taken

(for the fiscal year ended March 2015)

General Business Operator Action Plan

JR East has formulated a 3rd phase action plan in line with the Law for Measures to Support the Development of the Next Generation.
Duration: April 1, 2012– March 31, 2017
In November 2008 and in August 2012 we were certified by the Minister of Health, Labor and Welfare as a company supporting the raising of the next-generation of children.

Next-generation certified logo (“Kurumin”)

Employing Persons with Disabilities

As of June 2015, 2.45% of our workforce consisted of employees with disabilities. These members of our staff work alongside other employees in a broad range of positions. We further increased our ability to employ people with disabilities in April 2008, when we established JR East Green Partners Co., Ltd. which was charged with the task of promoting their employment and helping us meet our social responsibility to improve the work environment for such employees. The company was certified as a special subsidiary in May 2009.

JR East Green Partners Co., Ltd.

JR East Green Partners, a special JR East subsidiary, was started in April 2009 and charged with the task of overall management of uniforms used in JR East. Since then, the subsidiary has begun additional business such as printing and tree planting maintenance and management, in our continued efforts to expand work opportunities for people with disabilities.

In addition to organizing the employment of people with disabilities, JR East Green Partners now cooperates with support organizations and special support schools and provides work training opportunities for disabled persons wishing to secure corporate positions. By carrying out a broad range of activities, the company supports the entire Group in the fulfillment of its social responsibilities.

Uniform sorting

Plant maintenance in collaboration with local communities

Elder Employee System

During the fiscal year ended March 2009, JR East introduced the Elderly Employee System that encourages employees who have reached retirement age to continue working for Group companies that can benefit from their individual capabilities and skills. This is done by approximately 80% of the eligible employees.
Through this plan we hope to enable retired employees to stabilize their lives until they reach their fully pensionable ages, as well as to encourage them to continue to contribute to our Group-wide accumulation of know-how.

To Improve Working Environment

Mental Health Care

In order to maintain and improve the mental health of our employees, we believe it is vitally important for all our employees to recognize stress in their everyday lives and deal with it promptly as well as for the managers to take appropriate actions. Therefore, we are taking various support measures, such as the distribution to all employees of a pamphlet about self-care to increase their awareness of this problem. We have also set up a counseling service in conjunction with a JR East medical facility and, through this, respond individually to our employees' needs. In order to promote front-line care in the workplace, beginning in the fiscal year ended March 2008, we also organized training programs for on-site supervisors.

Human Rights Enlightenment

In order to educate our employees in the necessity for enhanced human rights, we have established a human rights enlightenment promotion committee in the Head Office. Specifically, the activities of this committee include human rights seminars for officers and employees of JR East Group and for those in charge of human rights enlightenment in organizations and Group companies. To propagate human rights awareness, it also conducts lectures on human rights enlightenment in training sessions attended by new recruits, new train crews, work-implementation managers, and new managers. Furthermore, human rights education both for our employees and for their families has been promoted through articles, spotlighting human rights problems that could occur in our environment, that appear in our newsletter. We have also joined the Industrial Federation for Human Rights, Tokyo, and are conducting human rights enlightenment activities externally along with information exchanges and mutual enlightenment discussions with member companies of the Federation.

Human Rights Seminar

Basic Concept for Promoting Ecological Activities

Basic philosophy and basic policies for promoting ecological activities (established May 1992, partially revised in September 2012)

The JR East Group formalized its basic philosophy and policies in 1992 and established activity guidelines in 1996. Our specific environmental protection measures are based on these.

【Basic philosophy】

・The entire JR East Group, as a member of society, will diligently strive to balance global environmental protection with our business activities.

【Basic policies】

・To contribute to creating a global environment for the future through our business activities for our customers and local communities.
・To develop and provide the technology needed to protect the global environment.
・To maintain our concern for the global environment and raise the global environmental awareness of our employees.

Activity guidelines for the promotion of ecological activities (established March 1996 and partially revised in February 1998 and September 2012)

1. While working to reduce total energy consumption by enhancing energy efficiency and introducing cleaner forms of energy, we endeavor to reduce CO_2 emissions, a cause of global warming.
2. We ensure the proper management and processing of environmental pollutants and ozone-depleting substances, in compliance with laws and regulations. Moreover, we do our best to reduce generation of such substances and adopt environmentally responsible substitutes as much as possible.
3. We ensure the appropriate processing of various types of waste generated at our offices, establishments, stations, trains, and other locations. We strive to recycle waste and to reduce its generation, and to use more recycled and resource-saving products to minimize the burden we place on the environment.
4. We respect the natural environment, which nurtures diversified life, and endeavor to reduce noise and vibrations caused by train operations, thus achieving harmony with the environment along railway lines.
5. We are looking carefully at the impact of railways on the environment once again, in order to enhance the environmental superiority of railways and to spread that awareness throughout the world.

JR East Group CSR Character “ecotal”

In 2013 we created a CSR activities PR character based on a firefly. As a result of internal request for a name, it was decided to be named “ecotal.” JR East Group will continue to work on CSR activities.

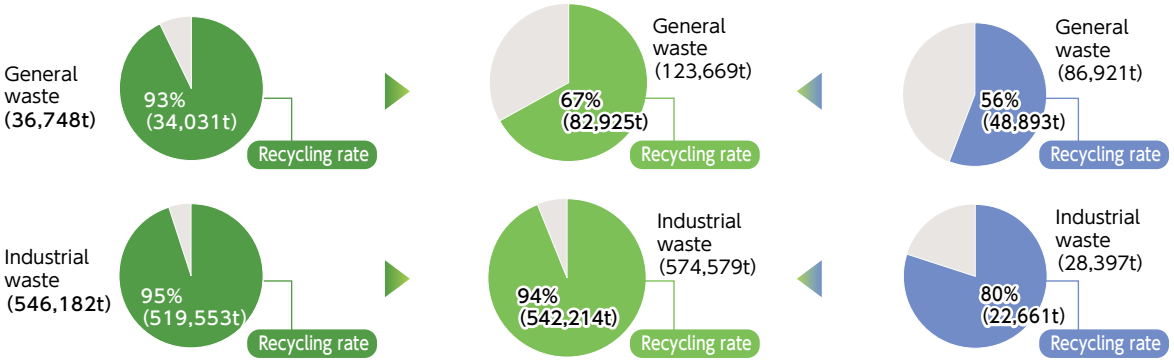
Note: External assurance on environmental performance and environmental accounting data:
KPMG AZSA Sustainability Co., Ltd. has been engaged to provide external assurance on a set of selected environmental performance and environmental accounting indicators so that the reliability of the data is ensured. The particular indicators that are assured are marked with ☆ for clarity.

JR East Group's environmental impact

	JR East's business operations		JR East Group companies' business operations
INPUT	●Electricity 5.04 billion kWh*1 ●Fuels 87 thousand kL (crude oil equivalent)*2	Energy use☆	●Electricity 0.77 billion kWh ●Fuels 73 thousand kL (crude oil equivalent)
	11.34 million m³	Water use☆	9.34 million m³
	1,752 t (of which 96% is recycled paper)	Office paper use☆	1,111 t (of which 77% is recycled paper)
	Operating revenue 1,966.0 billion yen		Operating revenue 790.1 billion yen
OUTPUT	2.23 million t-CO_2*3 *4	CO_2 emissions☆	0.53 million t-CO_2*3 *4
	●Offices 2,086 t ●Stations and trains 32,687 t ●General Rolling Stock Centers etc. 593 t ●Tickets 326 t ●Other field office*5 1,043 t ●Power plants 13 t Total 36,748 t	General waste discharged☆	86,921 t
	●Construction projects*6 512,871 t ●General Rolling Stock Centers etc. 31,906 t ●Medical waste 171 t ●Other field office*5 935 t ●Power plants 298 t Total 546,182 t	Industrial waste discharged☆	28,397 t

*1 Electricity: Both electricity generated in JR East's power plants and used internally and electricity purchased from electric companies are included. Please refer to the "JR East Energy flow map" on page 92 for details about electricity generation and use.
*2 Fuels: Natural gas and other fuels used for generating electricity in JR East's thermal power plants are not included.
*3 CO_2 emissions by Scope: Scope 1 emissions of the entire Group is 1.21 million tons CO_2 and Scope 2 emissions 1.86 million tons CO_2.
*4 CO_2 emissions attributable to electricity purchased from external suppliers are calculated based on the adjusted emissions coefficient.
*5 Other field office: Technical centers, equipment maintenance centers, and other locations such as train crew depots.
*6 Construction projects: Waste generated by our construction projects, but for which contractors legally become the waste-discharging entities, is included in industrial waste.

■JR East's recycling rate☆ ■Entire JR East Group's recycling rate☆ ■Group companies' recycling rate☆



Waste disposal
・Waste includes salable waste.
・Recycling includes thermal recycling* where general and industrial wastes are incinerated with heat recovery.
*Thermal recycling is a recycling method in which the heat arising from the incineration of waste is used to create steam and hot water, which in turn are used to generate electricity and to produce heat.

Progress Report on Environmental Targets

FY2021/ FY2017 Targets and FY2015 Results

Category of environmental conservation activities	Performance indicators	Targets to be met by FY2021	Results for FY2015
Measures to prevent global warming	Energy consumption from railway business activities	8% reduction (MJ: relative to FY2011 level) 52.7⇒48.5 (billion MJ)	3.0% reduction 51.1 (billion MJ) ☆
	CO_2 emissions per unit of electricity generated at JR East's own power plants	30% improvement (kg-CO_2/kWh: relative to FY1991 level) 0.457⇒0.320 (kg-CO_2/kWh)	39% improvement 0.278 (kg-CO_2/kWh) ☆

Category of environmental conservation activities	Performance indicators	Targets to be met by FY2017	Results for FY2015
Measures to prevent global warming	Electricity used for railway operations per unit of transport volume	5.9% Reduction on Shinkansen and Conventional Lines (kWh/car-km: relative to FY2011 level) Shinkansen: 2.71⇒ 2.55 (kWh/car-km) Conventional Lines:1.65⇒ 1.55 (kWh/car-km)	Shinkansen: 7.3% reduction☆ 2.51 (kWh/car-km) Conventional Lines: 6.4% reduction☆ 1.55 (kWh/car-km)
	Energy consumption per unit of floor area at branch offices, etc.	15% Reduction (kL-crude oil equivalent/m^2: relative to FY2011 level) 0.0467⇒0.0397 (kL-crude oil equivalent/m^2)	16.7% reduction 0.0389 (kL-crude oil equivalent/m^2) ☆
	Implementation of more ecoste Model Stations	Total of 8 Stations	Total of 4 Stations (5 stations as of July 1,2015)
	Change to LED for Platform Illumination (FY2015 – FY2017)	More than 50% of the lighting equipment is switched to LED at 60stations	32 Stations
	Optimization of Large-scale Air-conditioning Systems (FY2015 – FY2017)	5 Locations (reduction of 47 million MJ)	1 Location (reduction of 1.46 million MJ)
	Reduction Rate of Energy Consumption Intensity Established by Each JR East Group Company	Continuous reduction at an annual rate of 1% on average Group-wide	1.7% reduction (relative to FY2014 level)
Measures for resource circulation	Recycling rate for waste generated at stations and on trains	94%	94% ☆
	Recycling rate for waste generated at General Rolling Stock Centers, etc.	96%	96% ☆
	Recycling rate for waste generated in construction projects	96%	95% ☆
	Implementation Rate of Recycling by Group companies	100%	100%
Environmental activities along railway lines	Measures to reduce noise to 75 dB or less along the Tohoku and Joetsu Shinkansen Lines* (for areas subject to noise limitation measures)	[Targets to be met by FY2016] 100%	Being implemented
Environmental management	Setting of numeric targets by all group companies	Targets to be revised continually	Established

Targets for Group companies

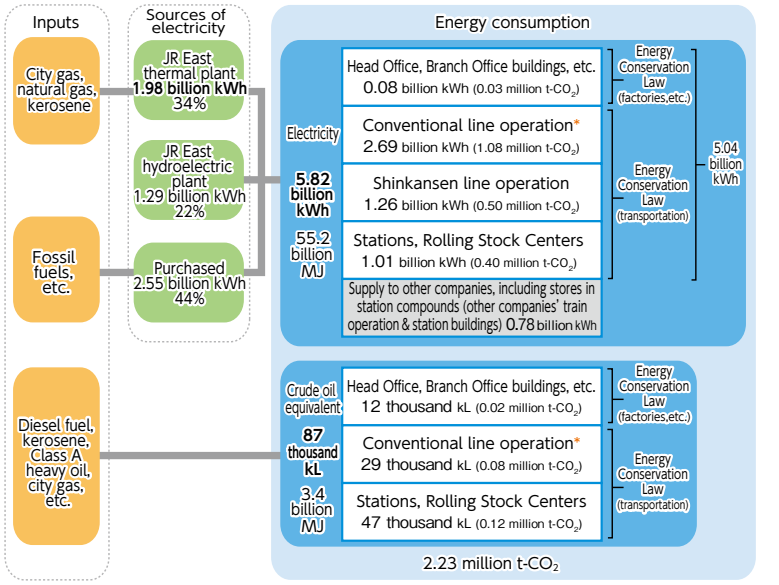
* Measures to reduce noise to 75 dB or less have been completed in the designated areas in accordance with government guidance. Currently, improvement work is being carried out in stages in other areas, to be completed by the fiscal year ending March 2016.

Measures to Prevent Global Warming

Energy conservation and CO_2 reduction☆

The electricity consumed by JR East for train operations as well as for lighting and air conditioning at stations and in offices is supplied by JR East's own power plants and by electric power companies.
Besides electricity, we also use diesel fuel and kerosene for diesel train operation and for air conditioning at stations and in offices. We will strive to save energy for train operation, which accounts for about 80% of our total energy consumption, and reduce CO_2 emissions in various ways.

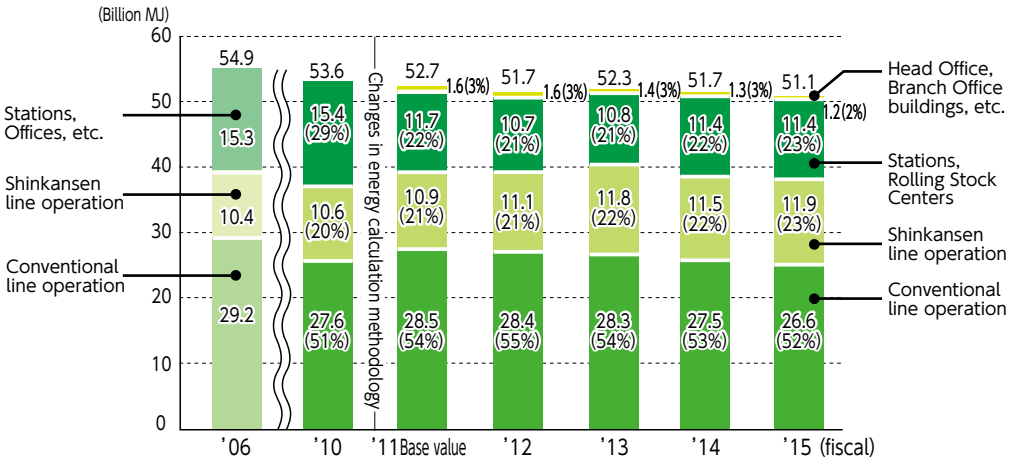
■ JR East Energy flow map



(CO_2 emissions are the amount calculated with' adjusted' emission coefficients that reflect the credits purchased by electric power companies.)

* Including BRT (Bus Rapid Transit)

■ Composition of energy consumption by JR East



* Regarding Change in Method of Computation

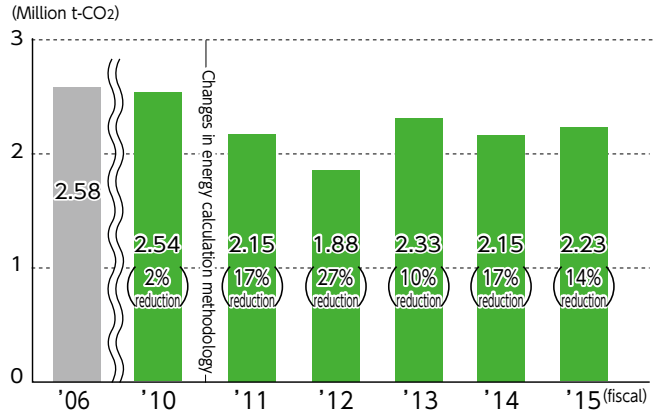
Until FY2006, computation concerning CO_2 emissions and energy consumption volume through the use of electricity and fuel was based on the Keidanren Voluntary Action Plan on the Environment. Beginning in FY2007, the computation method was revised based on the Energy Conservation Law and the Act on Promotion of Global Warming Countermeasures.

* The energy consumption is converted to Joules according to the Energy Conservation Law, except for the electricity generated by JR East's own hydroelectric plant, which is converted to Joules using 9.76 MJ/kWh as the conversion factor. JR East uses 0 MJ/kWh as the conversion factor for our own hydroelectric power in our report submitted to the government, as required by the Act.

Trends in JR East's total CO_2 emissions☆

Our CO_2 emissions in the fiscal year ending March 2015 totaled 2.23 million tons, an increase of 0.08 million tons over the previous fiscal year. This is the result of an increase in the CO_2 emission coefficient of electric power companies despite a decrease in the CO_2 emission coefficient of electricity generated by JR East. As we did in last fiscal year, we are also reporting CO_2 emissions in Scopes 1 and 2 in accordance with the definition of the GHG Protocol.

■ Trends in JR East's total CO_2 emissions



* Total CO_2 emissions in FY2015, when calculated with the same calculation methodology (category and boundary) as that used until FY2010, are 2.33 million tons of CO_2.

*Boundary:
Energy consumption and CO_2 emissions have been calculated for JR East alone, in principle. Beginning with FY 2011, however, the energy consumption by and associated CO_2 emissions from companies to whom JR East outsources its station operations and other services are calculated as JR East's own energy consumption and CO_2 emissions. Meanwhile, the energy consumption by and associated CO_2 emissions from stores in station compounds operated by group companies are excluded from those of JR East. These changes have been made to calculate the energy consumption and CO_2 emissions associated with JR East's business as a whole more accurately in line with the idea of setting organizational boundaries for transportation and factories in the Energy Conservation Law. No revision was made to the past data on energy consumption and CO_2 emissions

*Calculation Method:
CO_2 emissions have been calculated based on the method specified in the Act on Promotion of Global Warming Countermeasures. However, the CO_2 emissions attributable to the purchased electricity are calculated, including those from the electricity used for rail transport, by using adjusted emission coefficients. The CO_2 emissions in the fiscal year ending March 2015 calculated by using actual emission coefficient is 2.24 million tons CO_2, down 0.1 million tons CO_2 compared to the previous fiscal year.

Item	Scope 1	Scope 2
FY2015 Emission Volume	1.08 million tons CO_2	1.50 million tons CO_2

Scope 1… CO_2 emissions directly attributable to fuel consumed in the operation of diesel railcars and the operation of JR East's thermal electric power plant.
Scope 2… CO_2 emissions indirectly emitted from the use of electricity purchased from electric power companies.

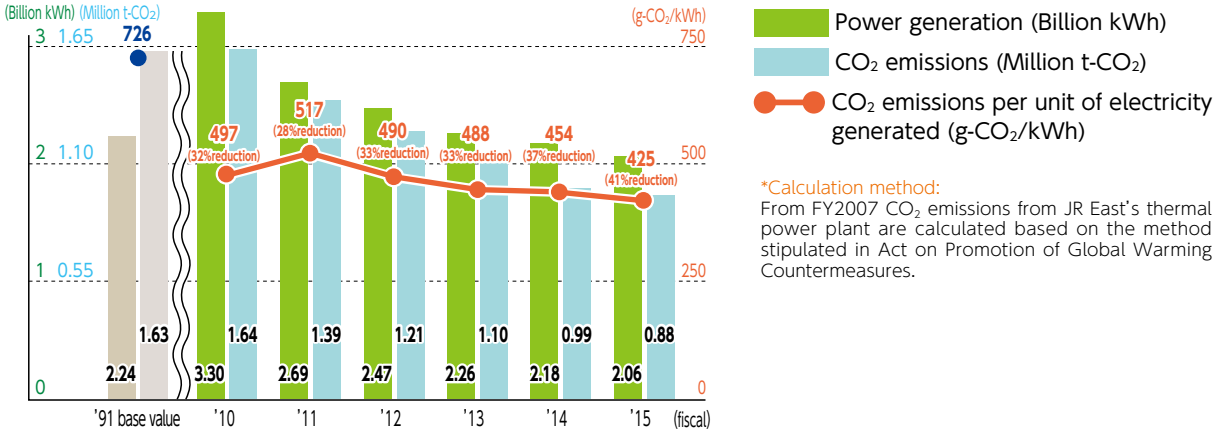
*The sum of the Scope 1 and Scope 2 emissions and the total CO_2 emissions do not match, since the former includes emissions associated with the production of electricity supplied to other companies.

JR East's own thermal power plant☆

JR East operates a thermal power plant in Kawasaki City, Kanagawa Prefecture, with a total capacity of 741 MW. The plant uses combined-cycle power generation units* with improved efficiency and switched fuel from oil to natural gas when the plant was renovated to reduce CO_2 emissions. In addition to the start of operation of No. 4 plant in April 2014, investigation and designing for renovation of No. 1 plant are underway.

*A combined-cycle power generation unit is a power generation unit that combines gas turbines propelled by combustion of gas with steam turbines driven by steam from the exhaust heat.

■ Power generation and CO_2 emissions at JR East's thermal power plant



*Calculation method:
From FY2007 CO_2 emissions from JR East's thermal power plant are calculated based on the method stipulated in Act on Promotion of Global Warming Countermeasures.

Reducing energy consumed for train operations☆

As of the end of FY2015, JR East had 11,696 energy-efficient railcars in operation. This accounts for 93.1% of our railcar fleet. We are putting into service more new-generation energy efficient railcars, with features such as regenerative brakes, which can convert kinetic energy during deceleration into electric energy, and Variable Voltage Variable Frequency (VVVF) inverters, which control motors without wasting electricity.

E235 series:
1 trainset of state-of-the-art cars to be introduced on the Yamanote Line in fall 2015

E7 series:
The Hokuriku Shinkansen that incorporates the highest level of customer service and cutting-edge technology

E233 series:
VVVF inverter cars for commuter and suburban transportation

Diesel-powered, electric-motor-driven hybrid railcars and the accumulator railcar train

The Kiha E200 type cars, which entered service on the Koumi Line in July 2007, are the world's first diesel-powered, electric-motor-driven hybrid railcars. Compared with the previous trains, fuel consumption rate has been reduced by about 10% and the noise level of the trains idling at stations and accelerating on departure has been lowered by 20–30 dB. Also, starting from the October to December 2010, we began operating the HB-E300 Series, a new type of resort train equipped with a hybrid system similar to the Kiha E200 type, in the Nagano, Aomori and Akita areas, and in May 2015, we began operating HB-E210 Series on the Senseki-Tohoku Connecting Line. Additionally, as a new measure toward reduction of the environmental burden in non-electric zones, we are proceeding with the development of an accumulator system, which debuted in March 2014 with the EV-E301 ACCUM railcar train, put into service on the Karasuyama Line. The introduction of the EV-E301 has enabled an elimination of emissions, as well as a reduction in CO_2 and noise emissions associated with diesel engines.

HB-E210 series: Diesel-powered, electric-motor-driven hybrid railcars

Proactively adopting LED lighting for all new cars

On our conventional lines, LED lighting has been introduced on E233-series cars on the Saikyo Line (310 cars in 31 trainsets), the EV–E301-series prototype train on the Karasuyama Line (2 cars in 1 trainset), E233-series cars on the Yokohama Line (224 cars in 28 trainsets), HB–E210-series cars for the Senseki-Tohoku Connecting Line (16 cars in 8 trainsets) and the E235-series prototype for new commuter trains (11 cars in 1 trainset). E233-series cars with LED lighting are now replacing older cars on the Nambu Line, and LED lighting is also used on new E129-series cars in the Niigata area.

The first Shinkansen cars with LED lighting are the E7 series trains (192 cars in 16 trainsets). Future production of more E5 series trains will also include LED lighting.

In summary, at the end of FY 2015, over 10% of cars owned by JR East, including newly manufactured cars and renovated cars, have LED lighting. We are determined to continue making efforts for further energy saving in railway operations.

LED railcar lighting

LED lighting in use sticker

Utilization of renewable energies

We also promote use of renewable energies, including solar and wind power. Solar panels have been installed at Tokyo Station, Takasaki Station, the General Education Center and R&D Center. In March 2004, the number of panels at Takasaki Station was doubled. Panels on the largest scale in JR East were installed at Tokyo Station in February 2011 above the platform for tracks 9 and 10, which serve Tokaido Line trains.
Following the case of Keiyo Rolling Stock Center, we began operation of a large-scale solar power generation facility between Tomobe and Uchihara on the Joban Line in February 2015. Furthermore, we are actively promoting renewable energies including solar, wind, geothermal, and biomass energies with an aim to develop northern Tohoku into a renewable energy base.
Starting full operations as the first ecoste –"eco-station" – Yotsuya Station on the JR Chuo Line began use of solar panels in March 2012. Hiraizumi Station on the JR East Tohoku Main Line began to use solar panels in June 2012, to "generate and use energy locally" and to achieve "zero emissions," i.e., no CO_2 emissions on fine-weather days. In September 2013, a small-sized wind power generation facility was introduced at Kaihinmakuhari Station, the third ecoste. In March and April 2015, Yumoto Station and Fukushima Station began operation as ecostes with introduction of facilities that utilize hot spring heat and earth thermal. As a result of such action, solar panels generated about 1.2 million kWh electricity using by ourselves in FY 2015.
We will continue to endeavor to introduce technology using renewable energies efficiently.

Small-sized wind power generation facility installed at Kaihinmakuhari Station

Greening rooftops

We have been promoting the planting of greenery on JR East station and office building rooftops with the aim of reducing the heat island effect and decreasing the need for air conditioning. As of the end of March 2015, we had completed 82 greening projects (including some cases of moss planting) encompassing a combined rooftop area of 26,856m^2.


Rooftop greenery at the Chiba branch building

Rooftop greening by JR Group companies

We have been promoting rooftop greening to make station buildings in the metropolitan area a place of relaxation for community residents as well as for office workers. The "Soradofarm," which is a vegetable farm rented to subscribers and built alongside the gardens, serves to create a local community, and provides education in farming and environment through people's experience in cultivating vegetables.
These are popular among many customers and have also been built in Ebisu, Ogikubo, Takasaki, Hachioji and other areas.


atre Kawasaki

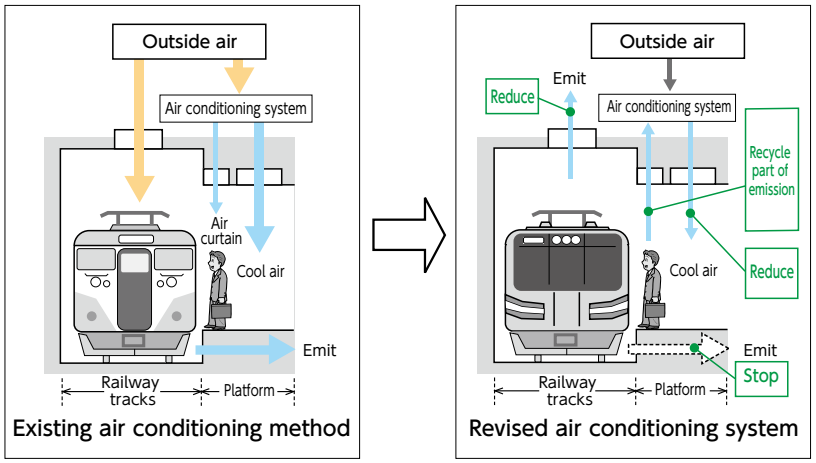

Soradofarm Ebisu

Saving energy in office buildings

In response to revisions of laws and regulations, saving energy in office buildings has become increasingly important. We work hard on reducing energy consumption through physical measures, including the introduction of highly efficient equipment and facilities such as LED lighting, and operational measures, including temperature management of air conditioning and diligently turning off lights.

Saving energy at stations

As we have done for office buildings, we have promoted energy conserving initiatives at stations, such as revision of air conditioning systems in line with the upgrading of facilities.
The air conditioning system for the Sobu Line underground platform at Tokyo Station had been bringing in outside air, cooling it, and then sending that cooled air up to the concourse and emitting the air to the outside. With the upgrading of the air conditioning system, we now recycle and reuse the cooled air to reduce the air conditioning load, which reduces CO_2 emissions by 25%.



Cool outside air to cool concourse, etc. and emit it.

Cool outside air and recycle part of the cool air to reduce the air conditioning load.

Environmentally friendly and energy efficient office buildings

Construction was completed in FY2013 on the JR Minami Shinjuku Building, JR Kanda Manseibashi Building, and JP Tower, which are all environmentally friendly and energy efficient buildings, and construction of Shinjuku Station New Southgate Building (tentative name) is currently underway (scheduled for completion in spring 2016). The JR Kanda Manseibashi Building, JP Tower and Shinjuku Station New Southgate Building (tentative name) have acquired a class S rating, the highest rating under the CASBEE environmental labeling system, an initiative of the Ministry of Land, Infrastructure, Transport and Tourism.
Moreover, the JR Kanda Manseibashi Building earned both LEED-CS Gold and LEED-CI Gold certification, widely recognized building performance standards in the U.S., in FY 2014.
Six other buildings – Gran Tokyo South Tower, Gran Tokyo North Tower, JR Shinagawa East Building, Sapia Tower, JR Tokyu Meguro Building and Tokyo Building – earned recognition as Offices Taking Excellent Specific Global Warming Countermeasures (top-level office building or quasi top-level office building) under the Tokyo Metropolitan Ordinance on Environmental Preservation. During the first planning period under the ordinance (FY2011 to FY2015), we were able to reduce CO_2 in the amount largely exceeding the obligatory amount. We will use the exceeded amount of reduction for emission trading within the Group and others as stipulated in the ordinance.

JR Kanda Manseibashi Building, LEED-certified, ranked "S," in the CASBEE

GranTokyo South Tower, recognized as a top-level establishment

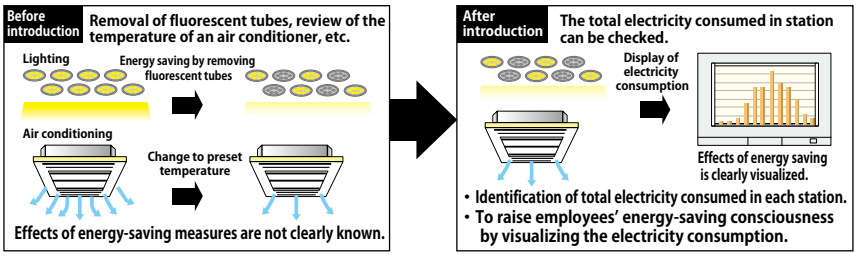
■ List of top-level establishments

Top-level establishments	Quasi-top-level establishments
Sapia Tower (certified FY2011)	Tokyo Building (certified FY2011)
GranTokyo North Tower (certified FY2012)	JR Tokyu Meguro Building (certified FY2011)
GranTokyo South Tower (certified FY2012 as quasi-top-level establishment, upgraded FY2013)	
JR Shinagawa East Building (certified FY2011 as quasi-top-level establishment, upgraded FY2012)	

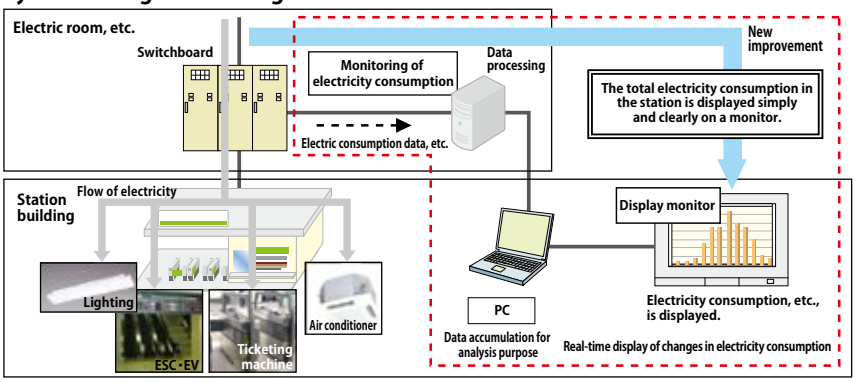
Visualizing the power consumption in stations

JR East is introducing monitors that display the energy consumed in stations to encourage employees to be more conscious of energy saving. The visualization system measures the total electricity consumed in the station at the power-receiving location and displays it on a monitor every hour. It was introduced in about 200 stations by the end of FY2015, and is utilized for continuous energy saving initiatives.

■ Mechanism of visualization



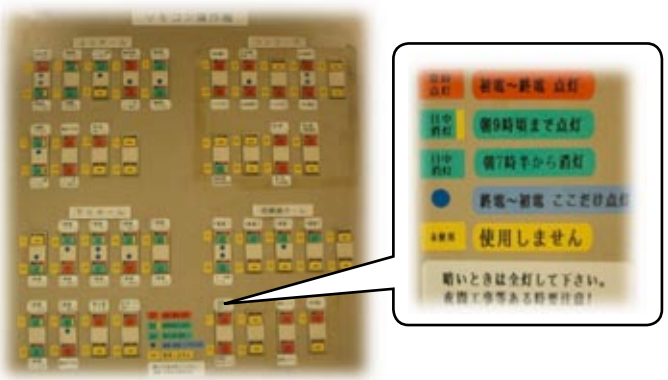
System configuration diagram



Specific Examples of Energy-Saving Initiatives Based on Visualization

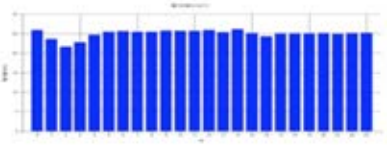
Here are some examples of station-specific initiatives based on JR East's eco-activities, My Project, and so forth that have lead to energy savings:

・Indicating switch usage times on the operating panel for platform lights that were turned on and off at different times during operating periods depending on the employee. The results of this initiative are quantitatively demonstrated through visualization.

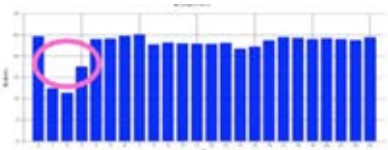


Indication on lighting switch control panel

Before improvement



After improvement



Electricity consumption amount comparison

・Indicating the contracted electricity amount on the display monitor and issuing an alert that the contracted electricity rate will increase when the consumed electricity exceeds this amount over a given period of time.

・Preventing staff from forgetting to turn lights off by using a simple timer.

・Maintaining the waiting room at an appropriate temperature through frequent temperature checks.

Going forward, JR East will continue to implement energy-saving initiatives at stations through the sharing and lateral deployment of best practices at various stations via the use of notice boards and provision of information at meetings.

Measures to create a sound material cycle

Waste reduction and recycling

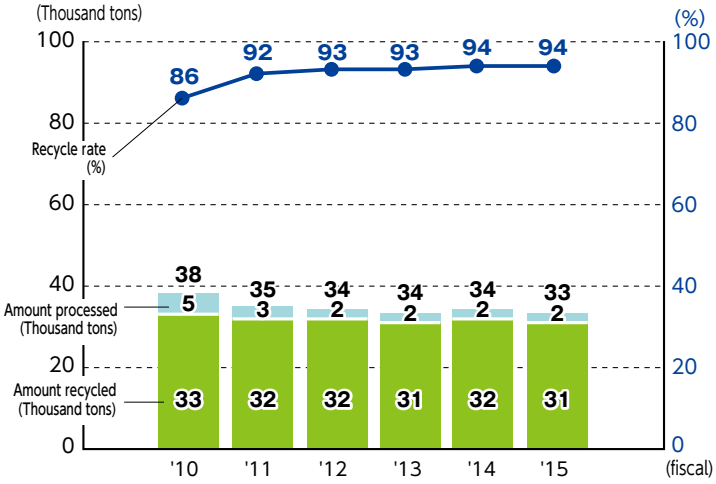
JR East generates many kinds of waste through its railway operations, including daily trash removed from trains and stations and industrial waste from our General Rolling Stock Centers. Restaurants and retail stores in our life-style businesses also produce garbage and general waste.
In order to reduce all these various forms of waste, JR East actively supports the approach known as "reduce, reuse, recycle." For recycling in particular, goals are set for each type of waste.

Recycling waste collected from stations and trains☆

In the fiscal year ended March 2015, 94% of the trash collected from stations and trains was recycled.
Since trash from stations and trains contains recyclable materials, we placed separation bins in stations to have customers cooperate in separating trash. In October 2010, to further improve recycling rates by implementing thorough separation of trash, we built the JR East Tokyo Materials Recycling Center (operated by East Japan Eco Access Co., Ltd.) and started its operation.

JR East Tokyo Materials Recycling Center

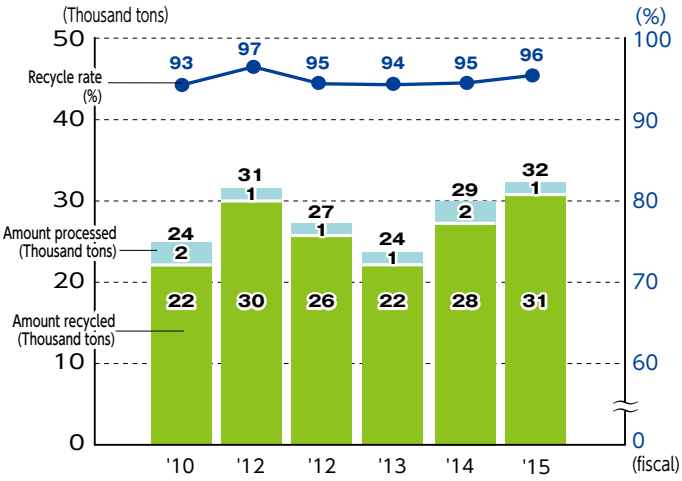
■ Waste from stations and trains



Recycling at General Rolling Stock Centers☆

JR East Group is recycling waste generated during the manufacture and maintenance of rolling stock. At our regional General Rolling Stock Centers, waste is sorted into 20 to 30 categories to reduce waste generation and promote recycling. Starting in FY2006, we have been collecting data on the volume of retired railcars that are sold as scrap to be recycled so as to monitor the progress.

■ Waste from General Rolling Stock Centers





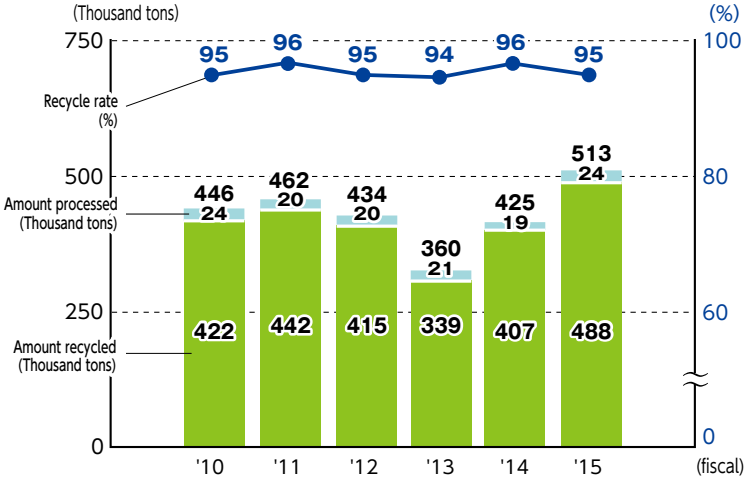
At Nagano General Rolling Stock Center, retired wheels are recycled into brake disk parts

Reducing construction waste☆

JR East endeavors to reduce waste from construction by requiring subcontractors to use design and construction methods that allow them to properly dispose of construction byproducts and to minimize waste. In the fiscal year ending March 2015, JR East generated approximately 513 thousand tons of waste through construction and maintenance projects at our stations and other structures, including approximately 68 thousand tons of waste through work entrusted to JR East.*

*Work entrusted to JR East: Construction work contracted to JR East by local governments etc., to be done at non-JR East facilities, for such purposes as to ensure safe train operations.

■ Waste from construction projects



Reducing waste at offices☆

In departments at the Head Office and Branch Offices, we strive to reduce waste by promoting elimination of paper and by recycling, including the use of creative, employee-designed trash cans. In FY2015, we recycled 1,875 tons out of a total of 2,086 tons of waste (90%).

Separate trash bins for different types of trash (inside Chiba Branch Office)

Efficient use of water resources☆

As a consumer of 11.34 million m^3 of water annually, JR East actively promotes the use of recycled waste water*, using, for example, rainwater and water already used for washing hands to flush toilets. At the Head Office building, 25 thousand m^3 out of 32 thousand m^3 of water was reused in FY2015.

* Recycled waste water: Defined as water of a quality level between clean water and sewage water. It is used for limited purposes as a recycled resource.

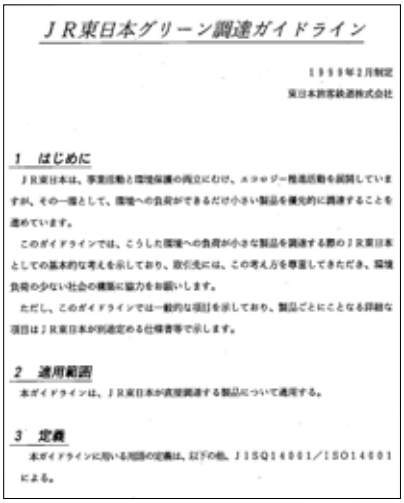
Reducing and recycling tickets☆

Collected used tickets are sent to a paper mill. After the iron powder has been separated from the backs of the tickets, the paper is recycled to make toilet paper and corrugated cardboard. In FY2015, all of the 326 tons of collected tickets were recycled. Collected magnetic season tickets were recycled into solid fuel.

Used tickets collected at stations are recycled into toilet paper that is used at major stations in the Greater Tokyo metropolitan area.

Promoting green procurement

JR East is developing ecological promotion activities compatible with both business activities and environmental preservation, including procurement of products with lower environmental impact. As part of those efforts we formulated the "JR East Green Procurement Guidelines" in 1999. Outlined in these guidelines is our philosophy with regard to materials, conservation of resources, and packaging. When considering selection of a new material supplier, we investigate that company's environmental and CSR activities, and this information is used to help evaluate potential suppliers. We also are promoting the procurement of environmentally friendly office supplies. Through such green procurement, JR East will further deepen our efforts to work toward a recycling-oriented society.


ＪＲ東日本グリーン調達ガイドライン

1999年2月制定
東日本旅客鉄道株式会社

1　はじめに

ＪＲ東日本は、事業活動と環境保護の両立にむけ、エコロジー推進活動を展開していますが、その一環として、環境への負荷ができるだけ小さい製品を優先的に調達することを進めています。

このガイドラインでは、こうした環境への負荷が小さな製品を調達する際のＪＲ東日本としての基本的な考えを示しており、取引先には、この考え方を尊重していただき、環境負荷の少ない社会の構築に協力をお願いします。

ただし、このガイドラインでは一般的な項目を示しており、製品ごとにことなる詳細な項目はＪＲ東日本が別途定める仕様書等で示します。

2　適用範囲

本ガイドラインは、ＪＲ東日本が資材調達する製品について適用する。

3　定義

本ガイドラインに用いる用語の定義は、以下の他、ＪＩＳＱ１４００１／ＩＳＯ１４００１による。

JR East Green Procurement Guidelines

Recycling trash within the company

JR East promotes in-company recycling of trash generated at stations.
Magazines, newspapers and similar paper items collected from our segregated trash boxes at stations and trains are being recycled into coated paper and stationery and used in our offices.

Newspapers and other papers collected in stations and elsewhere are recycled into office paper used by our company.

Recycling waste PET bottles into civil engineering materials

JR East has constructed a recycling system that produces resin weed-barrier sheets (product name: Nakusa R-PET) by recycling the PET (polyethylene terephthalate) bottles discarded in stations and trains. The main ingredient for resin weed-barrier sheets used to be polyethylene, but JR East has developed and commercialized a weed-barrier sheet composed mainly of waste PET bottles after tests were successful.

Biodiversity

Hometown Forestation Program

In 2004, in order to protect biodiversity and contribute to a sustainable society, while cherishing our sense of gratitude to nature, we began the Hometown Forestation Programs to plant trees native to each region and revitalize the forests.
We undertook these programs with the cooperation of Fukushima Prefecture from 2004 to 2009 and with the cooperation of Niigata Prefecture, the town of Tsunanmachi and Tokamachi and Ojiya Cities in the prefecture from 2010 to 2014. In addition, in other areas served by JR East, we are planting trees that are native to the areas and we shall continue to do the same in the future.

Shinanogawa River Hometown Forestation Program in September 2014

Forest development along railway lines☆

Beginning in 1992, we have been organizing tree planting activities along JR East railway lines. By FY2015 a total of approximately 49 thousand people had participated in planting about 331 thousand trees. Today, planting has gone beyond the trackside and is done in cooperation with local communities.

Development of railway trees

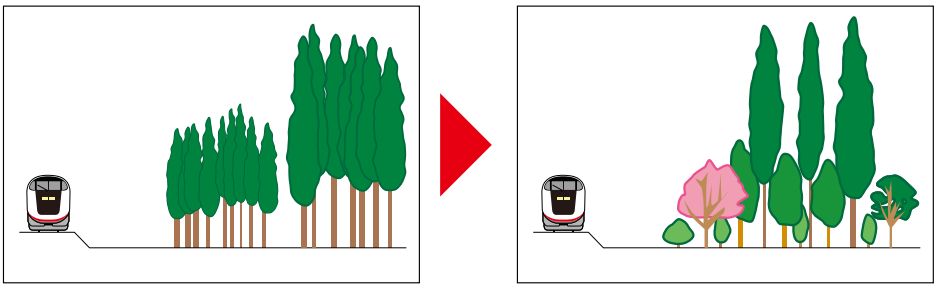
Along some JR East railway lines, we have planted railway trees to shield the tracks from blowing snow and wind. The first railway trees were created in 1893 for disaster prevention. As living disaster prevention facilities, railway forests are playing their roles.
JR East now owns approximately 5.8 million railway trees on a total of about 3,900 hectares along our lines at approximately 1,080 locations. The trees absorb 15 thousand tons of CO_2, equivalent to 0.7% of the CO_2 that JR East emits (this is the actual amount in FY2015). In this way, they also contribute to preserving the environment. In 2008, after fundamentally reviewing the role of railway trees from the viewpoints of both disaster prevention and environmental preservation, we launched a new project to plant trees to replace those that will require replacement over the coming 20 years.

Jinguji No. 2 railway forest on the Ou Line (forest to protect against blizzards)

Tenoko No. 6 railway forest on the Yonesaka Line (forest to protect against snow slides)

Railway trees—From single to multi-variety forests

Traditionally, railway trees were of a single variety, primarily cedar trees, because another function, in addition to protecting against natural disasters, was to generate profits through the production of timber. This has recently been less successful, however, as the demand for domestic timber has declined. In future tree replacement, we will plant several varieties suitable for the local climate and develop them to be more sustainable and ecologically resilient.



Conventional railway trees
(single variety such as cedar trees)

New railway trees
(mixture of different varieties of trees)

Planting new railway trees

Ceremonies for the planting of new railway trees were held in the Kakizaki No. 1 railway forest between Kakizaki and Yoneyama on the Shin-etsu Main Line on September 27, 2008, in the Oitama No. 2 forest on the Ou Main Line between Oitama and Takahata on July 26, 2009, in the Jinguji No. 2 railway forest on the Ou Main Line between Jinguji and Kariwano on May 22, 2010, and in the Okama No.1 railway forest on the Tazawako Line on September 29, 2012, in the Sekine No. 1 railway forest on the Ou Main Line between Sekine and Yonezawa on September 28, 2013, and in the Hirakida No. 3 forest on the Uetsu Main Line between Hirakida and Sakamachi on September 20, 2014. With kind advice and guidance from ecologist and Professor Emeritus Akira Miyawaki of Yokohama National University, several varieties of native trees (potential natural vegetation, or PNV) were selected and planted. Many local residents and participants from organized tours took part in the ceremonies, and discovered how the trees they planted would grow to become useful as living railway disaster prevention facilities.

Ceremony for planting Hirakida No.3 railway forest on the Uetsu Main Line (September 20, 2014)

Basic thoughts on noise reduction

Improvement of the environment along railways: Basic thoughts on noise reduction

In the operation of trains, noise is created by the train cars moving through the air, by the wheels travelling on the rails, by the motors, and by other sources. In order to reduce noise, we are working in various ways to improve both the trains and our ground equipment.
JR East also endeavors to reduce noise during maintenance work on track and structures to further improve the lineside environment.

Measures for the Shinkansen

In accordance with the Japanese government's Environmental Quality Standards for Shinkansen Superexpress Railway Noise, JR East has taken many steps to reduce this noise, such as the installation of soundproof walls and sound-absorbent materials, rail grinding*1 and the modification of our railcars to operate more quietly. We have already completed the implementation of measures to reduce noise levels to 75dB or lower in densely populated residential areas along our railway lines, and we plan to take further steps by expanding the scope of areas where noise levels need to be reduced to 75dB or lower.
Also, based on the knowledge gained from running tests using the Shinkansen "FASTECH" test train, JR East is working to improve the environment even as we increase train speed, including further reduction of noise and micro-pressure waves in tunnels*2.

*1 Rail grinding: A measure to smooth out uneven places in rails caused by wheels traveling over them. This reduces noise by controlling car vibration.

*2 Micro-pressure waves in tunnels: An explosive sound caused by compressed air being forced.

E5 Series trains have low-noise pantographs

Measures for conventional lines

We have implemented measures for conventional lines to minimize noise, such as installation of long rails*1, rail-grinding and wheel-truing*2. We also comply with the Japanese government's Policy on Noise Measures for Construction of New Conventional Railways or Large-Scale Remodeling when we engage in this kind of construction or modification of our conventional lines.

*1 Installing long rails: Rail joints are welded such that the length of a single rail becomes more than 200 meters. With fewer rail joints, these rails reduce noise produced at joints when trains pass.

*2 Wheel truing: A measure to grind the unevenness of wheels caused by wear, to restore their circular shape.

Measures for maintenance work

As the maintenance work is usually done during night, we give advance notice about the schedule and details of the work to residents in surrounding areas. We also make utmost efforts to minimize noise by using modified equipment that produces lower noise. Furthermore, by using track that is designed to resist deformation, JR East is reducing the volume of required maintenance work.

Improvement of the Environment along Railway Lines

Restricting use of herbicides

Safe train operations require regular removal of weeds along railway lines. While we generally remove them manually, we also use a certain amount of herbicide. We keep the usage of herbicides to a minimum in both volume and range of use. When selecting herbicides for use, we select those from the safest of the three levels of toxicity to humans and animals, and from Category A, the safest of the five levels of toxicity to fish.
We continue to observe the rules in place in order to keep our impact on the surrounding environment to a minimum, as with our initiative to postpone the spraying of herbicides when conditions on the scheduled day are not satisfactory for spraying.

Harmony with the landscape

Given that construction of a large-scale railway facility or its remodeling greatly affects the local area and surrounding environment, JR East endeavors to harmonize its completed facilities with surrounding landscapes and natural environments. In the fiscal year ended in March 2012, Agatsumagawa Bridge No. 3 received the Tanaka Award (for excellent bridge work or bridge engineering) from the Japan Society of Civil Engineers, in recognition of a landscape in harmony with the surrounding environment and the national road parallel to the bridge. Our efforts are indeed well recognized outside of the company.
For the Senseki Line, which resumed full operation in May 2015, we gave extra consideration to the design, such as incorporating very wide spans for bridge piers and curving the under-beam so as to match the special scenic beauty of Matsushima in the relocated and restored section.

Agatsumagawa Bridge No. 3

Senseki Line (between Nobiru and Rikuzenono)

Chemical substance management

Compliance with laws and regulations and setting goals for reduction of chemical substances

When using chemical substances, the effects on human health and ecological systems must be fully considered. The JR East Group not only rigidly adheres to established standard values, but sets its own ambitious targets as well. As much as possible, we restrict the use of such substances and adopt substitutes that have less impact on the environment.

Reducing and replacing ozone depleting substances☆

We endeavor to reduce the use of substances specified as controlled substances under the Ozone Layer Protection Law and adopt substitutes that have less impact on the environment. Moreover, The Act for Rationalized Use and Proper Management of Fluorocarbons (The Revised Fluorocarbons Recovery and Destruction Law) came into effect on April 1, 2015 requiring regular inspections, reporting of leakage amount, etc. We have been responding appropriately in accordance with the intent of the revised law.

- **Cooling units (large refrigerators)**—Having steadily replaced air conditioning units using specified chlorofluorocarbons (CFCs) with systems that do not use them, we completed the removal of such units from buildings by the end of FY2008.
- **Rolling stock**—Except for some diesel railcars, all of our cars use CFC substitutes. As of the end of FY2015, we were using 1.2 tons of CFCs and 87 tons of CFC substitutes. We routinely check for gas leaks, and collect the refrigerants when scrapping retired railcars in accordance with applicable laws and regulations.
- **Fire-extinguishing agent**—Although 67 tons of halon gas was still in use as a fire-extinguishing agent as of the end of FY2015, we have it under proper control and are replacing it with non-halon agents (such as powder agents and CO_2) when building new facilities or renovating existing ones.

Chemical substance management☆

As JR East uses chemical substances primarily for painting and repairing our railcars, we take rigorous steps for their use and management in order to prevent spills. We are a company that handles a certain amount of specified chemical substances, and 15 JR East facilities submitted the data regarding the release and transfer of these substances to relevant authorities in FY2015, pursuant to the PRTR System.*
We have also been introducing stainless steel railcars that do not require painting. At the end of FY2015, as many as 84.7% of the 10,690 cars operated on our conventional lines were stainless steel railcars.
Beside their use for railcars, we used 430 tons of organic solvents for painting railway facilities and stabilizing track beds in FY2015.

* PRTR system: A system where companies notify their releases and transfers of chemical substances as required by the PRTR Law. It encourages the monitoring and control of toxic chemical substances emitted into the environment and measures to prevent negative impact on the environment.

■ Amount handled, released and transferred from 15 reporting-required facilities (kg)

Chemical substance	Handled (kg)	Released into air	Released into sewerage	Transferred to other facilities
1,2,4-Trimethylbenzene	85341.1	1617.6	0.0	1508.0
2-Aminoethanol	1248.4	0.0	0.0	229.0
Ethylbenzene	3125.0	273.9	0.0	2050.0
Xylene	85664.7	8764.2	0.0	1548.4
Chromium and Chromium(III) compound	2986.2	0.0	0.0	60.0
Toluene	15423.8	6853.5	0.0	130.5

Chemical substance	Handled (kg)	Released into air	Released into sewerage	Transferred to other facilities
Nickel	3958.0	0.0	0.0	0.0
n-Hexane	1535.5	145.0	0.0	0.0
Methylnaphthalene	70408.8	351.9	0.0	0.0
Molybdenum and its compounds	1581.6	10.0	0.0	0.0
Total	**271,273.1**	**18,016.1**	**0.0**	**5,525.9**

Management of PCBs (polychlorinated biphenyls)

Equipment containing PCBs is securely stored in exclusive storage locations and reports on it are filed as required by laws and regulations. We render this equipment harmless to the extent that can be done by PCB waste treatment facilities. In the fiscal year ended March 2015, we had equipment such as transformers and capacitors treated at PCB waste treatment facilities.

Environmental Communication

Railway Museum Environment Seminar

We staged the "Seminar on Environmentally Friendly Railways" for elementary school children at the Railway Museum. Along with learning about global environmental problems, they were shown the importance of recycling by separating trash at a station and on the train.

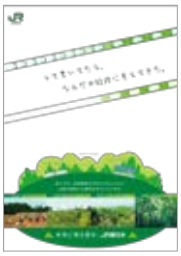
Seminar on Environmentally Friendly Railways at the Railway Museum

Environmental Events in Cooperation with Other Companies

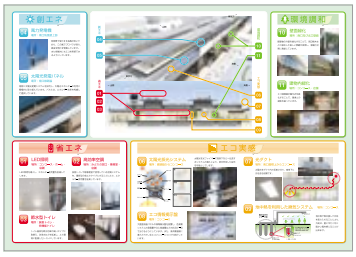
We cooperate with other firms to stage environmentally themed events, for the purpose of explaining JR East's environmental preservation activities, and communicating directly with customers. In January 2015, in conjunction with Tokyo Gas, we held the 12th Gas and Railway Environmental Activities Exhibition – Move on to the Future! Eco-Friendly Approach by Gas and Railway at Omiya Station in Saitama Prefecture. In addition to introducing environmental aspects of gas and railways and our energy-saving activities, the event featured hands-on opportunities to learn and have fun at the same time. Furthermore, we held an event in cooperation with NTT Group to introduce both companies' environmental initiatives in February 2015. Both events successfully made an appeal to a number of customers.

Public Relations on Environmental and Societal Activities

To present JR East's activities for the environment and society in an accurate, easy-to-understand manner, we published our first Annual Environmental Report in 1996. Its title was changed to "Sustainability Report" in 2002, and to" CSR Report"in 2013.
We also communicate about our environmental activities through newspapers, magazines, and other media, as well as JR East's websites, posters and pamphlets.



Corporate advertisement – Poster – "Developing a forest in your home town"



Pamphlet –" Ecoste model station"

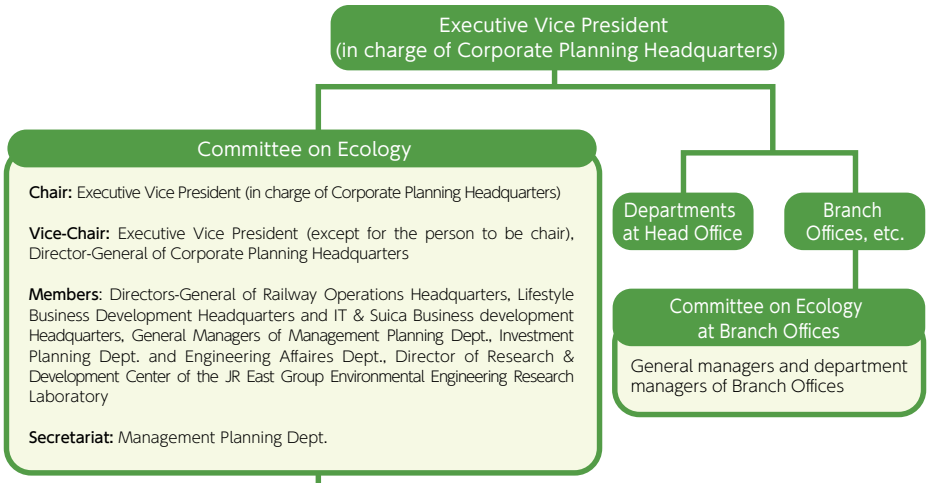
Website – "Environmental activities"

Environmental Management Structure

Environmental Management Structure

Established in 1992 as a top management organization to promote environmental activities and chaired by the executive vice president of JR East, the Committee on Ecology Promotion surveys the environmental impact of business activities, sets environment-related targets, implements environmental conservation activities and monitors progress toward target achievement, which is also examined by top management.
In July 2010, the "Environmental Management Office" was established in our Management Planning Dept., and oversees environmental management for the entire JR East Group.

■ **Organizational structure to promote environmental management (as of July 1, 2015)**



Department name	Main activities	Working group name
Environmental management	Promotion of environment conservation activities at each work place, promotion of environment management as a whole group, management of environmental targets and publication of environmental activities, etc.	* JR East Eco Activities WG * JR East Group environment management promotion WG
Measures to prevent global warming	Reduction of CO_2 emissions through reduced electricity use and new energy technologies, reduction of CO_2 emission volume throughout the entire transport system, etc.	* Eco station WG * Eco railcar WG * Railway usage promotion WG * Illuminance optimization WG
Measures for resource circulation	Recycling of wastes from stations and trains, reduction and recycling of industrial waste, eco-friendly procurement, etc.	* Station & train waste WG
Chemical substance management	Management of ozone depleting substances, chemical substances, PCB, etc.	* PCB waste WG
Environmental activities along railway lines	Measures against noise, utilization of spring water in tunnels, conservation and utilization of railway trees, proper use of herbicide, etc.	* Railway trees conservation & utilization WG * Proper herbicide usage WG

Creating an environment-conscious culture

JR East believes that it is important to promote environmental activities with clear goals established for the entire JR East Group, and to have every employee actively involved. To build a culture in which all employees participate voluntarily, we are expanding the scale of our environmental activities by promoting "JR East Eco Activities" at each work place, developing leaders through environmental education, and sharing recognition of outstanding environmental efforts through the presentation of awards.

In-house environmental education

For effective environmental management, it is essential that all employees have appropriate knowledge on environmental issues. We provide environmental education lectures to our employees in training in order to develop environmental activities in JR East and group companies. Through these lectures, we aim to expand the scale of our environmental activities. In FY2007, to enhance environmental activities at each group company, we began an "Environmental management training" program for people in charge of environmental matters in those companies.

■ **Environmental education & training system**

Education of environmental-activity promoters at organizations of JR East and group companies
Environment management expert training
● Persons trained: those responsible for environment at local organizations, etc. ● Objective: improvement of ability in environment-related matters as trainers to field offices, etc. ● Number of participants: 13
Environment countermeasures of Shinkansen practical training
● Persons trained: those responsible for environment at each Branch Office ● Objectives: learning of basic knowledge about relevant rules and regulations for noise and vibration ● Number of participants: 11
JR East Group Environmental Management Promotion Conference
●Persons participating: those in environmental departments at all group companies ●Objective: promotion of environmental management for the entire JR East Group
Implementation of training and lectures in Branch Offices

Internal environmental audits

At our General Rolling Stock Centers, in-house auditors are trained through external training programs, and conduct routine audits at the centers in order to evaluate environmental activities.

■ **ISO14001-certified facilities**

Certified facilities	Year and month of certification
〈JR East〉	
Kawasaki Thermal Power Plant	Mar-01
Tokyo General Rolling Stock Center	Mar-01
Omiya General Rolling Stock Center	Feb-02
Shinkansen General Rolling Stock Center	Nov-02
Koriyama General Rolling Stock Center	Dec-03
Nagano General Rolling Stock Center	Feb-05
Akita General Rolling Stock Center	Jul-05

Certified facilities	Year and month of certification
〈Group companies〉	
East Japan Eco Access Co., Ltd.	Nov-99
Nippon Restaurant Enterprise Co., Ltd. (CK headquarters)	Sep-02
Nagano Railway Servicing Co., Ltd. (Current : JR Nagano Railway Services Co., Ltd.)	Apr-06
JR East Mechatronics Co., Ltd.	Mar-08
East Japan Marketing & Communications, Inc.	Aug-08
Japan Transport Engineering Company	Oct-14

Thorough management of chemical substances

JR East is working to establish a system to prevent environmental accidents by more rigidly managing chemical substances. We prepared emergency response manuals for on-site locations such as our thermal power plants and General Rolling Stock Centers that handle chemical and hazardous substances. We are also preparing ourselves to respond properly to any contingencies by holding workshops and training sessions on how to handle these substances, and ensuring that related information reaches all concerned personnel.

Compliance with environmental laws and regulations

There were no major violations of environment-related laws and regulations resulting in penalties in FY2015.

Environmental accounting and management indicators

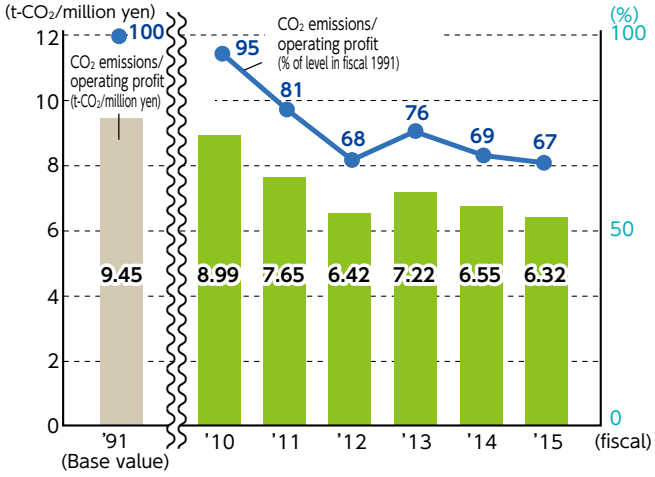
Using Environmental Management Indicators☆

In FY2015, our environmental conservation costs amounted to approximately 96.2 billion yen in investments and 13.8 billion yen in expenses. As to costs for global environmental conservation, which accounted for a large portion in these investments, we continued acquiring new railcars.
By introducing these new cars, we estimate we will reduce CO_2 emissions by about 23 thousand tons per year.
JR East has its own Environmental Management Indicator to assess the relation between our business activities and environmental impacts. These are calculated by dividing CO_2 emissions, which are a major factor in our environmental impacts, by operating profits, which represent our economic value added.
A smaller value of the indicator means that we are making a smaller impact on the environment to create the same economic value added. For FY2015 the value of the indicator was 6.32t- CO_2 /million yen, compared with 9.45t- CO_2 /million yen for FY1991.

Environmental Management Indicator

$$= \frac{\text{Environmental Impacts}}{\text{Economic Value Added (EVA)}} = \frac{\text{CO}_2\text{ emissions (t-CO}_2\text{)}}{\text{Operating profit (million yen)}}$$

■ JR East's Environmental Management Indicator



■ Environmental accounting for fiscal year ended March 2015☆

( ):FY2014

Category	Environmental conservation costs (billion yen)		Environmental conservation benefits in relation to environmental targets		Economic benefit of environmental conservation activities (billion yen)
	Investments	Expenses			
Environmental conservation (pollution prevention) activities along railway lines	6.03 (4.72)	6.66 (5.35)	Measures for noise reduction (Noise barrier, installing long rails etc.) etc.	Being implemented	–
Global environmental conservation activities	90.17 (125.33)	–	Energy consumption from railway business activities CO_2 emissions per unit of electricity generated at JR East's own power plants Electricity used for railway operations per unit of transport volume Energy consumption per unit of floor area at branch offices, etc.	51.1 billion MJ 0.278 kg-CO_2/kWh Shinkansen 2.51kWh/car-km Conventional Lines 1.55kWh/car-km 0.0389kL-crude oil equivalent/m²	20.77 (20.89)
Resource circulation activities	–	4.78 (5.04)	Recycling rate for waste generated at stations and on trains Recycling rate for waste generated at General Rolling Stock Centers, etc. Recycling rate for waste generated in construction projects	94% 96% 95%	1.54 (2.29)
Environmental management	–	0.42 (0.37)	–		–
Environmental research & development	–	1.91 (1.89)	–		–
Social activities	–	0.04 (0.03)	–		–
Total	96.20 (130.04)	13.81 (12.69)			22.31 (23.18)

Notes
Capital investment for the period:
422.1 billion yen
Total R&D costs for the period:
16.4 billion yen
(Consolidated)

The above table's relations with the table for Targets and Results are as follows:
"Environmental conservation activities along railway lines" ="Environmental activities along railway lines" and "Chemical substance management"
"Global environmental conservation activities" ="Measures to prevent global warming" and" Chemical substance management"
"Resource circulation activities" = "Measures for resource circulation"
"Environmental management" = "Environmental management" and "Environmental communication"
"Environmental research & development" ="Research & development"
"Social activities" =" Environmental communication

〈Notes on calculation of environmental conservation costs and benefits〉
Environmental conservation costs
○Data are for East Japan Railway Company only (i.e., non-consolidated data).
○Environmental conservation costs are mainly based on data available in the current management system.
○The total costs are treated here as environmental costs where the costs have multiple objectives and result in large environmental benefits.
(e.g., global environmental conservation costs include the total amount invested in energy-efficient trains)
○Expenses do not include depreciation charges.
○In the costs for resource circulation activities, expenses for treating waste generated at stations and trains are calculated by multiplying the allocations by the expenses for cleaning stations and train cars, based on a model for cleaning stations and trains.
○In the costs for resource circulation activities, the expenses for treating waste generated through construction projects are calculated by multiplying waste volume for FY2014 by standard unit costs for the type of waste in that region.
Environmental conservation benefit
○Environmental conservation benefits are calculated based on figures set as our environmental targets.
Economic benefit of environmental conservation activities
○Economic benefit of global environmental conservation activities is calculated by multiplying annual savings (estimates are used in some cases) in electricity and repair costs resulting from the introduction of energy-efficient trains by the expected useful life, to determine useful-life economic benefit.
○Income from the sales of waste generated at General Rolling Stock Centers and through construction projects is included in economic benefit of resource circulation activities.

Activities of Branch Offices

Tokyo Branch Office

Working together with stations, related depots, and other group companies, the Tokyo Office has developed a variety of environmental activities relating to both services and facilities, focusing on Tokyo Station City. It is also fostering environmental awareness and contributing to the local community outside of the company and JR East family, such as collaborating on heat island countermeasures in Minato Ward by supplying spring water for the Yokosuka Line Tokyo Tunnel. Through these activities, it has sought to stimulate environmental initiatives and strengthen ties with the community while promoting JR East's efforts inside and outside the company.

<Overview of Key Activities>

- Held a quarterly Ecosummit (with 30 eco-promotion committee members in attendance), whose members include the Tokyo Area Guidance Center, Tokyo Electric Railcar Depot, Tokyo Conductors' Depot, Marunouchi Conductors' Depot, Tokyo Distribution Technology Center, and Tokyo Station, and created a poster promoting environmental activities.
- In support of the Ministry of the Environment's Light-Down campaign, implemented initiatives to help prevent global warming on two dates (June 21 and July 7), such as turning off illuminations on the exterior of the Tokyo Station and Marunouchi Station buildings earlier than usual.
- With the participation of JR East, other group companies, and companies in the station's vicinity, implemented the semi-annual TSC Kirapika Strategy for cleaning up the Tokyo Station premises and surrounding area for the second and third times (second time: 330 people from 29 companies, third time: 400 people from 45 companies).
- In addition to energy-saving improvements to Sobu underground air-conditioning equipment and switching platforms over to LED lighting at Tokyo Station, promoted energy saving by devising operation-related measures.
- Played an active role in urban heat island countermeasures by providing spring water for the Yokosuka Line Tokyo Tunnel in the Minato Ward redevelopment area (Tamachi Station East Exit).


Awards ceremony


TSC Kirapika Strategy

Environmental activity promotion poster

VOICE

At the Tokyo Office, led by each workplace's eco-promotion committee members, we are implementing initiatives such as electricity-saving measures and creating a paperless office, as well as applying ideas learned from visiting other companies' offices and actively promoting eco-friendly activities. What's more, we are carrying out environmental activities in collaboration with the community, such as Tokyo Station City, and encouraging horizontal deployment by sharing the results of these initiatives through briefings on eco-friendly activities and the branch communication board (an information message board).
Going forward, we will step up the activities undertaken to date while also taking on the challenge of new initiatives.


Yoshiyuki Niino
Planning Office, General Affairs Department, Tokyo Branch Office

Activities of Group Companies

Atre

As an initiative aimed at saving energy and helping to prevent global warming, Atre has formed a project team that is working to accelerate the switch from conventional to LED lighting. It is also contributing to improving environmental awareness inside and outside the company through PR activities involving employees and customers.

<Overview of Key Activities>

- Since FY2012, Atre has been introducing LED lighting, and in FY2015 it launched a project team (7 members) to strongly promote this initiative. As a result, LED lighting was introduced in nine Atre complexes in FY2015, achieving an annual energy consumption reduction of around 0.79GWh/year (equivalent to the annual power consumed by about 220 average households, or approximately 300 t of CO_2/year when converted to CO_2).
- LED bulbs were lit for Christmas illuminations, featuring green electricity certificates. In conjunction, PR activities were conducted via the website and with point of purchase advertising.
- In addition to raising environmental awareness within the company through an in-house newsletter and planning eco-tours and eco quizzes, Atre has held environment-related Atreto events involving customers and implemented initiatives involving many stakeholders. Furthermore, it provides information on environmental initiatives using environmental reports and on-site posters.

Awards ceremony

Green electricity certificate

Astronomy event
(Tanabata Light-Down)

VOICE

On July 7, 2014, the day of Tanabata, we held an environment-related Atreto event at Atre Kameido in conjunction with a "light-down" campaign promoted by the Ministry of the Environment. In addition to turning off the facility's lights as a measure to reduce CO_2 and help prevent global warming, we held a star-gazing event that considered the global climate. As it was our first such attempt and we did not publicize it enough, attendance was lower than expected, and to add insult to injury, it wasn't possible to see the stars due to poor weather conditions...
Nevertheless, we improvised so that attendees were able to observe Tokyo Skytree with the telescopes and experience a "space voyage" using software. Participants told us that while they were disappointed that they could not star-gaze, they enjoyed the mysterious space voyage.
In future, we intend to run more announcements before the event that will grab customers' attention, increase customers' awareness of environmental initiatives being undertaken by Atre, provide information from a variety of perspectives, and keep working proactively to help prevent global warming.

Koichi Umemura
atre Co., Ltd.
General Planning Department

Special Topic 5 Introduction of the Environmental Technology

Use of Ecoste Model Station Begins

Use of JR East's fourth Ecoste (eco-station) model station, Yumoto Station on the Joban Line, began in March 2015. This station actively uses local resources such as thermal spring heat, timber from Fukushima Prefecture, and natural sunlight. The waiting room is equipped with flooring and panel heating that employ thermal spring heat, while the platforms are outfitted with footbaths for customers' benefit, which make secondary use of the thermal spring water employed for heating.

Waiting room equipped with flooring and panel heating that use thermal spring heat (Yumoto Station)

Organic thin-film solar cells on overpass for transferring passengers (Fukushima Station)

At Fukushima Station on the Tohoku Main Line, in collaboration with the local community, we are continuing to develop the Fukushima Prefecture Renewable Energy Promotion Vision formulated by the prefecture. A variety of green features have been incorporated, including lightweight solar panels on the shinkansen platform roof, organic thin-film solar cells on the overpass for transferring passengers, and a heat pump based on geothermal heat, with use beginning in April 2015.

Creation of Renewable Energy Hub in Northern Tohoku

In order to actively promote the use of renewable energy such as solar, wind, biomass, and geothermal power, we have made it a policy to create a renewable energy hub in northern Tohoku and are developing various measures to this end.

In terms of solar power generation, we began operation of the Hanamaki Atago solar power plant in February 2015 followed by the Akita Oiwake solar power plant and Akita Tenno solar power plant in March 2015. We also plan to establish a 2 MW-class wind power generation facility within the railway forest site between Michikawa and Shimohama on the Uetsu Main Line, which is scheduled to begin operation in the fall of 2016. Moreover, with the aim of expanding our wind power generation activities, we have established JR East Energy Development Co., Ltd. as a joint venture with Community Energy Development Co., Ltd.

Meanwhile, in the area of biomass power generation, we have established Hachinohe Biomass Power Generation Co., Ltd. as a joint venture with Sumitomo Forestry Co., Ltd. and Sumitomo Osaka Cement Co., Ltd., and with regard to geothermal power generation, we are involved in a resource development survey in the northwest of Hakkoda in Aomori Prefecture, in partnership with Obayashi Corporation and Kawasaki Heavy Industries, Ltd.

Solar light

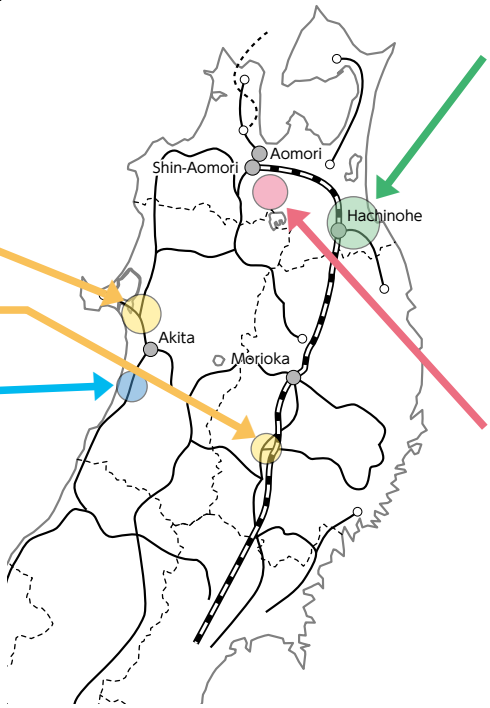
Akita Oiwake solar power plant
Akita Tenno solar power plant
Approx. 3.1 MW
(Began use in March 2015)

Hanamaki Atago solar power plant
Approx. 0.3 MW
(Began use in February 2015)

Wind

Abundant wind resources along shorelines, etc

Between Michikawa and Shimohama on Uetsu Main Line
Wind power generation facilities: approx. 2 MW
(Use scheduled to begin in fall 2016)



Biomass

Abundant forest resources and railway forest of the Tohoku region

Hachinohe biomass power plant
Approx. 12 MW(Use scheduled to begin in December 2017)

Geothermal

Abundant geothermal resources in the Tohoku region's volcanic areas

Hakkoda northwest region geothermal resource development survey
JOGMEC: project adoption and surface study currently underway

CSR Management

Basic Concept of CSR

The JR East Group is based on railway businesses that are involved in a broad range of our customers' lives and that are vital to society and local communities. With such a public responsibility, we are committed to meeting our social responsibilities by carrying out our business activities in a way that will ensure railway safety and reliable transportation services.
In terms of our social mission, our Group Philosophy states: "We aim to grow continuously while meeting our social responsibilities as a Trusted Life-style Service Creating Group." We are determined to remain a corporate group capable of meeting social expectations and maintaining stakeholders' trust by pursuing our business activities in line with that philosophy.

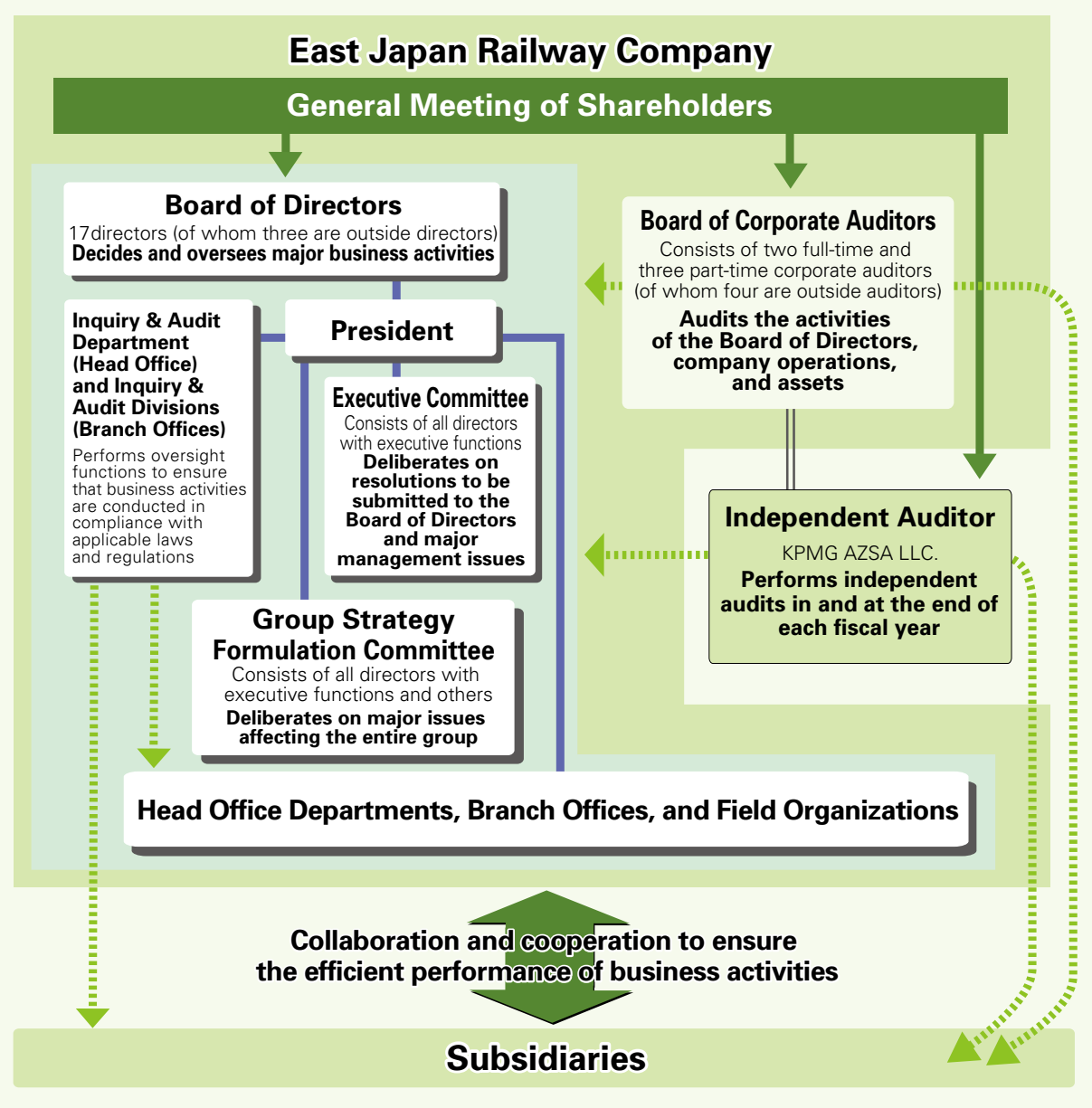
JR East's Basic Corporate Governance Philosophy

To continue to be a company trusted by all of our stakeholders, JR East has made the strengthening of its corporate governance a top-priority management task. Specifically, for improving management soundness, efficiency and transparency, JR East is augmenting its systems for management decision-making, operational execution and overseeing, Group management, information disclosure, and other important matters.

Execution of Duties, Supervision and Audit System

Our 17-member Board of Directors, including three outside directors (as of June 30, 2015), normally meets monthly to decide key operational matters relating to statutory requirements and other matters, and to supervise overall operations. Under the Board of Directors is the Executive Committee, which includes all directors with executive functions and senior executive officers. Usually meeting every week, this committee deliberates on matters to be decided by the Board of Directors and other important management issues. In addition, meetings of the Group Strategy Formulation Committee, which consists of all directors with executive functions and others, are held as required to discuss major issues affecting the Group as a whole, including management strategy for each business field.
JR East has established an internal auditing system involving approximately 100 full-time employees in the Inquiry & Audit Department at the Head Office and Inquiry & Audit Divisions in branch offices, and these units work to ensure that corporate operations are executed appropriately and efficiently. The Inquiry & Audit Department also undertakes the auditing of Group companies.
Our Board of Corporate Auditors usually meets every month and the audit by corporate auditors is supported by approximately 10 specialized staff. They oversee executive actions carried out by directors, with a focus on full-time auditors, in accordance with the rules established by the Board of Corporate Auditors by attending the Board of Directors, the Executive Committee and the other important in-house meetings, and by investigating their normal operations and financial situations.
JR East financial statements are audited under contract by an independent auditor (accounting auditor), KPMG AZSA LLC., in and at the end of each fiscal year.

■ Corporate Governance System (as of June 30, 2015)



Compliance

Basic Concept of Compliance

JR East adopted our Policy on Legal and Regulatory Compliance and Corporate Ethics as the Group's corporate activity guidelines. Concomitantly, we established Compliance Hotlines, both inside and outside the company, for internal reporting, and are promoting efforts on compliance. In addition, we continue to implement a program of education for all Group employees every year and strive to foster their awareness of the need for compliance.

Policy on Legal and Regulatory Compliance and Corporate Ethics and the Compliance Action Plan

In June 2005, in order to publicly announce our Policy on Legal and Regulatory Compliance and Corporate Ethics (the "Policy") as the Group's corporate activity guidelines and to heighten the efficacy of these guidelines, we prepared the Compliance Action Plan (the "Action Plan"), which sets forth advisable modes of conduct for all employees of the Group. We have been encouraging understanding of thorough implementation of compliance management throughout the entire Group by distributing handbooks and such.
The Policy and the Action Plan were revised in April 2013 following the formulation of JR East Group Management Vision V — Ever Onward— in October 2012. Revisions included addition of responses to globalization, information management and such. Furthermore, a basic policy for prevention of bribery relating to foreign public officials was formulated and announced in June 2014 in line with the development of overseas businesses.

Initiatives for Proper Business Conduct

JR East Group is promoting continuous reviews of all its operations based on laws and regulations, internal rules, and social norms.
In FY2012, JR East created the "Basic Matter Confirmation Support Sheet" which lists basic matters for a head of departments at each field to confirm periodically him/herself. Business conduct with constant awareness for compliance is pursued through continuous inspection and confirmation on a regular basis using the sheet, etc.

Ensuring Information Security

With the advancement of the information society, ensuring the security of our information systems has become an important issue.
JR East has designed and introduced an information security management system based on JR East's basic policy for information security, and carries out necessary measures to ensure safe and secure information system operations. We have also established a contact system in the event a problem should occur and we conduct problem response drills.
All employees are kept aware of the importance of information security and the strict handling of information through our Group rule book and internal magazine. All employees also receive information security education with the aim of raising awareness about how they should guarantee workplace information security.

Education of all employees

In order to deepen understanding of the importance of compliance and the intent of the Policy and the Action Plan by each employee, we have been providing compliance education for all employees every year since FY2010 targeting all employees in the Group. Although the education started out with mostly the lecture style format using DVDs, it has recently shifted to study group style held at each department under the head of the department using materials prepared by the head office. Focusing on a case study using familiar examples, this style of education leads each employee to think and to participate in discussions.
We are committed to fostering compliance awareness by continuing education with consideration for the social responsibility expected of our Group and the changes in the mindset of our employees.

■ Major seminars, etc. on compliance (FY2015)

Title	Number of sessions	Participants	Contents and objectives	Number of participants
All Employee Training on Compliance	1	JR East and Group company employees	Compliance awareness	All Employees
New Recruit Training	1	JR East new recruits	Compliance awareness	All new recruits
Basic Legal Training	1	Group company legal affairs personnel	Acquisition of basic legal knowledge	31
Legal Skills Training	1	Head Office and Branch office legal affairs Personnel	Enhancement of practical legal knowledge, legal reasoning, and decision-making/problem-solving skills	14
Regular Legal Seminar	3	JR East and Group company Executives, employees	Explanation of new and revised laws, and awareness-raising about compliance	600
Compliance Meetings	2	Head Office executives, general managers, etc.	Ensuring awareness of a compliance management system	190
Compliance Seminar for Group Companies	1	JR East and Group company Executives, employees	Ensuring awareness of a compliance management system	80

Shinanogawa Power Station Incident

In March 2009 JR East received an administrative sanction because the company's water intake had exceeded the maximum allowed quantity at our hydroelectric plant, Shinanogawa Power Station (the collective name for the Senju, Ojiya and Ojiya Daini power plants in Ojiya and Tokamachi Cities, Niigata Prefecture). The sanction was issued in accordance with the River Act and included the revocation of a permit to draw water from the Shinano River. Subsequent to receipt of this sanction, we have taken corrective actions in accordance with the directions in the sanction and have endeavored to implement measures to prevent recurrence and to cultivate close cooperation with the local communities.
In June 2010, having obtained a permit from the Director of the Hokuriku Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism to again take water from the Shinano River through to June 2015, we resumed operation of the Shinanogawa Power Station.
Following the resumption, we conducted a trial sluice for coordinating river environment and water use. With the results of the investigation and opinions collected from local residents, we filed a renewal application in May 2015 and received approval in June 2015.
We are redoubling our efforts at compliance management to prevent occurrence of similar incidents and we are sincerely committed to fostering harmony with the river environment and enhancing co-prosperity with communities.

Personal Data Protection

Pursuant to applicable laws and regulations including Act on the Protection of Personal Information, the JR East Group published Private Policy, formulated the Regulations for the Management of Personal Information and appointed Chief Privacy Officers who have the responsibility of strictly protecting personal data. Through leaflets for raising employees' awareness, articles in our internal magazines and compliance education, we are also working to ensure that all employees remain fully aware of the necessity of the strict handling and management of personal data. Furthermore, in order to ensure proper control of personal data, the Group conducts periodical internal workplace audits.

Risk Management

JR East established the Crisis Management Headquarters to centrally collect and manage information, and to make prompt initial responses in the event of major crises affecting the business operations of the JR East Group, etc. On top of this, we established the Crisis Management Office, a full-time section that takes responsibility for Headquarters' secretarial work, in Administration Department at the Head Office. We are striving to be prepared for any potential risks JR East Group may face. We have established a system enabling us to respond to various emergencies—terrorist threats, pandemics such as influenza, and other possibilities.

Information Disclosure

JR East has a wide range of relationships with many stakeholders, including around 17 million customers using our railway services each day, as well as our shareholders and investors, business partners, employees and their families, and local communities.
We actively disseminate information about Group initiatives through public and investor relations activities to these stakeholders. We also strive to disclose key corporate information on our website in a swift and appropriate manner.

Independent Assurance Report (website version)

Independent Assurance Report

To the President and CEO of East Japan Railway Company

We were engaged by East Japan Railway Company (the "Company") to undertake a limited assurance engagement of the environmental performance indicators and environmental accounting indicators marked with ☆ for the period from April 1, 2014 to March 31, 2015 (the "Indicators") included in its CSR Report 2015 website version (the "Report") for the fiscal year ended March 31, 2015, and the completeness of material environmental information in the Report.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Report, which are derived, among others, from the Environmental Reporting Guidelines 2012 and Environmental Accounting Guidelines 2005 of Japan's Ministry of the Environment, and for including the material environmental information defined in the 'Environmental Reporting Assurance and Registration Criteria' of the Japanese Association of Assurance Organizations for Sustainability Information ("J-SUS") in the Report.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information', 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines for the Assurance of Sustainability Information' of J-SUS. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Report and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and also recalculating the Indicators.
- Visiting one of the Company's domestic business sites selected on the basis of a risk analysis.
- Assessing whether or not all the material environmental information defined by J-SUS is included in the Report.
- Evaluating the overall statement in which the Indicators are expressed.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report, and all the material environmental information defined by J-SUS is not included in the Report.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
October 21, 2015

Summary from the General Manager of the Management Planning Department

Kiwamu Sakai
Executive Officer and General Manager
Management Planning Department
Corporate Planning Headquarters

In July of this year, the Japanese government decided on an energy mix based on its Basic Energy Plan, while Japan's greenhouse gas reduction targets for 2030 have also been decided in anticipation of the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21), to be held in Paris at the end of the year. Going forward, it is expected that a variety of active efforts will be made with the aim of ensuring that the energy mix and reduction targets are achieved, and there will be an even greater need for initiatives in the corporate sector.

In order to contribute to the realization of a future-oriented, sustainable society and fulfill our corporate social responsibility (CSR), including addressing environmental issues, the JR East Group is continuing to pursue various activities. Our Group Management Vision V positions providing safe, high-quality service and contributing to the development of communities as "eternal missions" of our company, and we are proactively working to improve safety, which is our number-one priority, and support communities.

The 2015 CSR Report includes a lot of quantitative data on activities relating to safety, the community, and the environment undertaken by our group, which are presented in an easy to understand manner through the use of photos, diagrams, and so forth.

What's more, this year, referring to the fourth version of the GRI Sustainability Reporting Guidelines (G4), which are the global standard for CSR reports, we have positioned the basic concept and essential management issues indicated in the Group Management Vision V as key aspects of CSR (materiality), and placed it along with a GRI Guidelines comparison table at the end of the report. We have also incorporated anew the Safety Report into the 2015 CSR report, so that the information regarding safety is now more comprehensive than ever before. In addition, the "Special Topics" cover issues such as the opening of the Hokuriku Shinkansen service to Kanazawa and the Ueno-Tokyo Line, while in the "Voice" (interview) features, we hear directly from employees on the front line working on initiatives such as sextic industrialization. We hope that these will provide all our stakeholders, both at home and abroad, with a more in-depth understanding of the JR East Group's efforts.

Also, please note that this CSR Report is available in an online version with full details of our group's initiatives as well as a pamphlet version providing a concise summary of the information.

Based on the JR East Group Management Vision V — Ever Onward, the JR East Group remains committed in its ongoing efforts to address the expectations of society and to the trust of our stakeholders while remaining fully conscious of domestic and global trends.

History of JR East Group's environmental and social activities

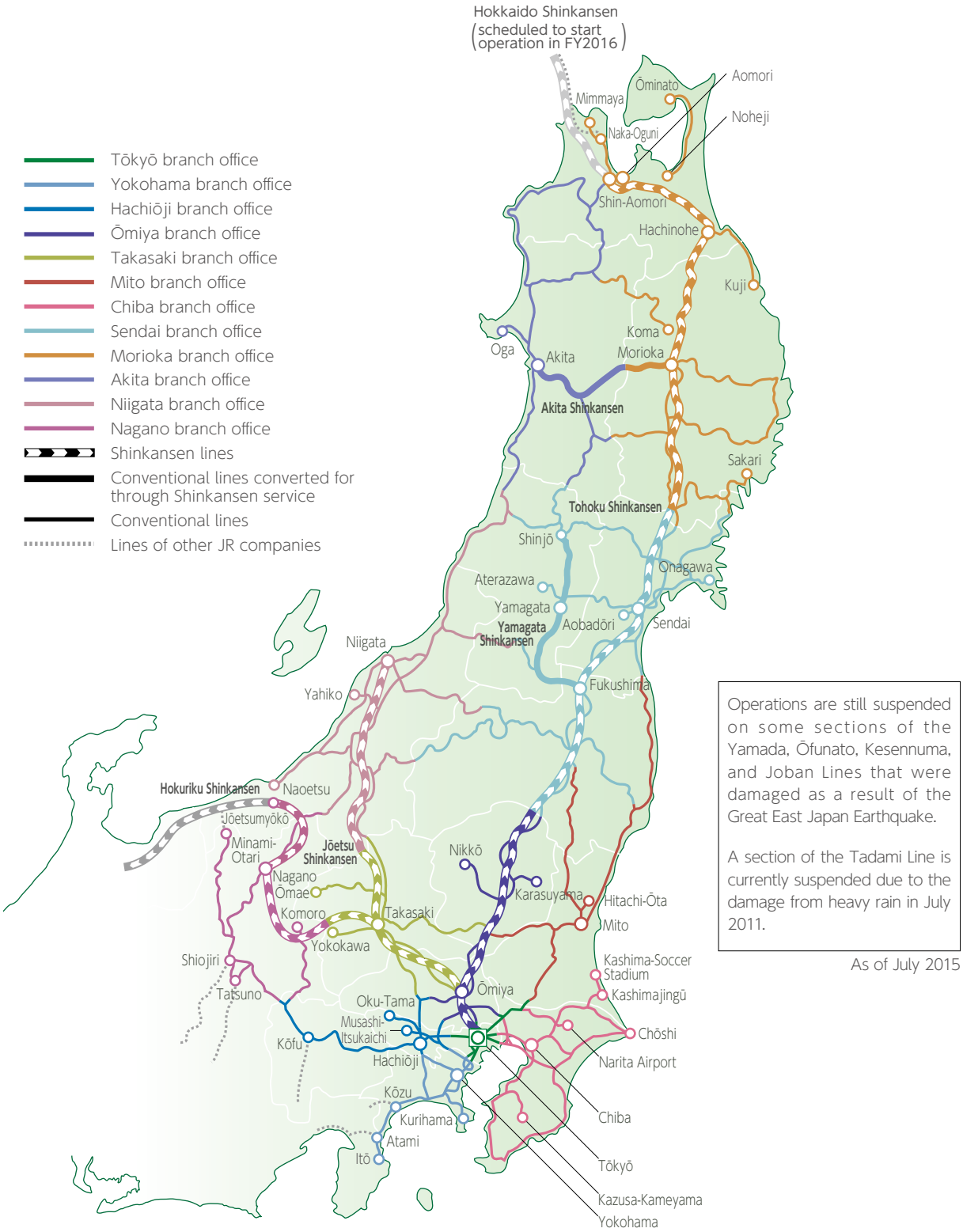
Year	Month	Environmental and social activities
1987	Apr.	Japanese National Railways divided, and East Japan Railway Company established. First Railway Safety Promotion Committee meeting held.
	Jun.	Green Campaign began. Green Counter (now renamed customer help desks) opened for receiving customer feedback.
1988	Sep.	Company-wide "Challenge Safety Campaign" launched.
	Dec.	ATS-P, an improved safety train-control system, installed on the Keiyo Line.
1989	Apr.	Safety Research Laboratory and General Training Center established.
1990	Sep.	"First Railway Safety Symposium" held.
	Oct.	"Future 21," a management plan for the twenty-first century, announced. "Ladies' Cars," cars exclusively reserved for female passengers, introduced on sleeping-car limited express trains.
1992	Mar.	East Japan Railway Culture Foundation established.
	Apr.	Committee on Ecology established.
	May	Trees planted to commemorate the 5th anniversary of JR East's founding (later, an annual event called "Railway Lines Forestation Program" began).
	Aug.	Waste collection sorted into three categories began on a trial basis at Sugamo Station on the Yamanote Line.
1993	Mar.	All-day smoking ban extended to major stations in the Tokyo suburban areas.
1994	Feb.	Ueno Station Recycling Center started operation (with automatic system for separating used cans from bottles).Waste collection sorted into three categories started at 36 stations on the Yamanote and other lines.
	Mar.	"Basic Safety Plan" announced.
1995	Feb.	Recycling of used train tickets began in the Tokyo metropolitan area.
	Mar.	First measure to reduce Shinkansen noise completed.
	Apr.	Ecology education for all new recruits initiated. "Train-ta-kun," a discount car rental service for train passengers, launched.
1996	Mar.	JR East website set up. Quantitative environmental targets set for CO_2 emissions and others. First annual Environmental Report published.
	Dec.	Autonomous Decentralized Transport Operation Control System (ATOS) became operational.
1997	Mar.	Recycling facility at Minami-Akita Operations Center started operation. Separate smoking zones established at all stations.Smoking banned on all local trains.
	Oct.	Recycling facilities at Nagano Shinkansen Rolling Stock Center and Tokyo Station started operation.
1998	Mar.	Second set of measures to reduce Shinkansen noise completed.
	Nov.	Shinkiba Recycling Center started operation (for separating used newspapers from magazines). JR East ranked as 27th on the list of world's most respected enterprises by Financial Times.
1999	Feb.	Safety Plan 21 announced. Niitsu Rolling Stock Plant acquired ISO14001 certification.
	Mar.	Omiya Recycling Center started operation (with automatic system for separating used cans from bottles).
	Apr.	Service managers deployed at some stations.
	May	Started utilizing copier paper recycled from newspapers collected at stations.
	Sep.	Information service on train operations made available by cell-phone.
2000	Apr.	JR East General Education Center established. Uniforms made from recycled PET bottles introduced.
	Nov.	Environmental targets revised with the announcement of New Frontier 21,the Group's medium-term management plan.
2001	Mar.	Oi Workshop, Kawasaki Thermal Power Plant, and Niigata Mechanical Technology Center acquired ISO14001 certification.
	Jul.	"Women-Only" cars for female passengers introduced on the Saikyo Line on a trial basis.
	Dec.	JR East Research & Development Center established.
2002	Feb.	Test runs of the AC Train, a next-generation commuter train, began. Omiya Workshop acquired ISO14001 certification.
	Sep.	Sustainability Report including social and economic aspects published.
	Nov.	Sendai General Rolling Stock Workshop acquired ISO14001 certification.
2003	Mar.	Third set of measures to reduce Shinkansen noise completed. "Guide to Barrier-Free Station Facilities" pamphlet distributed.
	May	Test runs of the NE Train, world's first hybrid railcar, began.
	Sep.	First JR East Group Environmental Management Promotion Conference held.
	Dec.	Koriyama Workshop acquired ISO14001 certification.
2004	Mar.	"Safety Plan 2008" announced.
	Apr.	"F Program" launched, with the aim of creating a better working environment for female employees.
	May	Adatara Hometown Forestation Program held.
2005	Jan.	Environmental targets revised with the announcement of "New Frontier 2008",the Group's medium-term management plan.
	Feb.	Nagano General Rolling Stock Center acquired ISO14001 certification.
	Jul.	Akita General Rolling Stock Center acquired ISO14001 certification. Customer Service Department established.
	Dec.	Office-wide JR East Eco Activities started at JR Hachioji Branch Office.
2006	Feb.	Disaster Prevention Research Laboratory established.
2007	Mar.	Smoking banned in all cars of Shinkansen and limited express trains.
	Jul.	World's first diesel hybrid railcars in commercial service, the Kiha E200 type, commenced operation.
	Oct.	Railway Museum opened.
2008	Mar.	"JR East Vision 2020 - *i do mu* -" announced.
	Jun.	Environmental targets revised.
2009	Mar.	2013 Safety Vision Announced.
	Apr.	Environmental Engineering Research Laboratory Established. Total ban on smoking in specified locations in the Tokyo metropolitan area.
2010	Jun.	Water intake restarted in Shinanogawa Power Station based on the "Permission of the use of river water." Platform doors installed at Ebisu Station on the Yamanote Line.
	Jul.	Environmental Management Promotion HQS established in the Corporate Planning Headquarters.
2011	Mar.	Operation of Tohoku Shinkansen, Hayabusa, started.
2012	Mar.	"Ecoste" Yotsuya Station began to be used.
	May	Reconstruction Planning Dept. established in the Corporate Planning Headquarters.
	Jun.	"Ecoste" Hiraizumi Station began to be used.
	Oct.	JR East Group Management Vision V - Ever Onward announced.
2013	Sep.	"Ecoste"Kaihinmakuhari Station began to be used.
2014	Feb.	Announced "JR Group Safety Plan 2018."
	Mar.	The EV-E301 Series railcar featuring storage-battery-driven electric car systems (ACCUM)started operations.
2015	Mar.	"Ecoste" Yumoto Station began to be used.
	Apr.	"Ecoste" Fukushima Station began to be used.

Former names are used for some facilities

History of Awards

Year	Month	JR East Group: History of Awards
1995	Oct.	Poster category at the 5th Awards for Environmental Advertisements and the Director of Environmental Agency's Awards (Organized by Japan Eco-Life Center)
1997	Apr.	6th Global Environment Award (Organized by Nihon Kogyo Shimbun in special cooperation with WWF Japan)
	Jun.	1st Environmental Action Plan Award and the Director of Environmental Agency's Awards (Organized by the National Association of Environmental Conservation and sponsored by the Environmental Agency)
	Nov.	Poster category at the 7th Awards for Environmental Advertisements and the Director of Environmental Agency's Awards (Organized by Japan Eco-Life Center)
1998	Apr.	1st Green Reporting Award Third Prize (Co-organized by Toyo Keizai Inc. and Green Reporting Forum)
2001	May	4th Green Reporting Award Third Prize (Co-organized by Toyo Keizai Inc. and Green Reporting Forum)
2005	Jan.	Grand Prize for Environmental Report in Environmental Report Category at Environmental Communication Awards 2004 (Organized by the Global Environmental Forum and sponsored by the Ministry of Environment)
2006	Dec.	2006 Environment Minister's Award for Global Warming Prevention Activity in two categories: countermeasure technology introduction and dissemination, and implementation of countermeasures (organized by the Ministry of Environment)
2007	Apr.	16th Global Environment Award Education, Culture, Sports, Science and Technology Minister's Award (Organized by Fuji Sankei Group in special cooperation with WWF Japan)
	Dec.	Environment Minister's Award for Global Warming Prevention Activities in the category of technological development and commercialization (organized by the Ministry of Environment) Eco Products Category Minister of Environment Prize in the 4th Eco Products Award (organized by the Eco-Products Awards Promotion Council; sponsored by the Ministry of Finance, Ministry of Health, Labour and Welfare, Ministry of Agriculture, Forestry and Fisheries, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Environment)
2010	Mar.	Environmental Management Award, Japan Creation Award 2009 (Japan Fashion Association)

Service Area



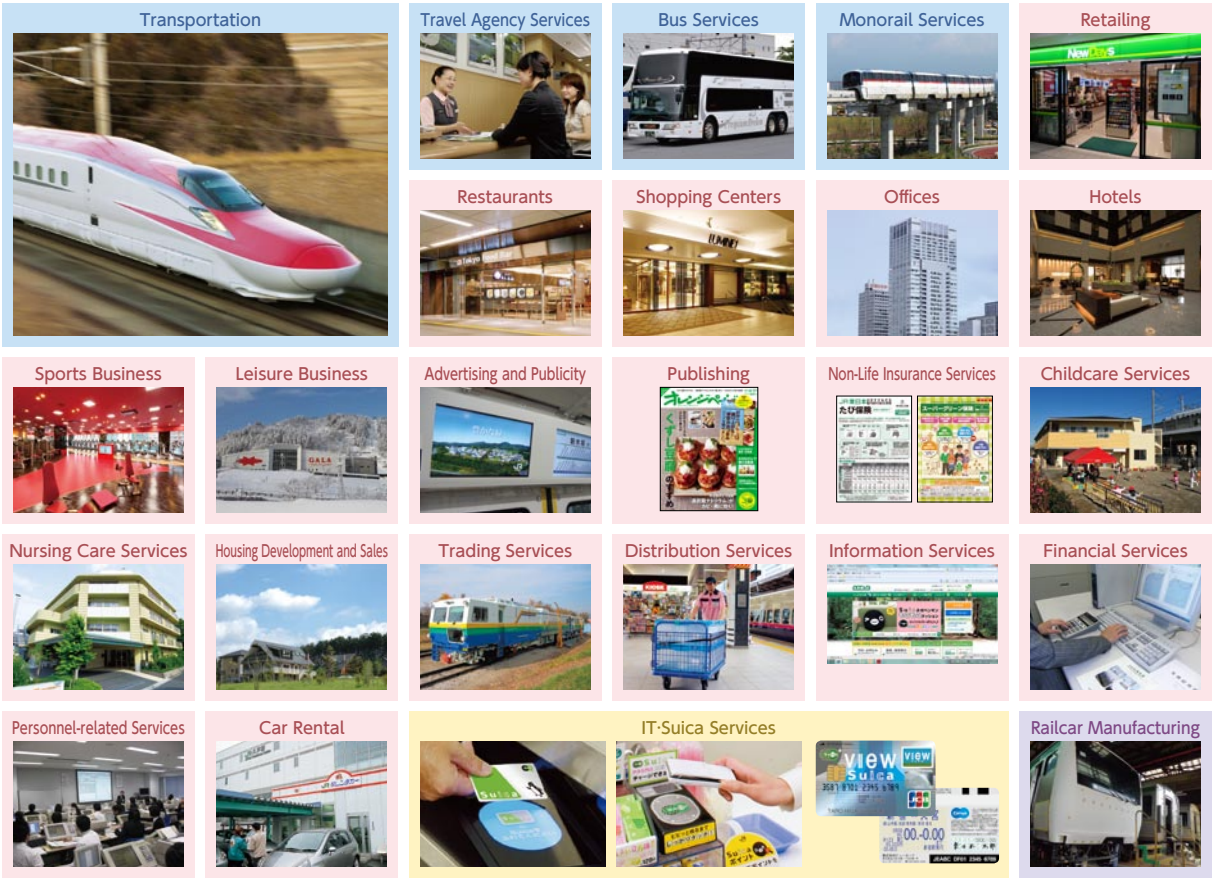
Operations are still suspended on some sections of the Yamada, Ōfunato, Kesennuma, and Joban Lines that were damaged as a result of the Great East Japan Earthquake.

A section of the Tadami Line is currently suspended due to the damage from heavy rain in July 2011.

As of July 2015

Passenger line network	Shinkansen lines: 1,194.2km Conventional lines: 6,264.0 km
Number of stations	1,665
Total number of trains in operation per day	12,416 (Timetable revised in March 2015)
Total number of passengers per day	approx. 17.00 million

Business Outline



Businesses of the JR East Group (as of July 1, 2015)

■ Transportation services

JR Bus Kanto Co., Ltd. / JR Bus Tohoku Co., Ltd. / Tokyo Monorail Co., Ltd.

■ Shopping center operations

Tetsudo Kaikan Co., Ltd. / atre Co., Ltd. / LUMINE Co., Ltd. / Yokohama Station Building Co., Ltd. / Shonan Station Building Co.,Ltd. / JR Chuo Line Mall Co., Ltd. / JR East Department Store Co., Ltd. / JR Tokyo West Development Co., Ltd. / Kinshicho Station Building Co., Ltd. / Chiba Station Building Co., Ltd. / JR East Aomori Business-Development Company Co., Ltd. / Tokky Co., Ltd. / Station Building MIDORI Co., Ltd.

■ Office operations

JR East Building Co., Ltd.

■ Hotel operations

Nippon Hotel Co., Ltd. / Sendai Terminal Building Co., Ltd. / Morioka Terminal Building Co., Ltd. / Akita Station Building Co., Ltd.

■ Retail shop and restaurant businesses

JR East Retail Net Co., Ltd. / Nippon Restaurant Enterprise Co., Ltd. / JR East Food Business Co., Ltd. / JR East Station Retailing Co., Ltd. / JR East Water Business Co., Ltd. / Kinokuniya Co., Ltd. / JR East Tohoku Sogo Service Co., Ltd.

■ Trading and logistics businesses

East Japan Railway Trading Co., Ltd. / JR East Logistics Co., Ltd.

■ Travel agent and car rental services

JR East View Travel Service Co., Ltd. / JR East Rental & Lease Co., Ltd.

■ Sports and leisure businesses

JR East Sports Co., Ltd. / GALA YUZAWA Co., Ltd.

■ Real estate management

JR East Urban Development Corporation

■ Information, financial, and personnel services

JR East Japan Information Systems Company / JR East Net Station Co., Ltd. / JR East Management Service Co., Ltd. / JR East Personnel Service Co., Ltd. / JR East Green Partners Co.,Ltd.

■ Credit card business

Viewcard Co., Ltd.

■ Advertising and publishing

East Japan Marketing & Communications, Inc. / Tokyo Media Service Co., Ltd. / The Orangepage, Inc.

■ Cleaning and linen supply services

JR East TESSEI Co., Ltd. / JR East Transportation Services Co., Ltd. / East Japan Eco Access Co., Ltd. / JR East Station Service Co., Ltd. /JR Takasaki Railway Services Co., Ltd. / JR Mito Railway Services Co., Ltd. / JR Chiba Railway Services Co., Ltd. / JR Technoservice Sendai Co., Ltd. / Morioka Railway Servicing Co., Ltd. / JR Akita Railway Services Co., Ltd. / JR Niigata Railway Services Co., Ltd. / JR Nagano Railway Services Co., Ltd. / JR Higashinihon Linen Co., Ltd.

■ Construction consulting and maintenance services

JR East Consultants Company / JR East Design Corporation / JR East Facility Management Co., Ltd. / JR East Mechatronics Co., Ltd. / Union Construction Co., Ltd.

■ Rolling stock manufacturing and maintenance

Japan Transport Engineering Company /JR East Rail Car Technology & Maintenance Co., Ltd.

■ Overseas railway consulting

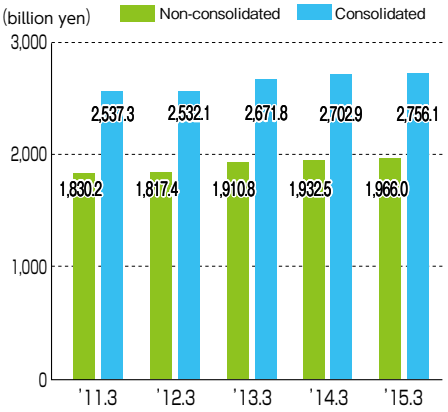
Japan International Consultants for Transportation Co., Ltd.

■ Generation and district heating and cooling

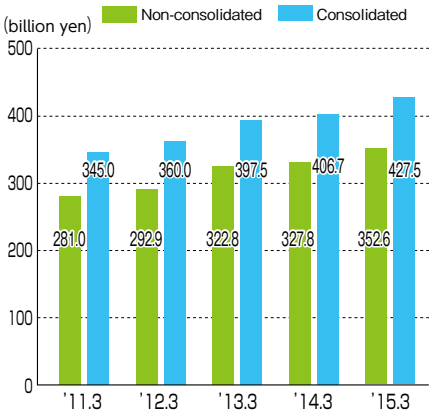
JR East Energy Development Co., Ltd / Shinjuku South Energy Service Co., Ltd.

Management Information

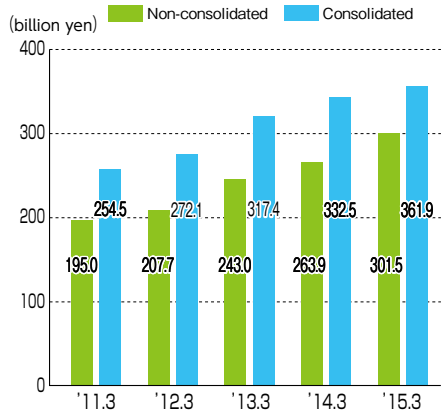
〈Operating Revenues〉



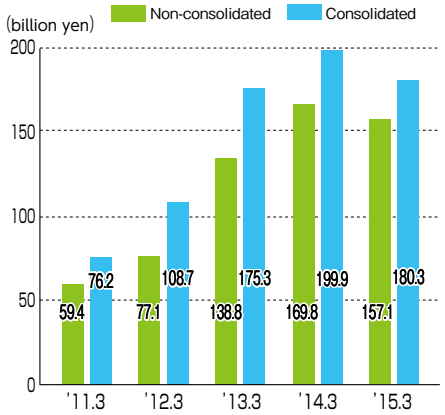
〈Operating Income〉



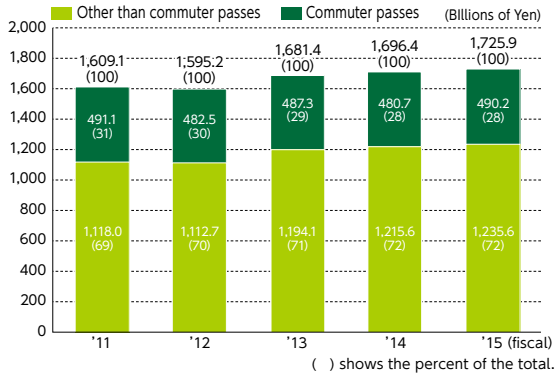
〈Ordinary Income〉



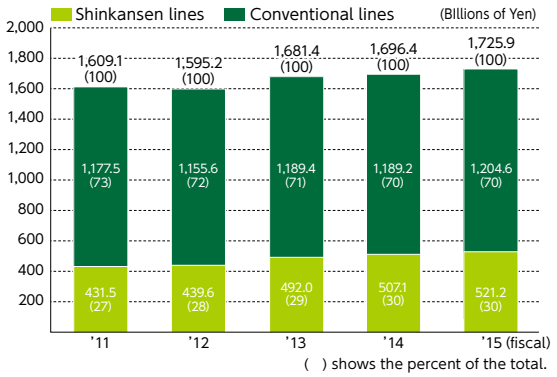
〈Net Income〉



Revenues from Passenger Tickets

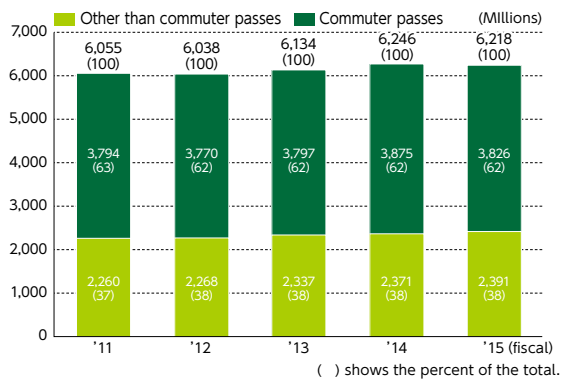


( ) shows the percent of the total.

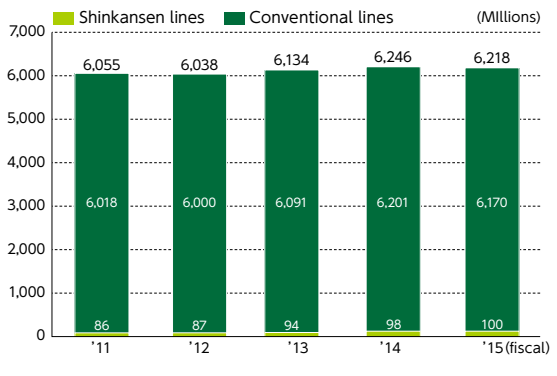


( ) shows the percent of the total.

Number of Passengers



( ) shows the percent of the total.



Note 1) Fractions of 100 million yen have been omitted.
Note 2) Fractions of 1 million passengers have been omitted.
Note 3) The sum of the numbers of passengers on the Shinkansen and conventional lines is greater than the passenger total because some individual passenger trips include both.

Consolidated Financial Statements for Fiscal 2015 (Year Ended March 31, 2015)

[Consolidated Balance Sheets]

(Millions of Yen)

	Fiscal 2015		Fiscal 2015
[ASSETS]		[LIABILITIES]	
Current Assets	**855,785**	**Current Liabilities**	**1,340,078**
Cash and time deposits	76,341	Notes and accounts payable-trade	49,850
Notes and accounts receivable-trade	422,432	Short-term loans and current portion of long-term loans	118,220
Fares receivable	40,014	Current portion of bonds	55,000
Short-term loans receivable	6,515	Current portion of long -term liabilities incurred for purchase of railway facilities	106,730
Securities	169,000	Payables	458,979
Real estate for sale	1,099	Accrued consumption taxes	41,836
Inventories	52,856	Accrued income taxes	51,772
Deferred income taxes	43,635	Fare deposits received with regard to railway connecting services	20,694
Other	45,557	Prepaid railway fares received	103,438
Allowance for doubtful accounts	△ 1,666	Allowance for bonuses to employees	71,226
Fixed Assets	**6,749,903**	Allowance for earthquake-damage losses	3,522
Property, plant and equipment, net of accumulated depreciation	**6,089,000**	Other	258,805
Buildings and fixtures (net)	3,043,240	**Long-Term Liabilities**	**3,960,636**
Machinery, rolling stock and vehicles (net)	736,600	Bonds	1,709,853
Land	1,991,792	Long-term loans	874,921
Construction in progress	254,958	Long-term liabilities incurred for purchase of railway facilities	438,475
Other (net)	62,407	Long-term deferred tax liabilities	4,073
Intangible assets	**126,085**	Allowance for earthquake-damage losses	1,236
Investments and other assets	**534,817**	Net defined benefit liability	16,547
Investments in securities	246,551	Other	701,730
Long-term loans receivable	2,992	**Total Liabilities**	213,796
Long-term deferred income taxes	218,974		**5,300,714**
Net defined benefit asset	410	NET ASSETS	
Other	66,615	**Shareholders' Equity**	**2,207,795**
Allowance for doubtful accounts	△ 726	Common stock	200,000
Deferred Assets	**1**	Capital surplus	96,833
Deferred business commencement expenses	–	Retained earnings	1,915,382
Deferred development expenses	1	Treasury stock, at cost	△ 4,420
		Accumulated Other Comprehensive Income	**77,862**
		Net unrealized holding gains (losses) on securities	68,415
		Net deferred gains (losses) on derivatives under hedge accounting	2,532
		Revaluation reserve for land	△ 483
		Remeasurements of defined benefit plans	7,398
		Minority Interests	**19,317**
		Total Net Assets	**2,304,976**
Total Assets	**7,605,690**	**Total Liabilities and Net Assets**	**7,605,690**

[Consolidated Statements of Income]

(Millions of Yen)

	Fiscal 2015
Operating Revenues	**2,756,165**
Operating Expenses	**2,328,643**
Transportation, other services and cost of sales	1,806,181
Selling, general and administrative expenses	522,462
Operating Income	**427,521**
Non-Operating Income	**20,858**
Interest income	152
Dividend income	3,602
Gains on sales of equipment	1,438
Insurance proceeds and dividends	8,203
Equity in net income of affiliated companies	3,134
Other	4,326
Non-Operating Expenses	**86,403**
Interest expense	81,961
Losses on sales of equipment	350
Other	4,090
Ordinary Income	**361,977**
Extraordinary Gains	**66,703**
Gains on sales of fixed assets	1,211
Construction grants received	59,205
Other	6,285
Extraordinary Losses	**113,379**
Losses on sales of fixed assets	2,088
Losses from disposition of fixed assets	3,957
Losses on reduction entry for construction grants	54,253
Impairment losses on fixed assets	12,738
Provision for allowance for partial transfer costs of railway operation	16,616
Other	23,725
Income before Income Taxes	**315,300**
Income Taxes	**107,540**
Current	**26,202**
Deferred	**133,742**
Income before Minority Interests	**181,558**
Minority Interests in Net Income of Consolidated Subsidiaries	**1,160**
Net Income	**180,397**

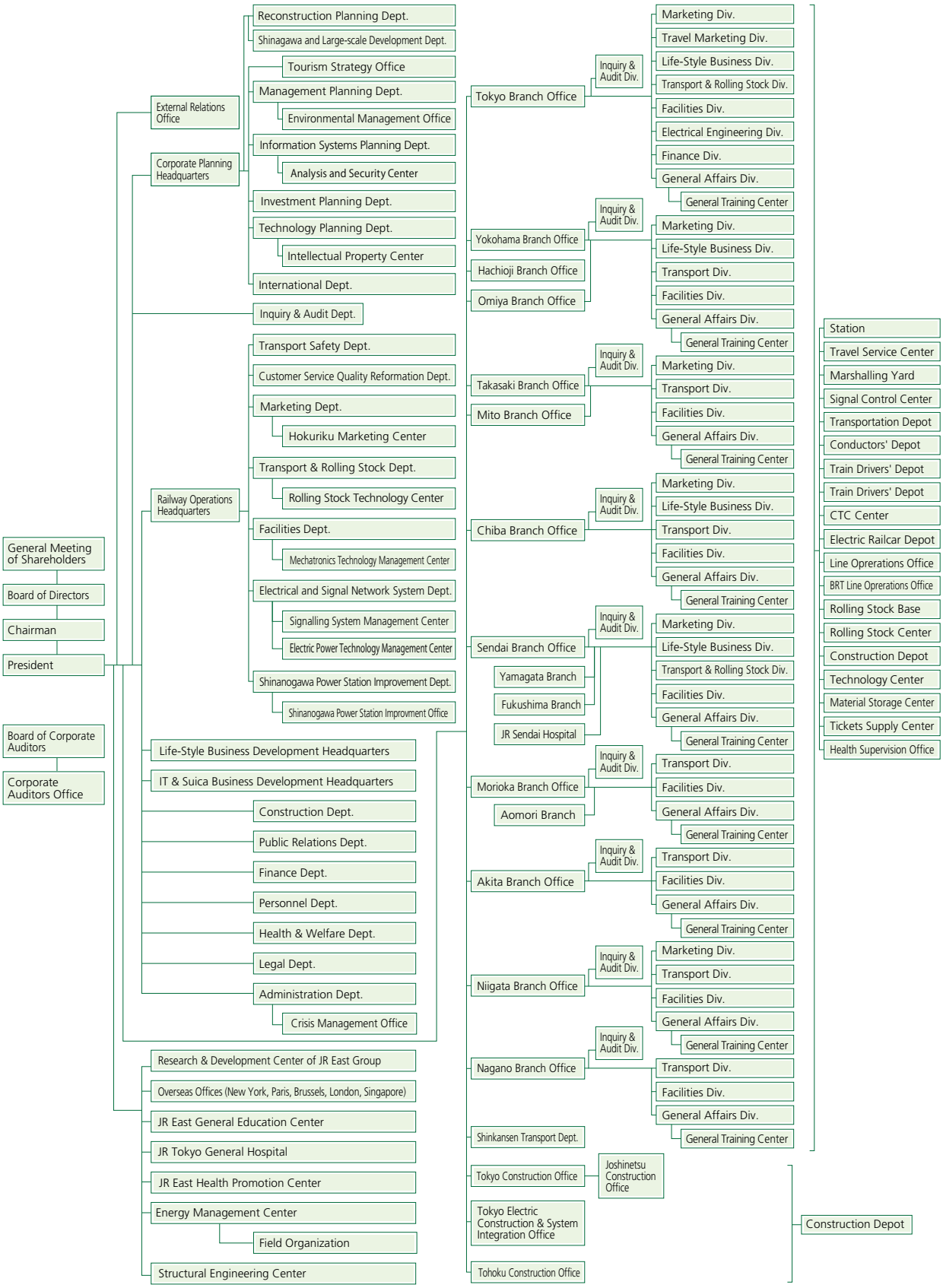
[Consolidated Statements of Cash Flows]

(Millions of Yen)

	Fiscal 2015
Cash Flows from Operating Activities	**622,762**
Income before income taxes	315,300
Depreciation	353,250
Impairment losses on fixed assets	12,738
Amortization of long-term prepaid expense	8,243
Net change in net defined benefit liability	△ 24,100
Interest and dividend income	△ 3,421
Interest expense	81,961
Construction grants received	△ 59,205
Insurance proceeds related to earthquake	△ 3,361
Losses from disposition of fixed assets	37,602
Losses from provision for cost reduction of fixed assets	54,253
Provision for allowance for partial transfer costs of railway operation	16,616
Net change in major receivables	△ 3,898
Net change in major payables	△ 28,181
Other	56,068
Sub-total	813,867
Proceeds from interest and dividends	4,160
Payments of interest	△ 82,204
Insurance proceeds related to earthquake	3,361
Payments of earthquake-damage losses	△ 3,060
Payments of income taxes	△ 113,362
Cash Flows from Investing Activities	**△ 476,844**
Payments for purchases of fixed assets	△ 503,746
Proceeds from sales of fixed assets	1,039
Proceeds from construction grants	33,749
Payments for purchases of investments in securities	△ 4,158
Proceeds from sales of investment in securities	4,729
Other	△ 8,457
Cash Flows from Financing Activities	**△ 86,636**
Proceeds from long-term loans	182,500
Payments of long-term loans	△ 123,006
Proceeds from issuance of bonds	120,000
Payments for redemption of bonds	△ 75,000
Payments of liabilities incurred for purchase of railway facilities	△ 121,209
Payments for acquisition of treasury stock	△ 11,319
Cash dividends paid	△ 47,271
Other	△ 11,329
Net Change in Cash and Cash Equivalents	**59,281**
Cash and Cash Equivalents at Beginning of the Year	**186,057**
Decrease in Cash and Cash Equivalents Resulting from Exclusion of Subsidiaries from Consolidation	**△ 597**
Increase in Cash and Cash Equivalents due to Merger	**429**
Cash and Cash Equivalents at End of the Year	**245,170**

Organization

As of July. 1, 2015

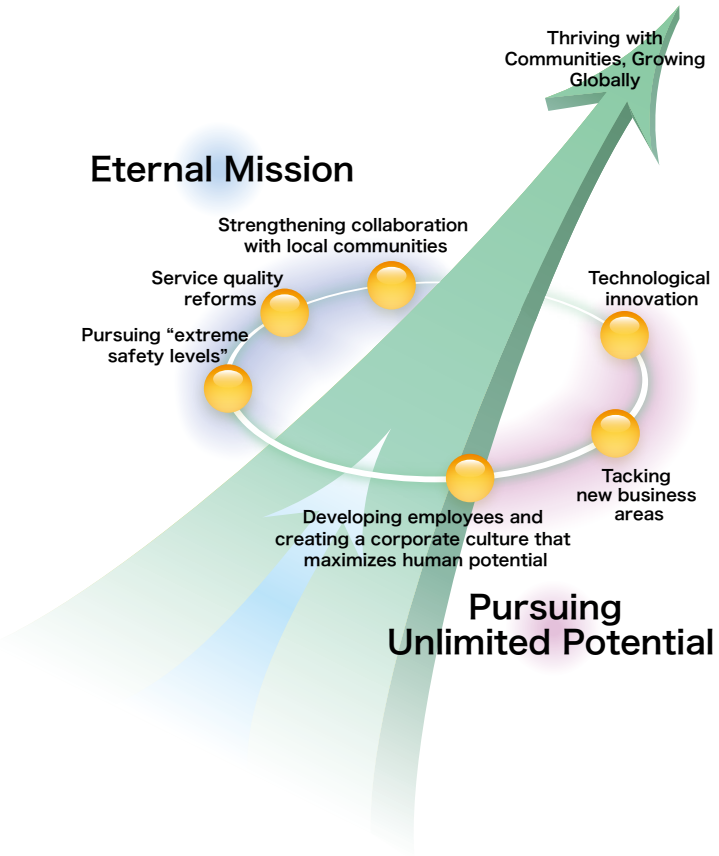


Key Aspects of JR East Group's CSR (Materiality)

In preparing this report, we have referred to the fourth edition of the Sustainability Reporting Guidelines (G4) which is global guideline. Below, we shall explain JR East Group's approach to key aspects of CSR (materiality).
Taking railway privatization and the Great East Japan Earthquake as starting points, we formulated Group Management Vision V: Ever Onward to re-consider the role that our corporate group should play in future and what we should aim for in order for the company to evolve. In addition to the basic concept, which defines the overall direction of our group, the document establishes the basic direction by identifying six key issues. These provide the basis of materiality for our company.

1. Pursuing "extreme safety levels"—building a railway capable of withstanding natural disasters
2. Service quality reforms—enhancing rail transportation network and other measures
3. Strengthening collaboration with local communities—supporting earthquake recovery, stimulating tourism, and revitalizing communities
4. Technological innovations—forming an energy strategy, using ICT, and operating at faster speeds
5. Tackling new business areas—globalization
6. Developing employees and creating a corporate culture that empowers people

We have identified six essential issues based on the basic concept and are seeking to realize continuous growth by implementing various measures aligned with our management environment. Group Management Vision V: Ever Onward, the medium-term management plan that presents these important issues, was developed in consultation with our top decision-making body, the board of directors, and has been published both internally and externally.



GRI Content Index

	Indicator		Relevant Pages in Reports	
			Website version	Print version
Standard Disclosures	Strategy and Analysis			
	G4–1	Provide statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	P4-P6 (Top Message)	P3,P4 (Top Message)
	Organizational Profile			
	G4–3	Report the name of the organization.	P2 (Corporate Profile)	P2 (Corporate Profile)
	G4–4	Report the primary brands, products, and services.	P122 (Business Outline)	P52 (Business Outline)
	G4–5	Report the location of the organization's headquarters.	P2 (Corporate Profile)	P2 (Corporate Profile)
	G4–6	Report the number of countries that the organization expands operations, owns important offices, and specially relates to the theme of sustainability listed in the report.	P81 (Special Topic 4)	—
	G4–7	Report the nature of ownership and legal form.	P2 (Corporate Profile)	P2 (Corporate Profile)
	G4–8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	P121 (Service Area)	P51 (Service Area)
	G4–9	Report the scale of the organization, including: •Total number of employees •Total number of operations •Net sales (for private sector organizations) or net revenues (for public sector organizations) •Total capitalization broken down in terms of debt and equity (for private sector •Quantity of products or services provided	P2 (Corporate Profile) P122 (Business Outline) P123 (Management Information) P124 (Consolidated Financial Statements for Fiscal 2015)	P2 (Corporate Profile) P52 (Business Outline) P53 (Management Information) P54 (Consolidated Financial Statements for Fiscal 2015)
	G4–13	Report remarkable changes regarding the scale of the organization, its structure and ownership, or supply-chain during reporting, including the following matters.	P121 (Service Area) P68, 69 (Special Topic 2)	P51 (Service Area) P30 (Special Topic)
	G4–16	List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: •Holds a position on the governance body •Participates in projects or committee. •Provides substantive funding beyond routine membership dues. •Views membership as strategic.	P78 (Global Contribution through International Institutions)	P36 (Global Contribution through International Institutions)
	Identified Material Aspects and Boundaries			
	G4–19	Report all important aspects identified in processes that contents of reports are ensured.	P126 Key Aspects of JR East Group's CSR (Materiality)	P56 Key Aspects of JR East Group's CSR (Materiality)
	G4–23	Report major changes in scopes applied to reports and boundaries of aspects since the former reporting term.	—	—
	Report Profile			
	G4–28	Reporting period (such as fiscal or calendar year) for information provided.	P2 (Reporting period)	P2 (Reporting period)
	G4–29	Last issue day of reports (if relevant).	P2 (Reporting period)	P2 (Reporting period)
	G4–30	Reporting cycle (such as annual, biennial).	(Back cover)	(Back cover)
	G4–31	Provide the contact point for questions regarding the report or its contents.	(Back cover)	(Back cover)
	G4–33	•Report the organization's policy and current practice with regard to seeking external assurance for the report. •If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. •Report the relationship between the organization and the assurance providers. •Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	P118 (Independent Assurance Report)	P50 (Independent Assurance Report)
	Governance			
	G4–34	•Report the governance structure of the organization, including committees of the highest governance body. •Identify any committees responsible for decision-making on economic, environmental and social impacts.	P16 (Railway Safety Promotion Committee) P107 (Environmental Management Structure) P113,P114(CSR Management)	P10 (Railway Safety Promotion Committee) P45,P46 (Environmental Management Structure) P48 (CSR Management)
	G4–36	Report existence of designation as executive-level officers or others responsible for themes of economics, environment and society, and existence of direct reporting to the highest governance body by those officers or others.	P16 (Railway Safety Promotion Committee) P107 (Environmental Management Structure) P113,P114(CSR Management)	P10 (Railway Safety Promotion Committee) P45,P46 (Environmental Management Structure) P48 (CSR Management)
	Ethics and Integrity			
	G4–56	Report the organizational values, principles, criteria and behavioral codes such as behavioral principles and ethical platforms	P3 (Group Principle, Behavioral Guideline) P115 ("Guideline for legal compliance and corporate ethics" and Corporate action plan")	P2 (Group Principle, Behavioral Guideline) P49 ("Guideline for legal compliance and corporate ethics" and Corporate action plan")
	G4–58	Report the internal and external mechanisms for reporting concerns about unethical orunlawful behavior, and matters related to organizational integrity, such as escalationthrough line management, whistleblowing mechanisms or hotlines.	P115 (Basic Concept of Compliance)	P49 (Basic Concept of Compliance)

	Indicator		Relevant Pages in Reports	
			Website version	Print version
Environmental	Aspects: Materials			
	G4–EN1	Materials used by weight or volume	P90 (JR East Group's environmental impact) P92 (JR East Energy flow map)	P39 (JR East Group's environmental impact) P40 (JR East Energy flow map)
	Aspects: Energy			
	G4–EN3	Energy consumption within the organization	P92 (Energy conservation and CO_2 reduction)	P40 (Energy conservation and CO_2 reduction)
	G4–EN5	Energy strength (basic unit)	P91 (Progress Report on Environmental Targets)	P40 (Progress Report on Environmental Targets)
	G4–EN6	Energy usage reductions	P91 (Progress Report on Environmental Targets) P92 (Energy System of JR East)	P40 (Progress Report on Environmental Targets) P40 (Energy System of JR East)
	Aspects: Emissions			
	G4–EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	P93 (Trends in JR East's Total CO_2 Emissions)	P41 (Trends in JR East's Total CO_2 Emissions)
	G4–EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	P93 (Trends in JR East's Total CO_2 Emissions)	P41 (Trends in JR East's Total CO_2 Emissions)
	G4–EN18	Strengths of greenhouse gas (GHG) emissions(basic unit)	P93 (Regarding self-employed thermal power plant)	P41 (Regarding self-employed thermal power plant)
	G4–EN19	Reductions of greenhouse gas (GHG) emissions	P93 (Trends in JR East's Total CO_2 Emissions)	P40,P41 (Trends in JR East's Total CO_2 Emissions)
	Aspects: Effluents and Waste			
	G4–EN23	Total weight of waste by type and disposal method	P90 (JR East Group's environmental impact) P98 (Recycling waste collected from-stations and trains) P98,P99 (Recycling at General Rolling Stock Centers) P99 (Reducing construction waste)	P39 (JR East Group's environmental impact) P42,P43 (Recycling at General Rolling Stock Centers)
	G4–EN24	Total number and amount of leakage causing significant impacts.	—	—
	Aspects: Products and Services			
	G4–EN27	Extent of impact mitigation of environmental impacts of products and services	P91 (Progress Report on Environmental Targets)	P40 (Progress Report on Environmental Targets)
	Aspects: Compliance			
	G4–EN29	Monetary value of significant fines and total number of non-monetary sanctions fornon-compliance with environmental laws and regulations	P108 (Compliance with environmental laws and regulations)	P46 (Compliance with environmental laws and regulations)
	Aspects: Overall			
	G4–EN31	Total environmental protection expenditures and investments by type	P109 (Compliance with environmental laws and regulations)	P47 (Compliance with environmental laws and regulations)
Social (Labor Protection and St. Decent work)	Aspects: Occupational Health and Safety			
	G4–LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, andtotal number of work-related fatalities, by region and by gender	P19 (Current state of employee accidents)	—
Society	Aspects: Local Community			
	G4–SO1	Rates of operational bases involved in engagement with local community, impactsassessment and promotion programs of communities.	P60-P62、P72-P77 (Society)) P121 (Service Area)	P27,P28,P32-P35 (Society) P51 (Service Area)
	Aspects: Corruption Prevention			
	G4–SO4	Communication and training regarding policies and procedures of fraudulence prevention	P115,P116 (Compliance)	P49,P50 (Compliance)
Social (Product)	Aspects: Customer Health and Safety			
	G4–PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	P34-P51 (Safety)	P16-P24 (Safety)
	Aspects: Product and Service Labeling			
	G4–PR5	Results of surveys measuring customer satisfaction	P61 (Customer Satisfaction Surveys)	—

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CSR Report 2015

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