



JR East Group

CSR Report 2017

Aiming for a Sustainable Society



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.

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	56,445 (as of April 1, 2017)

Reference guidelines

G4 Sustainability Reporting Guidelines
[Global Reporting Initiative]

References

Environmental Reporting Guidelines 2012
[Japan Ministry of the Environment]
Environmental Accounting Guidelines 2005
[Japan Ministry of the Environment]

Editorial Policy

The CSR Report 2017 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.

Reporting period

This report basically covers our activities from April 1, 2016 to March 31, 2017, although some events presented here happened earlier or in the period between the end of March 2017 and the publication of this report in October 2017.

Boundary of reporting

East Japan Railway Company
JR East Group (consolidated subsidiaries (67companies))
Economic report: JR East, consolidated subsidiaries, equity method affiliates (5 companies)
Environment report: JR East, consolidated subsidiaries
Social report: JR East, consolidated subsidiaries
Subsidiaries are listed on p.134.

This report has been written in accordance with the Core option of GRI's G4 Sustainability Reporting Guidelines. Furthermore, this report serves as a safety report required to be publicly announced by the Railway Business Act.

Figures in this report

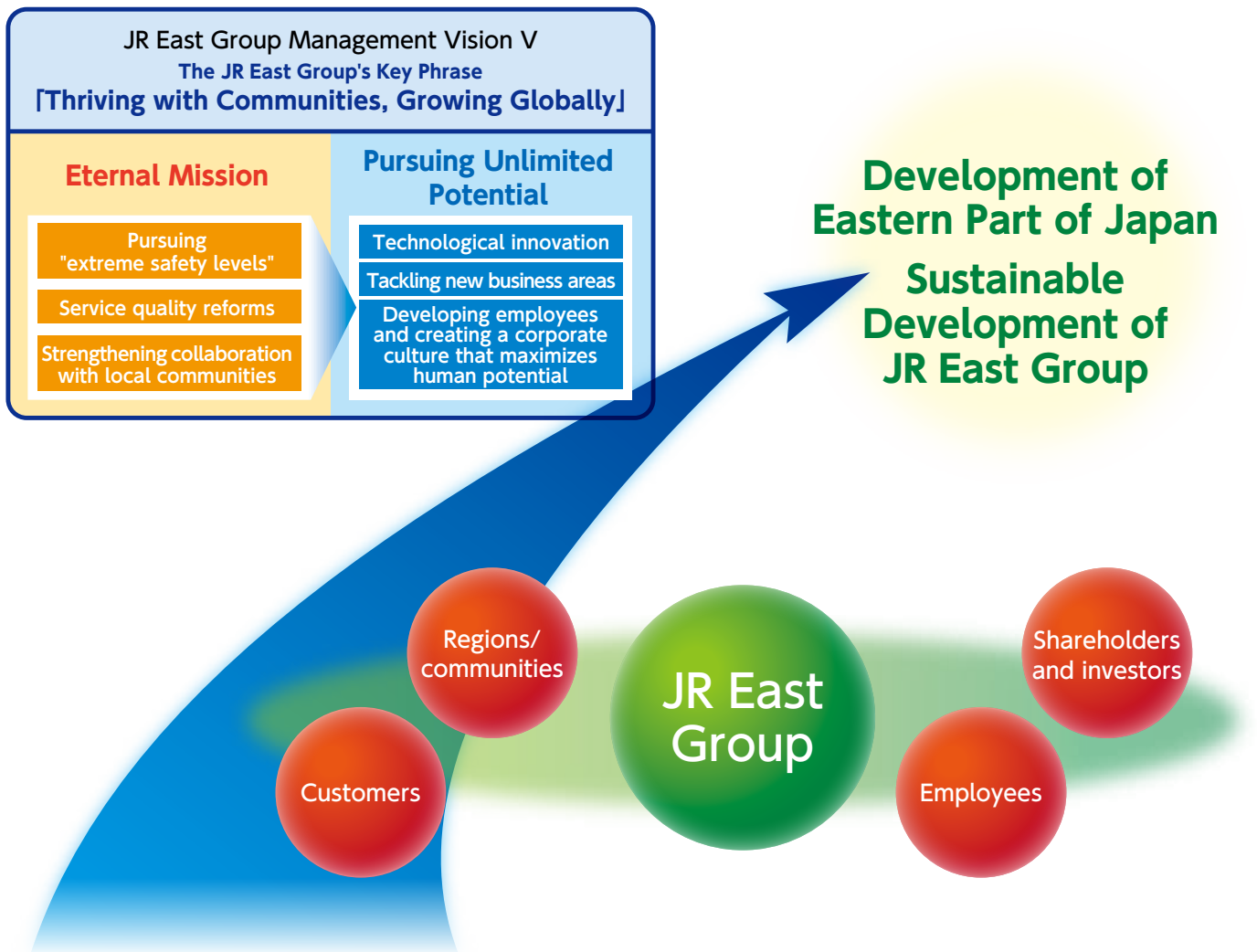
Totals may not match the sum of individual figures due to rounding.

JR East Group's CSR

~Basic Concept of CSR~

JR East Group offers railway services as one of the essential infrastructures for society and communities, and is involved in the many aspects of the daily lives of customers. As a company with a mission to offer services in the public interest, JR East Group aims to develop the eastern part of Japan through our business activities by maintaining the safety of railways and offering stable transport services.

One of our social missions defined in our Group Philosophy is to “aim to grow continuously while meeting our social responsibilities as a Trusted Life-Style Service Creating Group.” Based on our JR East Group Management Vision V – Ever Onward, JR East Group wishes to satisfy the trust that all our stakeholders place in us as a corporate group. We will achieve these goals by fulfilling our Eternal Mission as expected by our customers and people in communities, pursuing the Group's Unlimited Potential, and striving to realize our Group Philosophy on a daily basis.



Top Message

Since the foundation of the company following the privatization of Japanese National Railways (JNR), we have held the concepts “Customer First,” “Self-Reliance and Independence,” and “Close to Communities” to be the vital starting point of all our undertakings. At the same time, through the concerted efforts of all our employees, we have been striving to rehabilitate and revitalize railways since privatization. JR East Group has developed into a corporate group offering not only a Railway Business, but also various non-railway businesses including the Life-style Business and the IT & Suica Business. These non-railway businesses are now deeply rooted in the various aspects of our customers’ daily lives. We would never have been able to achieve this growth without the cooperation, understanding, and support of our customers, people in local communities, and all our stakeholders.

On the other hand, as for our future business environment, in the medium and long term, we are expecting various changes such as an even more decreasing and aging population as well as an increased concentration of the population in the Tokyo metropolitan area. Additionally, we also expect further advancements in technological innovation and globalization. Against this backdrop, JR East Group is facing various challenges such as system changes for our railways and a shifting of generations among our employees.

In October 2016, with these business issues in mind, once again we reminded ourselves of our roots since the company’s foundation and reconfirmed our support for the following priority group-wide tasks: Improving the safety and reliability of transportation, Taking on the challenge of enhancing profitability, and Promoting the slogan, TICKET TO TOMORROW.



Improve the safety and reliability of transportation

By making the improvement of the safety and reliability of transportation as one of our priority issues, we thoroughly investigate the risk and vulnerability of our railways and do our utmost to prevent the reoccurrence of transport-related accidents and incidents. Through the concerted efforts of all the employees of JR East Group, we will strive to achieve Ultimate Safety Levels and Service Quality Reforms.

Specifically, based on the Group Safety Plan 2018, to further deepen understanding of the true nature of each task, we will work to further improve safety as a whole Group by introducing further necessary facilities for more practical safety education and training for our frontline employees. Additionally, we will steadily implement measures against natural disasters such as earthquakes and heavy rain as well as against accidents at level crossings. Our efforts also include the installation of platform doors to prevent accidents on platforms. Moreover, we will reinforce electricity facilities for conventional lines in the Tokyo metropolitan area, while further strengthening security at our stations and onboard our trains.

Together with these safety measures, based on the Medium-Term Vision for Service Quality Reforms 2017, with the aim of offering stable transport services we will continue our efforts to improve the quality of our transport. Our endeavors include preventing failures in our ground facilities and rolling stock and strengthening our responsiveness at times of transport disruption by increasing the number of shuttle operations.

Taking on the challenge of enhancing profitability

Alongside efforts to improve the safety and reliability of transportation, we will fully capitalize on expansion of our railway network through the opening of the Hokkaido Shinkansen Line and also the commencement of operations for our cruise train TRAIN SUITE SHIKI-SHIMA. We also aim to further increase people flows including inbound tourist flows

from overseas, while continuing our tourism campaigns for the Tohoku region to promote restoration following the earthquake in 2011.

Furthermore, as future measures, we will steadily press forward with our plans for large-scale terminal stations such as Chiba, Shibuya, and Yokohama. Additionally, while renewing existing stores to offer greater additional value, we will revitalize local communities by developing line-side area brands that are chosen by our customers. Our efforts include the HAPPY CHILD PROJECT. Also, especially in the area around Shinagawa and Tamachi stations, mainly as part of our plan to temporarily open Shinagawa New Station (provisional name) in 2020, and while continuing our cooperation with related parties such as the national government and the Tokyo Metropolitan Government, we will bring these urban development plans to fruition. We hope to make this area a new gateway to Japan, making it an international hub with abundant appeal.

Promoting the slogan, TICKET TO TOMORROW

Based on our communication slogan, TICKET TO TOMORROW, JR East Group will respond to the expectations of our customers and people in local communities through regional revitalization and technological innovation, as well as participation in overseas railway projects. Additionally, by tackling global environmental issues, we will offer high-quality services.

Specifically, as a part of our efforts in regional revitalization, we will work on the sixth sector industrialization of the agriculture, forestry and fishing industries, to include food processing, logistics, and marketing and urban development of rural core stations such as Akita. Furthermore, based on our Mid-to-Long term Vision for Technological Innovation ("JR-EAST Innovation Vision"), by actively utilizing technologies such as the IoT (Internet of Things) and AI (artificial intelligence), we will continue to meet the challenge of revolutionizing mobility by accelerating our efforts in open innovation and building innovation ecosystems. Moreover, by utilizing our knowhow in rolling stock manufacturing, maintenance, and train operations, we will expand the overseas aspect of our Railway Business. Through the global development of our businesses, we are actively endeavoring to increase the range of business areas open to our employees and to expand on opportunities to foster globally competitive individuals.

In response to the Paris Agreement at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21) in December 2015, JR East has set targets for its core railway business. By FY2031 we aim to reduce energy consumption by 25% and CO₂ emissions by 40% from FY2014 levels. To meet these goals, we are studying the possible introduction of smart grids with power storage systems and automatic energy-saving train control systems.

Toward the future

This year, we are celebrating the 30th anniversary since our foundation. By taking this year as a new starting point, while at the same time returning to our original targets of "Customer First," "Self-Reliance and Independence," and "Close to Communities," we see these changes in the business environment as a chance to revolutionize ourselves to overcome challenges and embrace new possibilities. To further respond to the expectations of our customers, people in local communities and all stakeholders, JR East Group is committed to continuing in its endeavors to move Ever Onward.



September 2017
President and CEO

Tetsuro Tomita

JR East Group Management Vision V—Ever Onward

In October 2012, JR East formulated a management vision entitled “JR East Group Management Vision V—Ever Onward” and set forth a management policy for “Thriving with Communities, Growing Globally.” Based on this, JR East has made efforts to meet the expectations of customers and local communities by fulfilling its “Eternal Missions” and taking on the ongoing challenge of pursuing the “Unlimited Potential” of its railway network. To accelerate the realization of this “JR East Group Management Vision V” the company has reviewed the progress on an annual basis under “Priority Initiatives Going Forward” and makes regular updates to all initiatives. As its priority group-wide tasks, JR East has set three new initiatives and updated its measures for : Improving the safety and reliability of its transportation, Taking on the challenge of enhancing profitability, and Promoting its slogan, TICKET TO TOMORROW: Tickets to tomorrow for each and every one of us.

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.

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

◆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.

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.



JR East Group Management Vision V: Priority group-wide tasks

To accelerate the realization of “JR East Group Management Vision V,” the company reviews progress on an annual basis under “Priority Initiatives Going Forward” and makes regular updates to all initiatives. In October 2016, as part of its priority group-wide tasks, JR East updated its measures and set three new initiatives:

◆Improve the safety and reliability of transportation

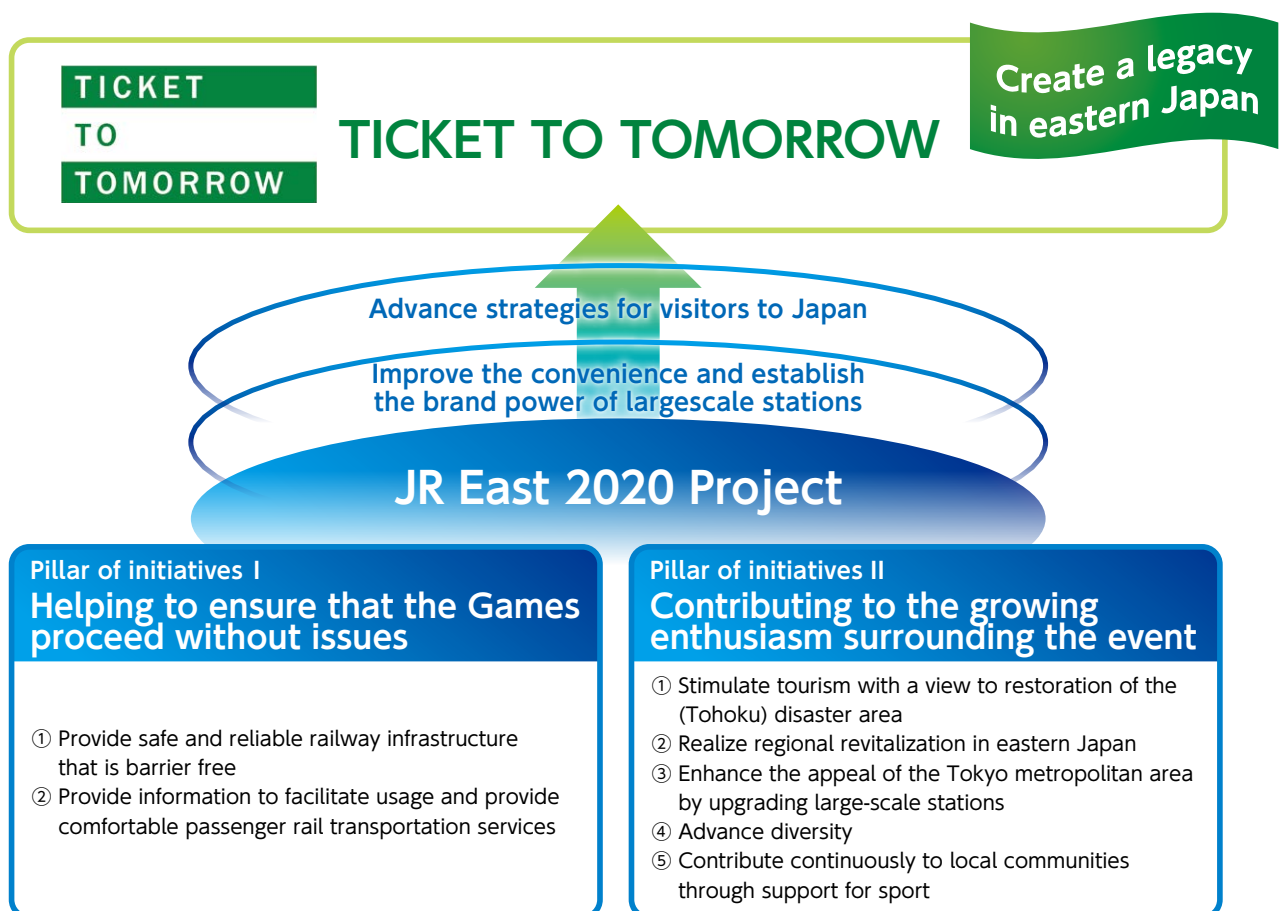
JR East Group faces internal and external “change points,” including changes in railway systems, the increasingly flat division of work, and the rapid transition to the next generation. In light of these, JR East will proactively solve issues by strengthening related equipment and facilities and revising safety education and training.

◆Take on the challenge of enhancing profitability

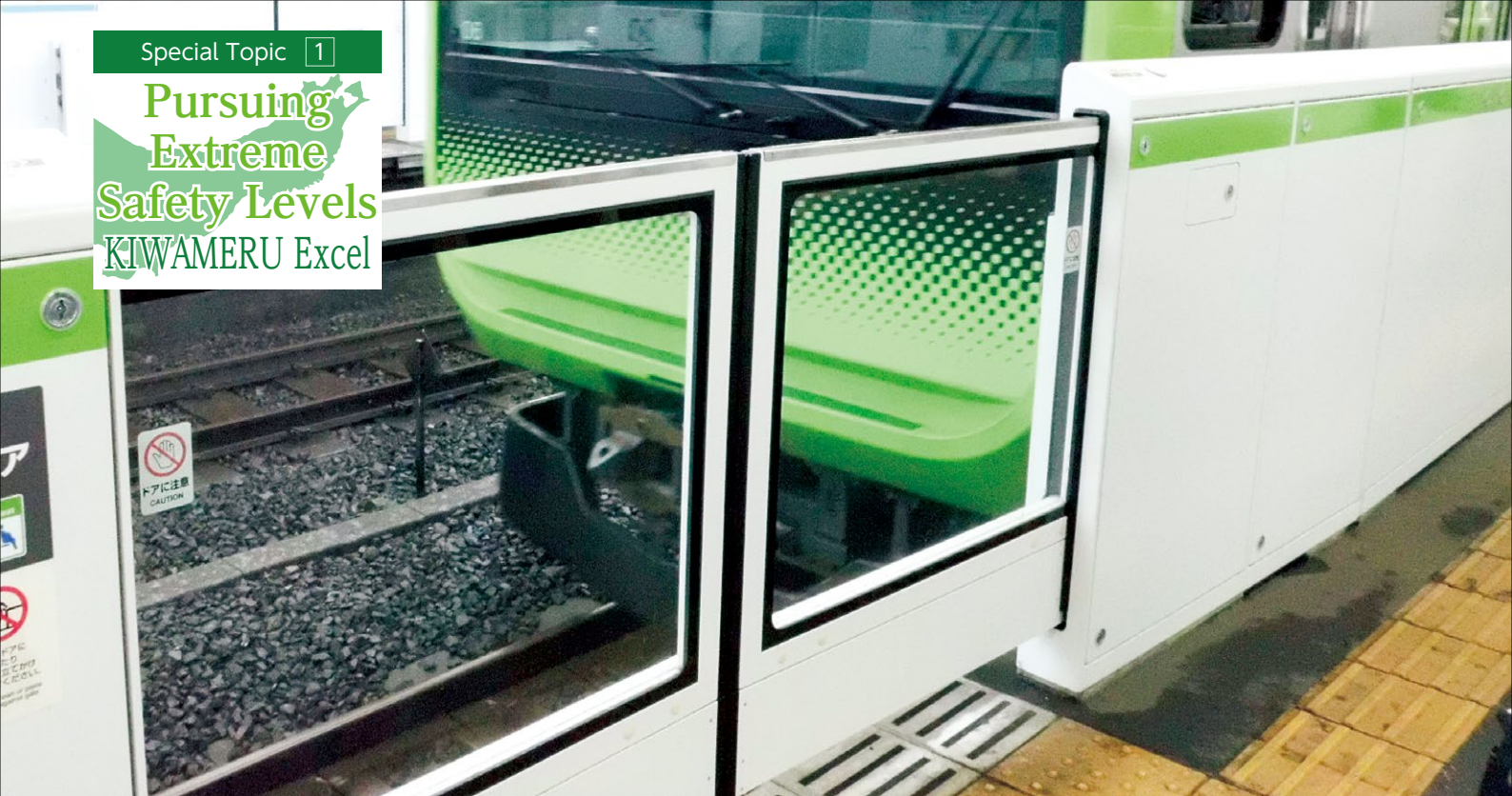
Given the realization of projects such as the opening of the Hokkaido Shinkansen line to expand the railway network as well as the completion of JR SHINJUKU MIRAINA TOWER, the JR East Group will further improve the added value for our customers by taking on the challenge of maximizing operating revenues.

◆TICKET TO TOMORROW: Tickets to tomorrow for each and every one of us

Based on the “TICKET TO TOMORROW” communication slogan, the JR East Group will advance concerted initiatives aimed at providing high-quality services to meet customers’ expectations and creating a legacy for society beyond 2020. Each and every one of our employees will make the most of these changes by utilizing them as opportunities and continue to meet the challenge of revolutionizing ourselves not only in the railway business but in all of our businesses.



Pursuing
Extreme
Safety Levels
KIWAMERU Excel

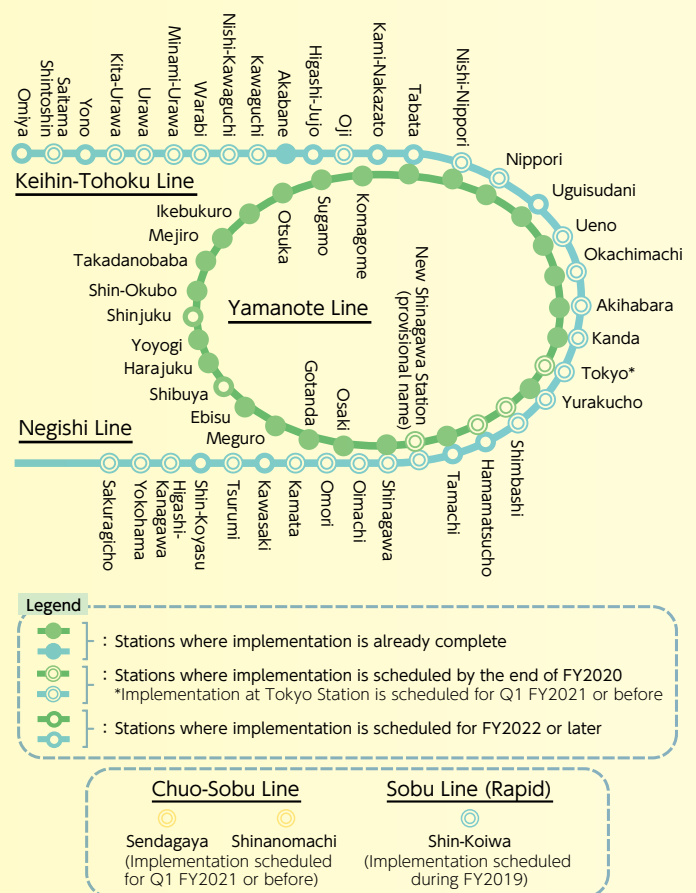


Progress of Automatic Platform Door Implementation

As a measure to prevent passengers coming into contact with trains on station platforms or falling off the platform edge onto the railway tracks, JR East began introducing automatic platform doors and dot-braille blocks that indicate which direction is away from the edge of the platform on the Yamanote Line and other lines. We are continuing to move forward with the installation of automatic platform doors at various stations in order to further improve platform safety.

◎Overview of Automatic Platform Door Implementation Plan

We began introducing automatic platform doors at all stations on the Yamanote Line in 2010. Excluding those stations where upgrades are scheduled, installation has been completed at 24 of 30 stations, including New Shinagawa Station (provisional name). Installation will be done at Shimbashi, Hamamatsucho, and New Shinagawa Station (provisional name) FY2020 and at Tokyo Station by Q1 of FY2021. Doors will be introduced at Shinjuku and Shibuya Station in FY2022 or later. We have also decided to proceed with the introduction of automatic platform doors at a total of 37 stations on the Keihin-Tohoku Line and Negishi Line between Omiya and Sakuragicho. By the end of FY2020, the work will be complete at 26 stations, while implementation at Tokyo Station will take place by Q1 of FY2021. Doors will be introduced at the remaining 10 stations in FY2022 or later. In addition, installation work will be undertaken at Shin-Koiwa Station on the Sobu Line (Rapid) with the aim of starting use by the end of FY2019 and at Sendagaya Station and Shinanomachi Station on the Chuo-Sobu Line (the closest stations to the New National Stadium), with the aim of starting use by Q1 of FY2021. Based on this implementation plan, 58 conventional line stations should be equipped with automatic platform doors by Q1 of FY2021.



◎Smart platform doors®

An issue with expanding the installation of automatic platform doors is the considerable cost and the amount of time required to perform the work. In order to address this issue, we have tried and tested the introduction of “smart platform doors®” (developed by JR East Mechatronics Co., Ltd.), a new type of door that makes it possible to lower costs and shorten work periods while ensuring the same robustness and safety as the automatic platform doors introduced on the Yamanote Line and other lines.

After installing the new doors for a single train car at Machida Station on the Yokohama Line in December 2016 and making improvements to problems that occurred during the initial stage, we expanded the smart platform doors to cover an entire train-set in July 2017. We will proceed with testing the safety and reliability of the equipment with a view to rolling it out to other stations in future.

VOICE



Takuya Sakata

Platform Doors Group
Mechatronics Technology Management Center, Facilities Dept. (Head Office)

As the person in charge of equipment specification decision-making, implementation plan development, and so forth for automatic platform doors aimed at ensuring safe station platforms, I work to develop doors that will provide peace of mind to passengers. Automatic platform doors are essential safety-related equipment, and I feel a great sense of responsibility and fulfillment in my daily work through contributing to passenger safety and stable transportation by train.

The considerable cost and amount of time required to perform the work are issues with installing automatic platform doors, and we rack our brains every day thinking about how to create doors that will be less expensive and take less time to install while still ensuring safety. When we're deciding on specifications, we receive various suggestions from our partner companies; however, adding new functions can lead to operating errors by staff or equipment malfunctions, resulting in increased costs. We therefore strive to develop specifications that are simple and user-friendly. What's more, besides developing equipment that is easy to install on site, we also need to bear in mind issues such as maintenance and replacement of aging equipment, since automatic platform doors cannot be eliminated once they are introduced.

We are now proceeding with the installation of doors in order to enhance station platform safety, and going forward, we intend to consider applicability criteria for automatic platform doors based on station conditions, including development of doors for stations where the car door positions vary for different kinds of trains, such as commuter trains and express trains, and we will also work to increase the pace at which they are installed.

If automatic platform doors are installed at a station you use regularly, I hope you will stop for a moment to take a closer look at them.



Eijiro Shimata

Manager, Platform Door Systems Division
JR East Mechatronics Co., Ltd.

As a type of equipment that protects the safety of passengers using train stations, automatic platform doors have attracted the interest of the public, who would like them to be introduced rapidly. There are various issues involved in the installation of these doors, such as the cost and the length of the work. We have a role to play in resolving these issues and promoting rapid implementation. It is rewarding to be able to make a contribution to the installation of the doors, which help ensure the safety and satisfaction of many passengers.

I am also involved in the development of smart platform doors®. The aim of these doors is to perform the functions required to prevent accidents such as falls or contact with trains using a structure and system that are as simple as possible, in order to keep costs down, and we are working on their development while also focusing on making them safer and more reliable.

Implementing smart platform doors® that are relatively inexpensive and easy to install compared to conventional platform doors should help make the use of platform doors more widespread. We intend to verify the results of the trial currently under way at Machida Station and then make improvements, with the aim of eventually introducing smart platform doors® at many stations.



See p. 41 and p. 42 for a related feature. ⬇

◎Information provision when service interruptions occur

○Rapid announcement of expected transportation service resumption times

When trains are delayed significantly, we make efforts to announce expected transportation service resumption times, which is important information that helps passengers decide their next step. In particular, for accidents resulting in casualties in the Tokyo metropolitan area, we are able to anticipate expected transportation service resumption times based on past experience, and we have striven to announce this information rapidly.

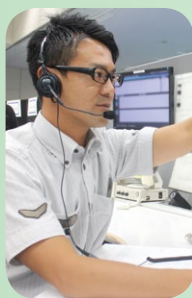
However, many passengers have expressed a desire for information to be provided in a more timely manner. In light of this feedback, starting in April 2017, we began rapidly providing expected transportation service resumption times throughout all JR East service areas in events other than casualties that involve suspension of operations as well. In some cases, such as transportation disorder due to natural disaster, it is difficult to make rapid announcements, but going forward, we will continue our efforts to provide more timely information.

○Enhancing service information provision

We provide information when transportation disorder occurs using our JR EAST APP and Doko-Train service. In March 2017, we expanded the railway sections covered by our conventional line train location information services (Ome Line from Tachikawa to Ome, Itsukaichi Line) and started information provision for Shinkansen lines as well (e.g., expected start and arrival times).

In February 2017, we expanded the railway sections covered by the Doko-Train operation information service (Sagami Line, Ito Line). At present, the service is provided for a total of 48 railway sections, including the Kanto and Joshin-etsu areas. In addition to guidance provided by station personnel and conductors, we are working to expand our train operation information capabilities through initiatives such as these apps in order to help passengers decide by themselves what to do next.

VOICE



Atsushi Ichikawa

Tokyo General Operation Center, Transport & Rolling Stock Div. Tokyo Branch Office

As train dispatchers, we always consider safety to be the top priority when carrying out our work.

During transportation interruptions, with the aim of preventing their impact from spreading, we work closely with staff on the ground to maintain service quality—for example, by maintaining through service on the Ueno-Tokyo Line by temporarily running trains on tracks that they do not normally use, or by implementing turn-back operations in order to ensure transportation capacity on sections where there is no service interruption.

The job is especially rewarding on those occasions when we are able to minimize the impact of delays on passengers by rapidly making transportation arrangements after properly ensuring that it is safe to do so.

I believe that teamwork is essential to dispatching work. In order to ensure that all dispatch personnel are rowing in the same direction when making transportation arrangements during service interruptions, we try to improve our knowledge and skills through OJT and simulation-based training. When sending dispatches via wireless communication, we also strive to provide clear, concise, easy-to-understand information.

Going forward, the entire Tokyo General Operations Center team will continue working to make transportation arrangements that give passengers peace of mind by enabling them to safely reach their destination.



Akina Yoshino

Section Employee, Customer Service Quality Reformation Dept. Takasaki Branch Office

With the aim of improving transportation quality, my job involves working to prevent service interruptions and rapidly restore service when they occur, in order to ensure safe, stable transportation. Every day, it gives me a sense of dedication and fulfillment when our ideas and plans to prioritize what is best for passengers have a direct impact on them through the transportation services we provide.

To implement turn-back facilities, we have developed a plan based on passenger feedback that enables everyone's work to proceed smoothly through coordination with station staff, train crews, and contract personnel while also monitoring the current status of problems and following up on them. We have also made efforts to share information through visualization measures that digitalize the results.

In addition, since it requires considerable time and labor to restore service after a transportation interruption occurs, we analyze the incident details and identify the key points for rapid resumption of service, and we share that information with all personnel, including those on the ground, while implementing turn-back operations.

Going forward, we will aim to think even more carefully about implementing facility- and service-related measures based on what we would feel and think if we were passengers using JR East's services, and as part of Japan's social infrastructure, we will try to provide convenient, comfortable services to passengers and people throughout each region.

See p. 57 and p. 58 for a related feature. ↓



Conveying the Appeal of JR East Areas and Helping to Revitalize Regions

TRAIN SUITE Shiki-shima Begins Operation

Launched in May 2017, the purpose of TRAIN SUITE Shiki-shima is to take passengers on a journey that showcases the unique charms of train travel and further enhances their enjoyment by providing them with a luxurious on-board space. It reveals and enhances the appeal of different regions and creates connections with them by enabling travelers to experience the hospitality of locals as well as the cruise train.

◎The TRAIN SUITE Shiki-shima Travel Concept

We express the travel concept behind TRAIN SUITE Shiki-shima using the phrase “journeys to discover hidden depth.”

Eastern Japan, including the Tohoku area served by JR East, is a region that changes markedly from season to season. It is a place where subtle pleasures to be found amid the power and beauty of the landscape.

Accordingly, with TRAIN SUITE Shiki-shima, we are providing travelers with destinations and “journeys to discover hidden depth” that enable them to enjoy new experiences never known before, including Japan’s abundant natural beauty and the traditional industries and culture that are an integral part of daily life in each region, while relaxing and appreciating the changing scenery as only those on board a train can.

Unlike a conventional train journey, which is mainly a means of transporting you to your destination, TRAIN SUITE Shiki-shima is a new type of service: a “cruise train” that departs from Ueno, travels around east Japan and Hokkaido, then brings passengers back to Ueno.



Train interior furnished with hand-woven Yamagata carpeting

◎Appreciating the charms of eastern Japan

The locations that we have selected for TRAIN SUITE Shiki-shima are destinations which possess highly appealing tourism resources and are equipped to handle a steady influx of visitors, thanks to their experience in tourism development (including the destination campaigns run in collaboration with different regions), enabling travelers to have high-quality experiences. The tourism options available at these destinations have been further enhanced so that TRAIN SUITE passengers can enjoy unique encounters and discoveries. What's more, through PR activities that promote the regions as destinations visited by TRAIN SUITE Shiki-shima, we hope to create a ripple effect that will encourage other customers to visit them as well. With regard to dining, which is an integral part of the travel experience, passengers can savor the distinctive, seasonal tastes of each region, and we have made extensive use of local products from different parts of eastern Japan for everything from the interior decor of the cars to on-board items like yukata and dishware.



The Sannai-Maruyama site
— one of the destinations visited
by the train



Hands-on experience at a
workshop making Bunaco
products (Aomori), which are also
part of the on-board furnishings



Akita mokko, which is also part of
the on-board furnishings



Dishes prepared using ingredients
from various regions of eastern
Japan: Sekimura beef (Iwate,
Miyagi), black garlic (Aomori),
iburi-gakko smoked pickles (Akita),
etc.

◎Building bridges with regions

Locals in each region provide ongoing support for this initiative, greeting and bidding farewell to travelers at each stop and along the track, which is one of the reasons why passengers find the journey so rewarding. TRAIN SUITE Shiki-shima has helped to promote interaction between passengers and locals: some regions, for example, are later sent heartfelt letters of gratitude from visitors for the greeting and send-off they received. We hope that operation of Shiki-shima will continue to serve as a bridge that makes each region stronger in future.



Letter of welcome from local children



Welcome at Aizu-Wakamatsu Station



Send-off at Atsumi Onsen Station

VOICE



Michiko Ozawa

Train Manager, View
Travel Service Co., Ltd.

As train manager, my role is to create an environment that enables passengers to enjoy traveling, to ensure effective communication between team members, and to coordinate tasks so that they are able to concentrate on their work. Collaboration with conductors also plays an important role in day-to-day operation. We work together toward a common goal: offering a safe, memorable trip for passengers on board Shiki-shima through sharing information about the train's operation as well as detailed information about the passengers.

I hope that, through my daily work, customers and people in different regions will be able to build stronger connections via TRAIN SUITE Shiki-shima. Passengers often talk about how touching it is to see people along the track waving to them and responding with a smile and a wave of their own and to receive such remarkable hospitality at each station, saying it's an experience that can only be had on board Shiki-shima.

The passengers also say that they greatly enjoy their encounters with locals, so in future, we would like to increase the opportunities for interaction. We would also like to visit even more places and enable many people in different regions to experience the dynamism that TRAIN SUITE Shiki-shima creates when it passes through. Additionally, I hope our presence will help inspire and energize the children who are the future of these regions.



Tasuku Hiramatsu

Deputy Manager,
Cruise Train-TRAIN SUITE
SHIKI-SHIMA-Section
Sales Dept. Head Office

During the four years before Shiki-shima started operation, I was involved in determining the travel route and the details of providing tourist attractions, dining, and services to passengers.

After the train began operation, I would see passengers get off with tears in their eyes once they returned to Ueno, and many customers have sent us letters of appreciation or reserved another trip on the train, which makes me really happy. I have two roles when it comes to TRAIN SUITE Shiki-shima. First, I have to provide passengers with a travel experience unlike any they've ever had before. Second, I have to make sure that people in different regions look forward to the train's visits.

We are leveraging TRAIN SUITE Shiki-shima to promote the appeal of the eastern Japan region to passengers, and our aim is for passengers to share the experiences they had on the journey with people they know and thereby attract new customers. This domino effect should help to further enhance the reputation and develop the brand of each area. We use the phrase "building bridges with regions," and it is truly our hope that TRAIN SUITE Shiki-shima will serve as a bridge connecting regions with other regions and with the JR East Group.



Uetsu Main Line (Michikawa-Shimohama)
JR Akita Shimohama Wind Power Station
Generated power : approx. 2-MW
(Started operation December 2016)

Regional Power Generation Facilities Leveraging Favorable Wind Conditions

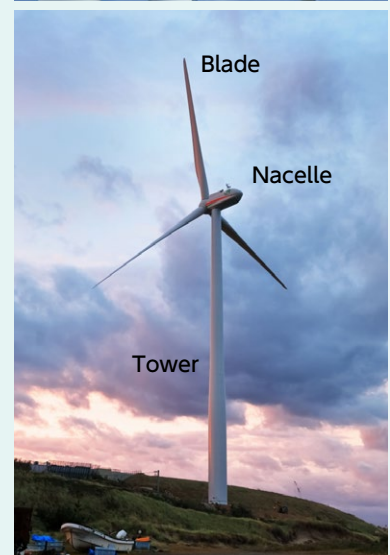
JR Akita Shimohama Wind Power Station Begins Operation

JR East is aiming to create environmentally friendly energy and support regions through the introduction of renewable energy facilities. On December 1, 2016, our first-ever wind power generation facility, the JR Akita Shimohama Wind Power Station, began operation.

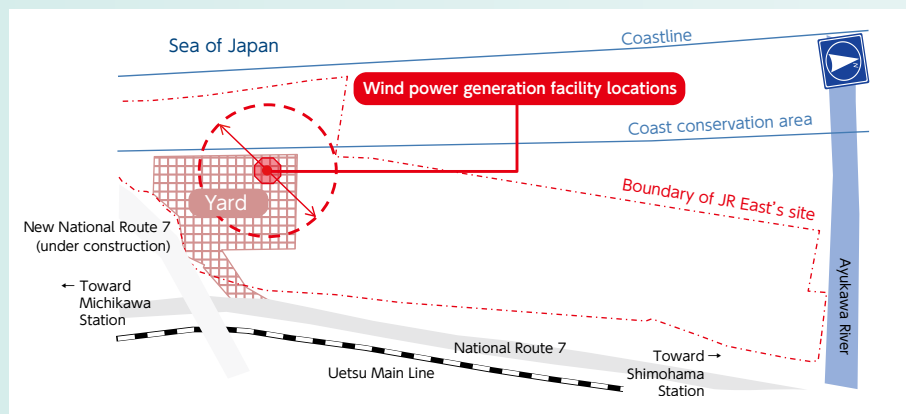
◎Overview of JR Akita Shimohama Wind Power Station

Key Specifications

- Name JR Akita Shimohama Wind Power Station
- Location Uetsu Main Line between Michikawa and Shimohama (approx. 1.5 km south of Shimohama Station)
- Wind turbine type Hitachi HTW2.0-86
- Tower height 78[m]
- Blade diameter 86[m]
- Generator rated power 1,990[kW]
- Estimated annual output 5,800[MWh] (equivalent to the use by 1,600 standard households)

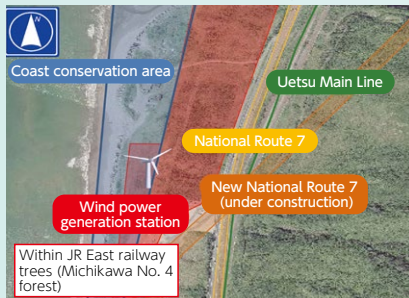


Photograph : Toru Nagao



◎JR East's first wind power project

Since there was no precedent for a wind power generation facility occupying the skies above the coast conservation area in Akita Prefecture, we worked together with the prefecture to develop the project. The prefectural government formulated a supplement to its operating guidelines relating to approval of wind power generation facility installation in the coast conservation area, which enabled us to construct the facility.



Map of the construction area

In order to build the wind power generation facility, extremely heavy items like the blades were transported using public roads, requiring us to complete various procedures under the Road Act. Furthermore, other procedures were required under the Electricity Business Act, Coast Act, Landscape Act, Radio Act, Civil Aeronautics Act, and others, so we had to spend considerable time on discussions with relevant organizations. However, the facility has now begun operation.



Transportation of blades, which required procedures under the Road Act

Ensuring safe operation of our first-ever large-scale wind power generation facility was our number-one priority. With this in mind, it was necessary to establish a maintenance approach suited to the facility. To achieve this, we formed a wind power generation facility management and operation research committee featuring external experts, then established a safety-oriented operating framework based on their recommendations.



The wind power generation facility management and operation research committee

◎Contributing to the region

We are involved in Akita City's Next-Generation Energy Park Plan and have made efforts to enhance Akita City residents' understanding of renewable energy by arranging tours of wind power generation facilities, creating promotional materials, and so forth.

Akita Next-Generation Energy Park pamphlet



VOICE



Hiroshi Ariya

Executive Officer and General Manager, Daiichi Kensetsu Corporation Akita Branch Office (formerly JR East Akita General Affairs Division)

I mainly supervised discussions with relevant authorities such as Akita Prefecture and Akita City, local organizations, broadcast associations, and so forth. I am proud to have been involved in building JR East's first-ever wind power generation station and in establishing the required expertise and facility management skills, from planning through construction, which was highly rewarding work.



Kentaro Seo

Manager, Urawa Electrical Power Maintenance Center, Omiya Electrical Power Technology Center, Omiya Branch Office (formerly Renewable Energy Building Project, Tohoku Construction Office)

I mainly supervised design and construction of the power generation facilities. There were some difficult circumstances during the construction phase, such as a typhoon approaching during the busiest period of the work, so I'm left speechless by the sense of accomplishment I feel upon seeing the power generation facilities I design get completed with the Sea of Japan in the background.



Toshitaka Shimizu

Planning and Construction Group, Power Section, Facilities Div. Akita Branch Office

The aim of this power generation station is to reduce CO₂ as well as supporting the local region. Since it started operation, it has been visited by many people, both from inside and outside JR East. We hope to continue enhancing environmental awareness in future through initiatives such as creating educational materials that are easy to understand for the children who will lead the next generation.



Mitsugu Otsuki

Manager, Akita Service Center, Akita Branch Office Total Electric Management Service Co., Ltd. (TEMS)

It is extremely rewarding to be involved in maintenance of the wind power generation station, which was a new experience for everyone at TEMS. The facility is located in a harsh environment, with severe snowstorms and lightning occurring often during winter, but we are steadily gaining more experience with the aim of ensuring proper maintenance.



Image of Mumbai Station
Source: Materials provided by JICA

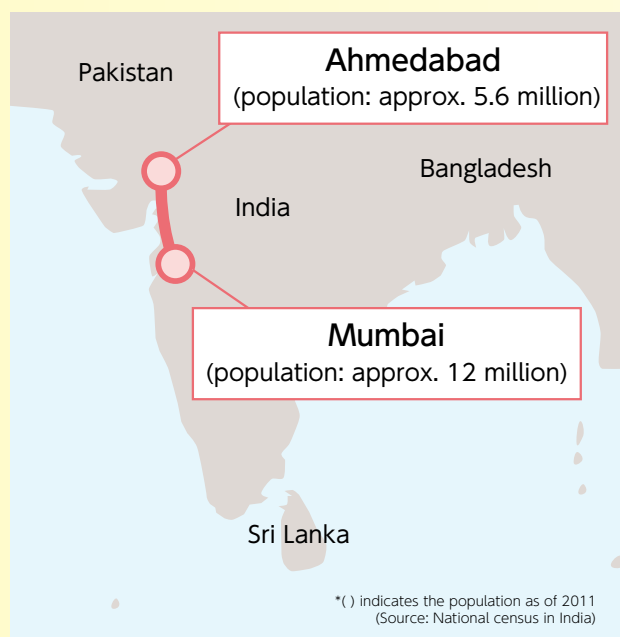
Progress of India High-Speed Railway Project

Amid growing concern about global environmental issues and the growth of emerging economies, railways are attracting more and more interest worldwide as an environmentally friendly means of public transportation. At present, railway projects are being considered in many parts of the world. The global railway market is projected to grow by an average of 2.6% per year in future, increasing to around 22 trillion yen by 2020. In light of this, JR East, in partnership with companies both in Japan and abroad, is seeking to develop global projects that leverage our expertise in operations and maintenance (planning, managing, supporting, and implementing railway operation, facility maintenance, etc.) and other fields. We have identified Asia in particular, which is experiencing remarkable growth, as a priority region and are involved in railway projects in various locations there.

◎Overview of India High-Speed Railway Project

India is a major nation with a population of some 1.3 billion people, and with the country experiencing rapid economic growth, there is an increased need for the development of its inter-urban transportation network. In 2009, the Indian Ministry of Railways formulated the India Railways Vision 2020, which stipulated that the development of a high-speed railway line between Mumbai and Ahmedabad was a top priority. Then, in 2015, based on a joint declaration at a summit meeting between Japan and India, it was confirmed that the high-speed railway line between Mumbai and Ahmedabad would be developed using Japanese high-speed railway technology (the Shinkansen system) and experience.

In March 2016, one of the companies in our group, Japan International Consultants for Transportation Co., Ltd. (JIC), was commissioned to provide consulting services relating to the creation of high-speed railway technical standards for this line. In December 2016, JIC was commissioned to provide consulting services relating to design and bidding for the high-speed railway as part of a joint venture, which it is currently doing.



◎Recent events

We started formulation of technological standards in March 2016 and carried it out based on technologies proven in Japan's Shinkansen system, taking into account various conditions in India, including climate, earthquakes and power sources. Furthermore, in addition to the initial order for design, Japan International Consultants for Transportation Co., Ltd. launched design and bidding support operation services for the training center in July 2017, conducting consultations for an unprecedentedly large-scale project.

With regard to cultivation of human resources, executives of National High Speed Rail Corporation Ltd. of India visited Japan in July 2017 to exchange views with executives of JR East concerning operation of railway companies. They also toured the JR East General Education Center to observe track maintenance work, training facilities and such and deepened their understanding of JR East's efforts on human resource development and passing on of technologies.

In addition, Japan International Consultants for Transportation Co., Ltd. received an order for operational management of training for employees of Ministry of Railways of India, and has been supporting mid-career employees of the ministry in acquiring knowledge on policies/systems/technologies of Japanese railways.

JR East will continue to provide technological and physical support in these operations conducted by Japan International Consultants for Transportation Co., Ltd., its group company, capitalizing on experience as a shinkansen operator.



Executives of National High Speed Rail Corporation Ltd. and JR East exchanging views



Tour of JR East's education center



Observing track maintenance work



Groundbreaking ceremony of Indian high-speed railway (September 2017)

VOICE



Yoko Kato

India High-Speed Rail Division,
International Affairs
Headquarters

As a rolling stock supervisor, I oversee tasks such as identifying issues with customizing E5-series trains for India and acting as a liaison between JR East and JIC. I try to provide reliable backup for the people carrying out frontline consulting work.

This project represents a new challenge for our company, and we have managed to make progress through trial and error even when we are not sure what lies ahead. Various issues have arisen one after another, but we have gradually overcome the barriers and moved forward by coordinating our efforts with relevant sites in Japan and negotiating with the Indian side. It has been difficult dealing with so many problems, but it has also been fun to work in an enthusiastic environment where those involved leverage their expertise in different fields and work together to resolve issues.

The schedule in India was not decided easily, and even when dates have been decided, it's common for them to change at the last minute, which requires us to adapt on the fly by making changes to carefully made plans or urgently dispatching personnel on site. At first, there were times when I would feel frustrated. However, if you can't change others, then you have no choice but to change your own attitude, so I've learned to handle the situation by being more relaxed about it and accepting that it's normal for things to not always proceed according to schedule.

As the project moves forward, I think there will be even more mountains in our path, but I believe that the Shinkansen will one day begin operation in India and that the country's people will come to see it as a beloved institution.



Daisuke Kawahara

Mumbai-Ahmedabad
High Speed Railway
Headquarters
Japan International
Consultants for
Transportation Co., Ltd.

JIC was commissioned by JICA to conduct detailed design studies for the Indian high-speed railway construction project. My role was to handle structure-related detailed design studies, especially for station area construction plans, and review these plans in light of on-site conditions and other factors.

It was a struggle at first, due to the rules being different from rules for railway construction projects in Japan and the need to converse in English with our counterparts at Indian Railways and elsewhere. I therefore made an effort to understand India's specific rules and study English. What's more, in order to deal with Indian English, to which I'm not accustomed, I learned about its characteristics and came up with solutions like having things written down on paper during discussions.

Now that I'm involved in a construction project in a foreign country, which is something I've been interested in for some time, I find my day-to-day work to be very rewarding. I hope that building a high-speed railway between Mumbai and Ahmedabad will enable smoother, more frequent transportation of people and contribute to India's economic and cultural development. And by moving the project forward and carrying out my daily duties, I also wish to do my part as a member of society.



Kids Harmony Shinjuku

Establishing workplace daycare facilities

In response to changes both inside and outside the company, the JR East Group continues to review employees' working styles and jobs, and in light of the need to create a corporate environment that enables a wide range of personnel to work autonomously and develop their careers, we have proceeded with various initiatives to enhance our existing work-life balance support system. At present, based on the General Business Operator Action Plan developed in line with the Act on Promotion of Women's Participation and Advancement in the Workplace enacted in April 2016, we are working to increase the proportion of female hires and the ratio of female managers, to establish an environment that enables various working styles, and so forth.

Many employees work irregular hours, but our aim is to be a company that enables them to continue working even when major life events occur, and as part of these efforts, we are actively working to open new daycare facilities at our workplaces.

◎Current status

Since February 2010, for the purpose of supporting returning to the workforce after maternity leave, supporting employees who work irregular hours, securing and retaining outstanding personnel, and so forth, we have established workplace daycare facilities in four locations to date (in the JR Tokyo General Hospital, Sendai City, Tokyo Branch Office building, and the JR Minami-Shinjuku Building). As another measure to address irregular working hours, we have also established 24-hour childcare. Furthermore, in the Tokyo metropolitan area, with the aim of alleviating the burden on parents when commuting, we provide supplies such as diapers, milk and laundry service. In April 2013, we transformed one facility into Kids Harmony Shinjuku, a diversity-oriented nursery school that can be used by employees at multiple companies. This leverages our knowledge of the nursery schools near stations that we had previously established while also accepting local children at the request of the municipality. In addition to the existing Sendai facility, we are actively moving forward with plans to open more workplace daycares in various locations across eastern Japan in the future.



Poppoland Sendai

Yuka Kadowaki

Senior Chief Conductor, Sendai Transportation Depot, Sendai Branch Office,
User of Poppoland Sendai

◎Managing working styles**Job and working style**

Since May 2016, I have been in charge of providing guidance for conductors, such as training for new conductors. I enjoy doing this work, which presents challenges that aren't covered in any manuals, since it requires understanding the personality and background of each individual employee and developing training plans accordingly.

The process of training someone to be a full-fledged conductor has some similarities to raising a child, so I feel I'm able to draw on my child-rearing experiences in my job.

When it comes to balancing child-rearing and work, I try to think about maintaining the right pace for myself and my child. However, if you prioritize your children too much, it will put pressure on them, so I think it's important to find the right balance.

Choosing Poppoland Sendai

Based partly on advice from senior colleagues at work, I decided to put my child in Poppoland Sendai and return to work. I wanted to continue working as a train crew member after returning to work, so I preferred a workplace daycare that understood the nature of railway work and from which it would be easy to receive support, given that I might have to deal with emergencies and require extended daycare hours. That was the main reason for choosing Poppoland Sendai.

The daycare is also located right next to my workplace and JR Sendai Hospital, which provided peace of mind for both me and my child.

Balancing work and child-rearing

In addition to providing workplace daycares, I think JR East has established a good system. For me personally, working full-time suits my lifestyle, so I returned to work on a full-time basis. But things don't always go as planned. Sometimes, I have to leave work early due to an emergency involving my child. I'm really grateful that my boss and co-workers are so understanding at those times, telling me that it's no problem if I go home early. The fact that I always appreciate my work is a key point in balancing my job with child-rearing.

I think it's essential to have the support of those around you and choose a working style that suits your lifestyle, so that you don't have to depend too much on the system.

**Yuki Yokota**

Koenji Station Staff, Tokyo Branch Office, User of Kids Harmony Shinjuku

◎Developing with your children**Job and working style**

Since returning to work on the day shift, my job has included providing information about vending machines, providing information for customers in wheelchairs, and providing backup for ticket issuing and ticket collecting. Having been entrusted with various tasks, I find the work to be rewarding every day. I think about what I can do to make the station more user-friendly and how can I provide better support for my younger colleagues and managers. When it comes to working while raising a child, my boss and co-workers are very understanding. They ask me how my child is doing and remember when it's my day to go pick him up, for which I'm really grateful. My husband and I take turns picking our child up from daycare and share the housework, so we work together to cope with work and child-rearing. I think the understanding and support of my workplace and husband is what has enabled me to find a good balance.

Choosing Kids Harmony Shinjuku

When I returned to work, I looked for a daycare near my home, but I had trouble deciding on one, and that was when the stationmaster told me about Kids Harmony Shinjuku. The biggest reason for choosing it was the fact that the daycare understands the nature of our employees' work. It was also refreshing to find a daycare right in the middle of the city. When dropping off and picking up my child, we take a commuter train, and he sits there quietly looking out the window, which makes things easier for me. The daycare staff are also understanding about my work when talk they with me, which I really appreciate.

Balancing work and child-rearing

Since I wanted to go back to work quickly, I would drop by the workplace around once a month with my child. Once I actually returned to the job, everyone there supported me, and my work is very fulfilling each day. I think the fact that I'm able to enjoy working as well as raising a child has a synergistic effect. For me, being able to develop personally at the same time as my child is growing is what balancing work and child-rearing is all about.



Three pillars of JR East Group's CSR Report 2017

Based on six themes outlined in JR East Group Management Vision V – Ever Onward, the JR East Group CSR Report 2017 presents various efforts by JR East Group in relation to three pillars: Safety, Society, and Environment.

[Safety]

Based on the Group Safety Plan 2018 as our fundamental concept of safety, in this Safety section, we report our efforts to achieve “extreme safety levels.”

[Society]

This section describes initiatives for improving service quality of transport services and others, dealing with inbound customers, etc., contributing to communities through regional revitalization, child care support, etc. and for diversity, etc.

[Environment]

This section describes initiatives such as system reforms and introduction of new reduction guidelines, with an aim to achieve the FY2020 and FY2030 goals towards reduction of environmental burden while promoting proactive environmental practices at each workplace.

CONTENTS

	Group Philosophy/Basic Principles/ Corporate Profile/Editorial Policy 2		Increase mutual communication with passenger feedback as the starting point 64
	JR East Group's CSR 3		Develop personnel and organizations that proactively think and act from the passenger's perspective 66
	Top Message 4		IT and Suica Business 67
	JR East Group Management Vision V—Ever Onward 6		Taking various measures for inbound tourism 69
	JR East Group Management Vision V: Priority group-wide tasks 7		Technical renovation 71
			Relationship with Society 74
			Strengthening Collaboration with Communities 74
			Rediscover the Region Project 78
			Addressing measures to promote tourism 80
			Childcare Support Services HAPPY CHILD PROJECT 82
			Development of COTONIOR 83
			Cultural Activities 84
			Developing Our Business around the World 85
			Column Development of rolling stock manufacturing business 89
			Relationship with Employees 90
			In order to enhance the power of human resources 90
			Promotion of Diversity Management 92
			To Improve Working Environment 96
			Column In preparation for Tokyo 2020 Olympic and Paralympic Games 97
			Basic Concept for Ecology Promotional Activities 98
			Environmental management 100
			Management of Environmental Goals 100
			Progress of Environmental Management by Entire Group 102
			Progress of Environmental Conservation Activities at Each Workplace 103
			Environmental Communication 104
			Environmental Accounting and Environmental Management Indicators 105
			Measures to Prevent Global Warming 106
			Measures for resource circulation 116
			Chemical substance management 120
			Environmental Conservation Activities along Railway Lines 121
			Biodiversity 121
			Basic thoughts on noise reduction 123
			Improvement of the Environment along Railway Lines 124
			Corporate Governance 126
			Compliance 127
			JNR Reform and Full Privatization 129
			Corporate Info 132
			GRI Content Index (General Standard Disclosures) 144
			Independent Assurance Report (website version) 150
			Closing 151
			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.
			The JR East Group conducts business pursuant to standards and rules such as ISO26000 and the Charter of Corporate Behavior established by Keidanren (Japan Business Federation).
Special Topic	KIWAMERU Excel Progress of Automatic Platform Door Implementation 8		
	MIGAKU Improvements Improving Quality of Transportation Services 10		
	TOMO NI IKIRU Together Conveying the Appeal of JR East Areas and Helping to Revitalize Regions 12		
	HIRAKU Pioneer JR Akita Shimohama Wind Power Station Begins Operation 14		
	NOBIRU Grow Progress of India High-Speed Railway Project 16		
	HABATAKU Empower Establishing workplace daycare facilities 18		
Safety	Our fundamental concept of safety 21		
	General principles of Safety 21		
	Group Safety Plan 2018 22		
	Group Safety Plan 2018 4 pillars		
	1. Ingraining the JR East Group's cultures of safety 23		
	2. Improving safety management 24		
	3. Steadily reducing risk 26		
	4. Efforts to further improve safety levels 27		
	JR East's safety management organization 28		
	Safety management regulations 28		
	Railway Safety Promotion Committee 28		
	Safety Planning Department at Head Office and Safety Planning Office at branch offices, etc 29		
	Rules for reporting accidents and incidents 29		
	Efforts to further improve safety levels 30		
	Measures to prevent train collisions 30		
	Preparedness against natural disaster 34		
	Column Efforts to save lives 36		
	Safety measures at platforms 41		
	Measures to prevent level crossing accidents 42		
	Fostering safety-oriented personnel 45		
	Ingraining the cultures of safety 48		
	Group-wide efforts to further improve safety 49		
	Safety-related research and development 50		
	Current safety record of JR East 51		
	Railway accidents 51		
	Incidents 51		
	Transport disorders 52		
	Current state of employee accidents 53		
	Cooperation with customers and communities to ensure safety 54		
Society	Relationship with Passengers 55		
	Our fundamental concept of service quality 55		
	Medium-term Vision for Service Quality Reforms 2017 56		
	Confirm our understandings of issues and effects of measures implemented through passenger satisfaction surveys 56		
	Provide reliable transportation services 57		
	Enhance information provision during transportation service disruptions 58		
	Railway services passengers can use confidently 59		
	Railway service that can be comfortably utilized 62		
	Provide impressive passenger service 63		



Safety



Society



Environment



Safety

CONTENTS

Our fundamental concept of safety ... 21

JR East's safety management organization 28

Efforts to further improve safety levels 30

Current safety record of JR East 51

Cooperation with customers and communities to ensure safety 54

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. To further reduce potential risk, JR East is committed to steadily improve tangible countermeasures and also to ensure that each one of its employees takes all possible intangible measures.

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 has prescribed General Principles of Safety for the code of conduct for its safety-related employees.

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.



Safety



Society



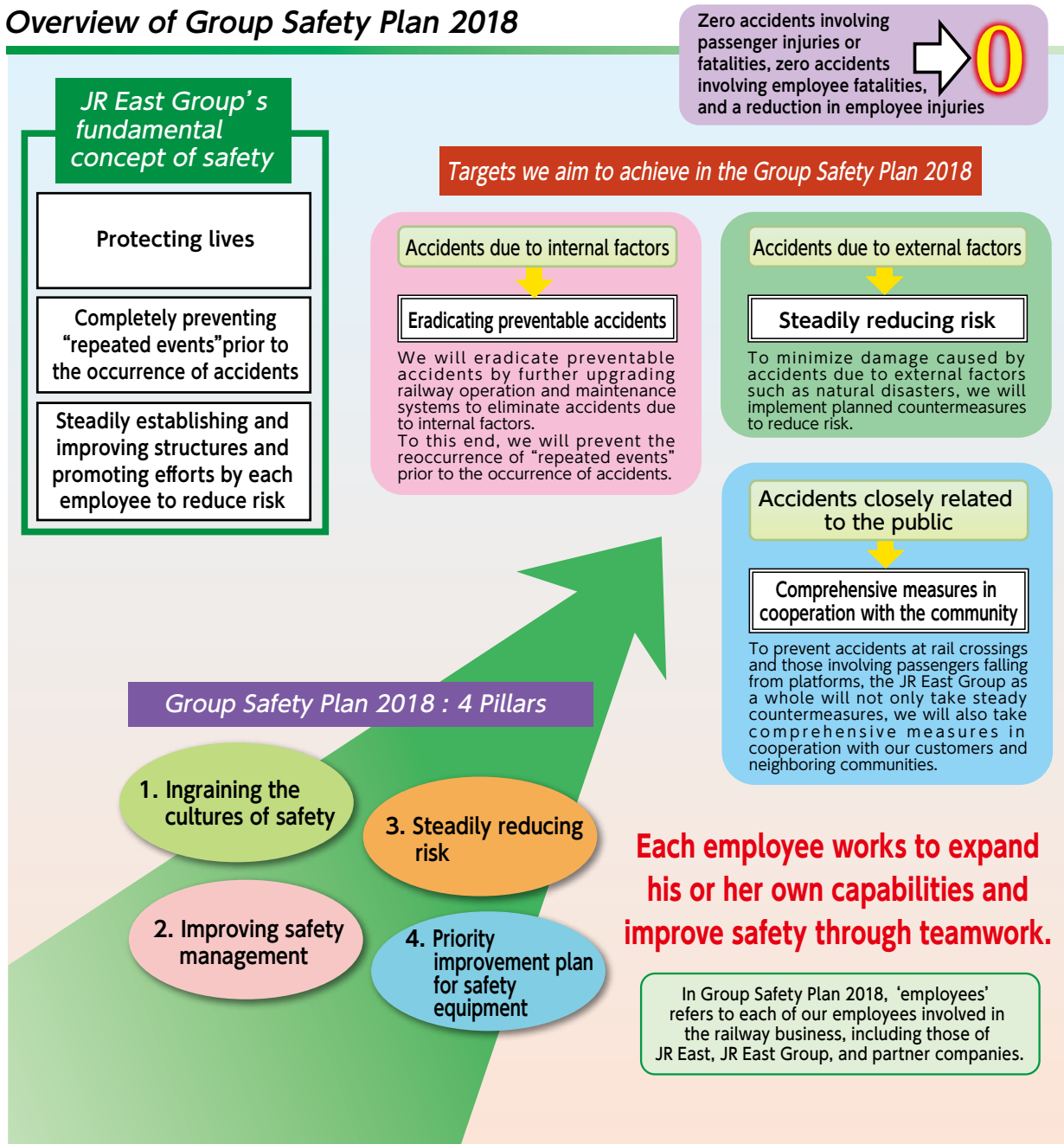
Environment

Group Safety Plan 2018

Since our establishment, JR East has been implementing a series of five-year safety plans. From April 2014, guided by the 6th 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 to challenge ourselves 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





Safety



Society



Environment

Group Safety Plan 2018 4 pillars

1. Ingraining the JR East Group's 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 on paper, 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.



Safety



Society



Environment

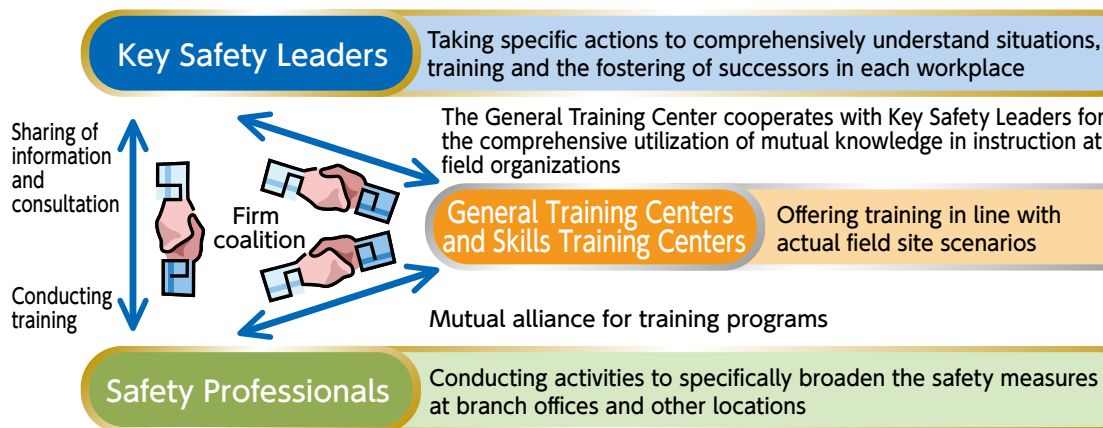
Group Safety Plan 2018 4 pillars

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.

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



Safety



Society



Environment

Group Safety Plan 2018 4 pillars

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 the 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.

○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.



Accident History Exhibition Hall



Safety



Society



Environment

Group Safety Plan 2018 4 pillars

3. Steadily reducing risk

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 road 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.

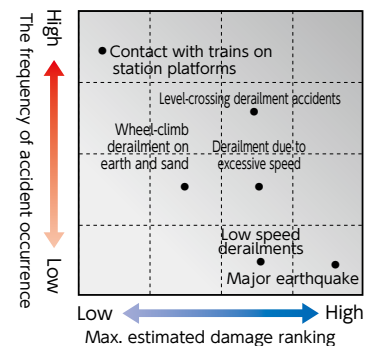
We will take comprehensive measures including accident prevention campaigns on platforms, escalators, or road-railway level crossings, and the elimination of level crossings in cooperation with local municipalities.

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





Safety



Society



Environment

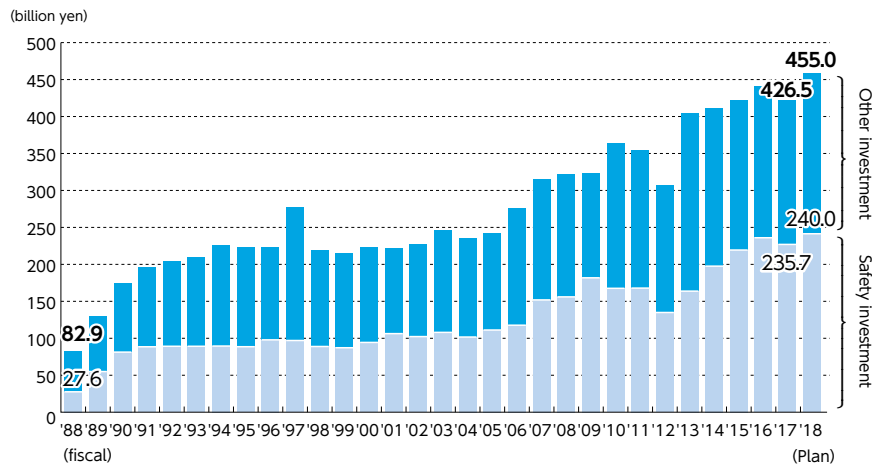
Group Safety Plan 2018 4 pillars

4. Efforts to further improve safety levels

■ Safety facilities investment

JR East has invested more than 3.7 trillion yen during the 30 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 1 trillion yen in safety measures during the five years from FY2015 to FY2019.

[Trends in safety investment]



■ Major safety investment in FY2018

In FY2018, JR East will steadily implement measures against large-scale earthquakes, safety measures for level crossings, improvement of safety measures on platforms such as platform doors, improvement of ATS-P, and reinforcement of railway-related security.

JR East plans to invest 455 billion yen in total in its facilities and 240 billion yen of that total will be invested in safety.

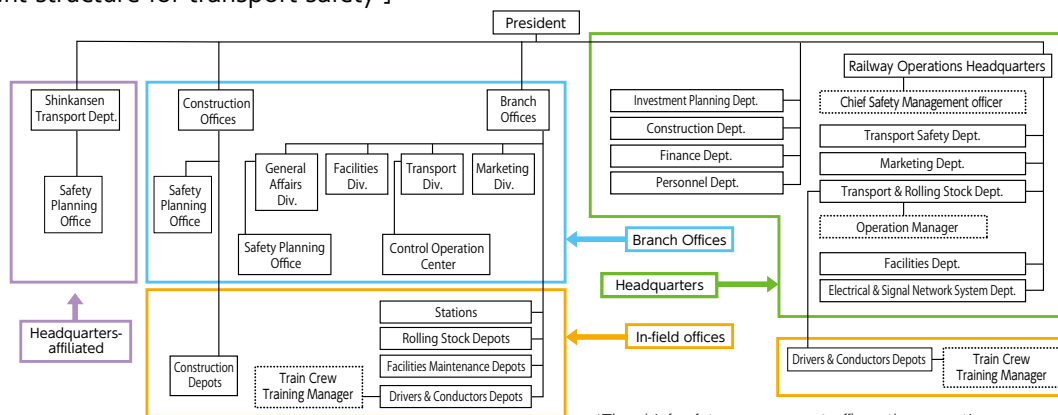


JR East's safety management organization

Safety management regulations

In response to a revision of the Railway Business Act, JR East formulated its safety management regulations in Oct. 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 officers, operation managers, and train crew training managers. The chief safety management officer is selected from the Director General of Railway Operations Headquarters or its equivalent. The operation manager is selected from the General Manager of Transport & Rolling Stock Dept. or its equivalent. The train crew training manager is selected from the Manager of Drivers & Conductors Depots.

[Management structure for transport safety]

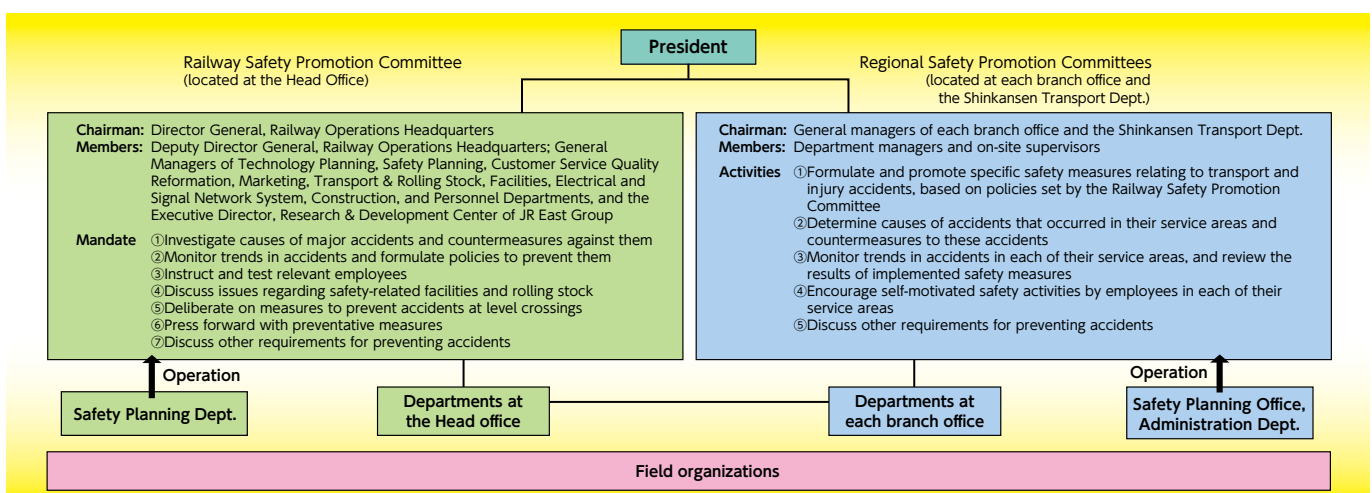


*The chief safety management officer, the operation manager, and the train crew training manager are terms designated by the Railway Business Act and related regulations.

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



Society



Environment

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

We placed the Safety Planning Department at the head of the Railway Operations Headquarters to clearly indicate JR East's stance on taking all possible countermeasures before potential risks arise, in addition to measures against reoccurrences of past accidents.

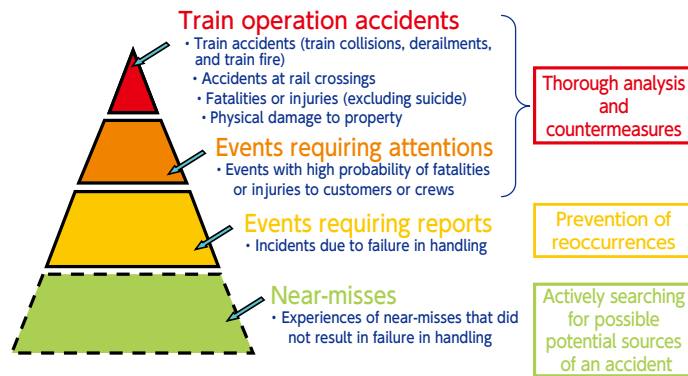
The Safety Planning Department at the Head Office and Safety Planning Offices at branch offices work together on measures to improve the safety levels of our railways with respect to both tangible and intangible aspects by formulating safety-related medium-term plans.

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.

- 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.





Safety



Society



Environment

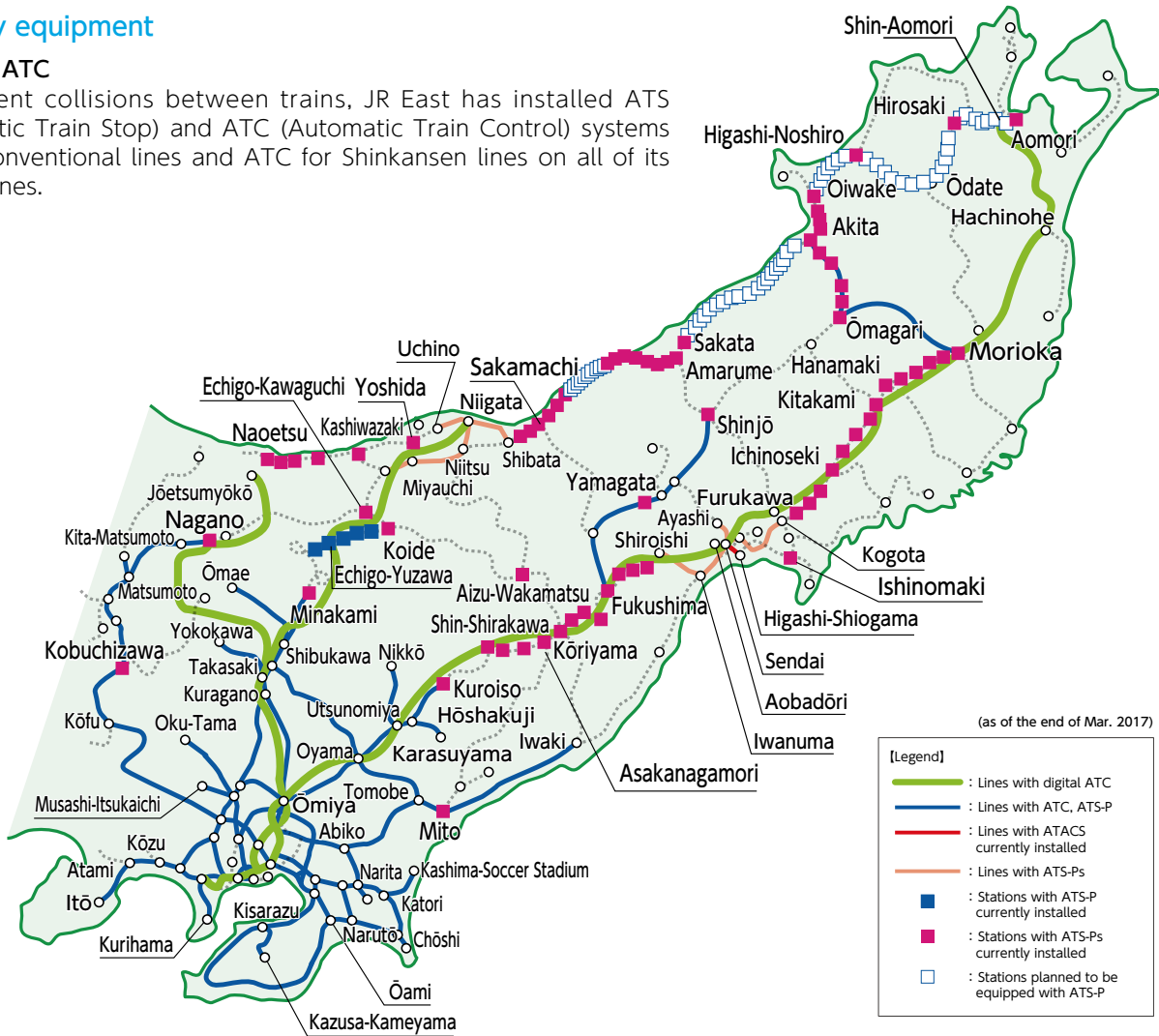
Efforts to further improve safety levels

Measures to prevent train collisions

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 plan for ATS-P and ATS-Ps systems]

	Areas for planned installation	Installation status as of the end of FY2017
ATS-P system	Mainly for railway sections with frequent train operations in the Tokyo metropolitan area	Completed installation in 5 major stations and railway sections for 2,405.8km (service km)
ATS-Ps system	Provincial city areas and major railway sections excluding the Tokyo metropolitan area	Completed installation in 72 major stations and railway sections for 210.8km

We have completed installation of ATS at curves, turnouts, track ends, and descending gradients by the end of FY2016 to 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 locations required by ordinance and time limit)]

Category	Target locations	Completion
Curves	934 locations	FY2010
Turnouts	465 stations	FY2016
Track ends	38 stations	FY2016
Descending gradients	707 locations	FY2012

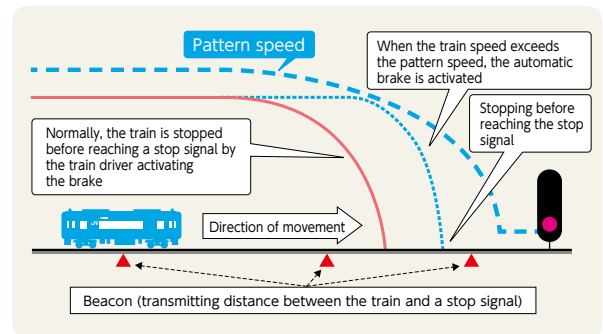


ATS (Automatic Train Stop)

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]

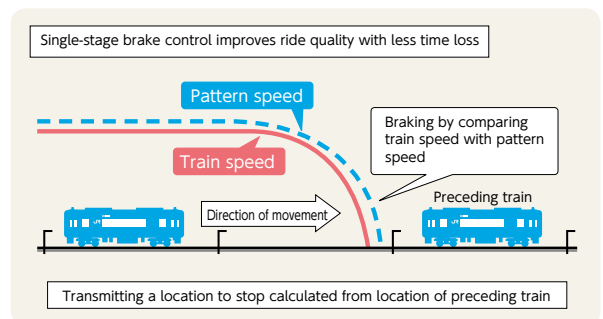


ATC (Automatic Train Control)

ATC stands for Automatic Train Control. In this system, ground equipment continuously transmits signals to trains via the rails. The transmitted signals are indicated in the driver's cab and the system automatically activates the emergency brake if the train exceeds its permitted speed.

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.

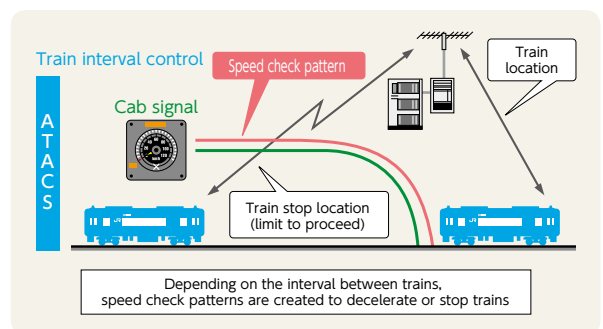
[Digital ATC]



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 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 Aobadōri and Higashi-Shiogama and plans to introduce the system on the Saikyo Line between Ikebukuro and Omiya in Fall 2017.

[ATACS]





Safety



Society



Environment

Others

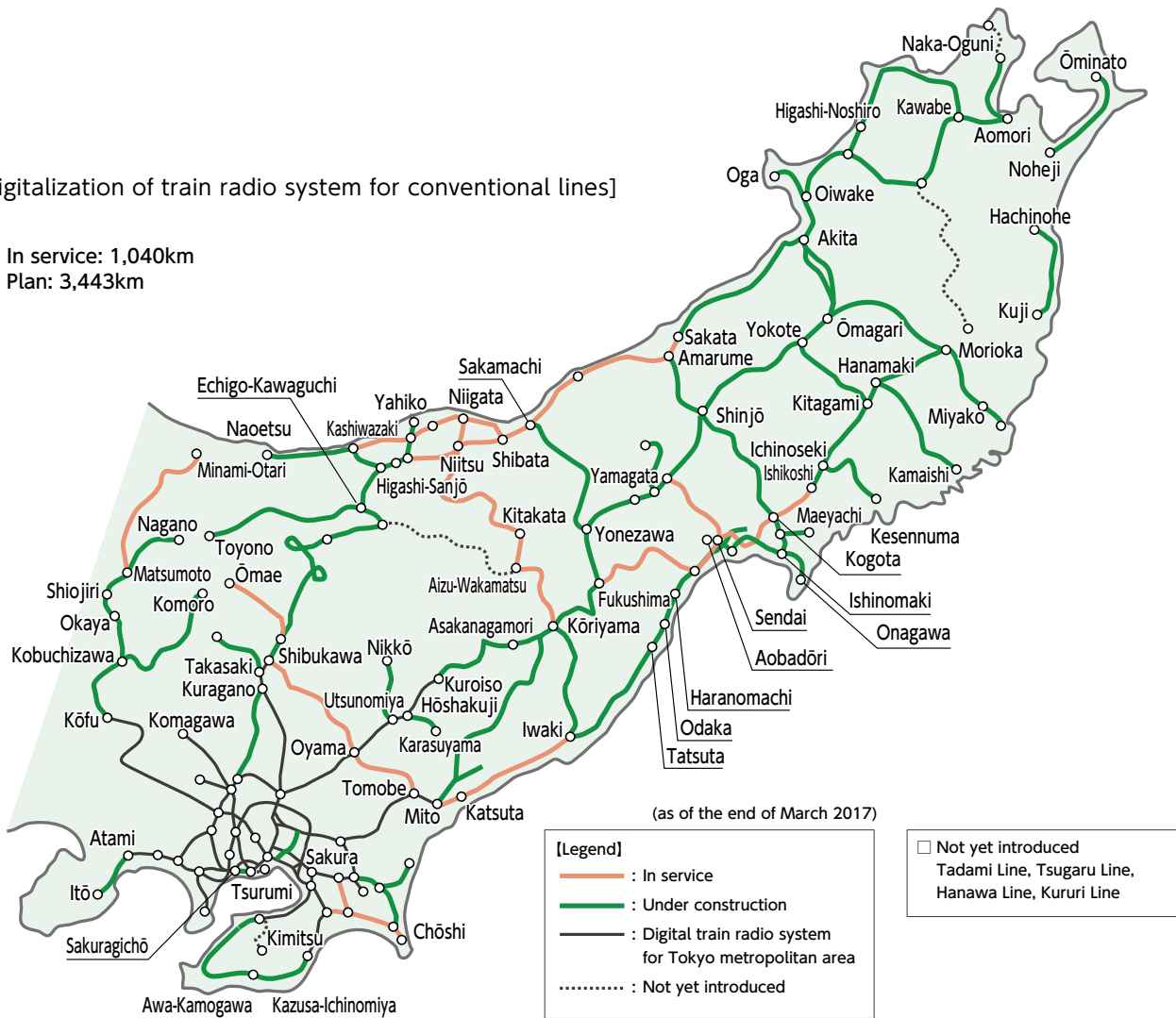
Digital train radio system for conventional lines

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, we are extending the introduction of this system to other areas outside the Tokyo metropolitan area.

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.

[Digitalization of train radio system for conventional lines]

In service: 1,040km
Plan: 3,443km





Safety



Society

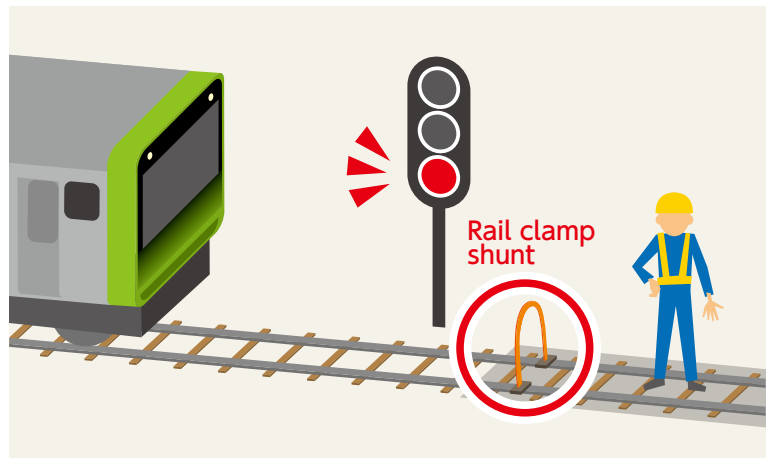


Environment

Dual safety measures

When conducting track construction, maintenance, or inspection, we close tracks so that other trains cannot enter these particular railway sections. However, in the case of a failure of a track closure as a result of human error, it could result in a train mistakenly entering a closed section during construction, maintenance or inspection. To prevent this from happening, we undertake dual safety measures. In addition to the above-mentioned track closure procedure, by installing rail clamp shunts on the closed section, signals will change to a stop signal to prevent trains from proceeding to that closed section.

[Dual safety measures]



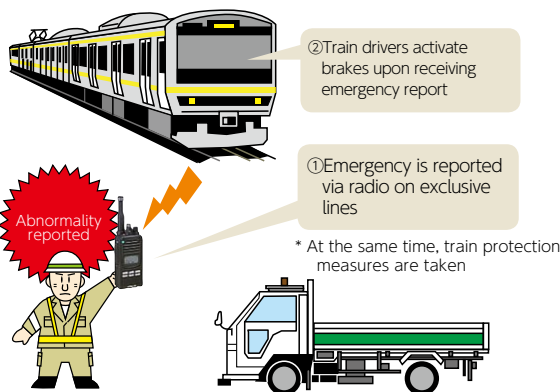
Collision prevention support radio system

Learning lessons from the derailment accident in the Kawasaki Station premises of the Keihin Tohoku Line in Feb. 2014, JR East introduced a collision prevention support radio system to help maintenance workers stop trains in case of an emergency during maintenance work.

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.

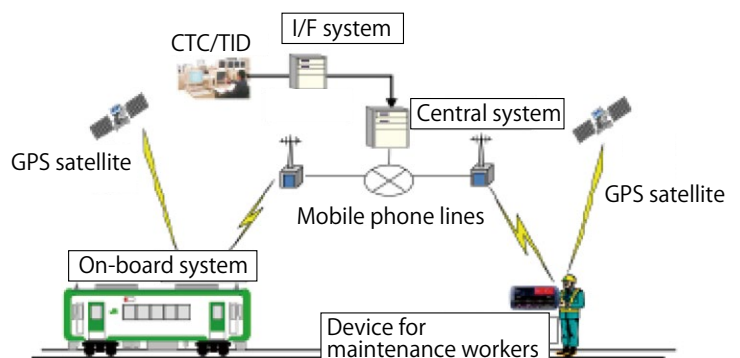


Train approach alarm system

JR East utilizes alarm systems to warn maintenance workers on tracks of approaching trains. For railway sections with track circuits* installed, we use a TC-type wireless train approach alarm system to warn workers of approaching trains by track circuit. For railway sections without track circuits, we developed a GPS train approach alarm system to inform workers of train locations by locating the positions of trains and workers on GPS. We started use of these systems on both the Iiyama Line and the Hachikō Line from April 2016.

* **Track circuit:** A section of rail is used as a part of the electric circuit. By short-circuiting the rail using the wheels of the train, the position of the train can be detected.

[GPS train approach alarm system]





Safety



Society



Environment

Preparedness against natural disaster

Our measures against earthquakes

Learning from earthquakes in the past, JR East has employed the following three anti-earthquake measures:

- ① Preventing structural damage (seismic reinforcement measures)
- ② Stopping trains immediately (emergency train stop measures)
- ③ Minimizing secondary accidents following derailment (preventive measures against derailed trains leaving the track area)

Seismic reinforcement measures

After the Great East Japan Earthquake, since FY2013 we have been working on the seismic reinforcement of elevated bridge columns, bridge columns, and station buildings. Additionally, we have proceeded with seismic reinforcement of embankments and the ceiling of station buildings and completed approx. 80% of planned reinforcement as of March 2017.

We aim to continue with the rest of the planned reinforcement (20%) while further undertaking additional reinforcement in order to be prepared for possible earthquakes directly beneath Tokyo metropolitan area or those caused by active faults.

[Seismic reinforcement measures taken after the Great East Japan Earthquake and progress made]

		No. of reinforcements implemented after the Great East Japan Earthquake	
		Total completed by the end of Mar. 2017 / Planned total	Completed ratio
Elevated bridge columns	Shinkansen	Approx. 8,630 lines / Approx. 8,640 lines *Planned completion by the end of Jun. 2017	99%
	Conventional Lines	Approx. 5,520 lines / Approx. 6,600 lines	84%
	Total	Approx. 14,150 lines / Approx. 15,240 lines	93%
Bridge columns	Shinkansen	Approx. 600 columns / Approx. 680 columns	88%
	Conventional Lines	Approx. 1,330 columns / Approx. 1,910 columns	70%
	Total	Approx. 1,930 columns / Approx. 2,590 columns	75%
Embankments	Near Ochanomizu (embankment on the river side)	Approx. 1.2km / Approx. 1.2km	Completed
	Height of 8m and over	Approx. 8km / Approx. 8km	Completed
	Height of 6m and over, and below 8m	Approx. 8.9km / Approx. 11km	81%
Embankments and anti-derailing guards before and after bridges		Approx. 74km / Approx. 74km	Completed
Station buildings		Approx. 50 buildings / Approx. 85 buildings	59%
Ceiling of station buildings and platforms		Approx. 330 stations / Approx. 560 stations	59%
Walls of station buildings and platforms		Approx. 55 stations / Approx. 56 stations	98%

○% Completion ratio of 80% and over Completed Completed



Seismic reinforcement of embankment

TICKET
TO
TOMORROW

Striving to make the railway more disaster resilient

Atsushi Saito Tokyo Seismic Reinforcement Section, Tokyo Branch Office

I am in charge of the seismic reinforcement of elevated bridge columns around Akabane, Tokyo, and Yurakucho stations, and I keep an eye on the safety, quality and process management of our reinforcement activities for viaducts. When undertaking reinforcement, we visit the stores under the viaducts, and explain the necessity for the reinforcement. Furthermore, we have in-depth meetings with the relevant people to provide them with the required details and we proceed with the reinforcement while paying careful attention to neighboring communities.

While I was at Morioka Branch Office, I experienced the Great East Japan Earthquake and realized the importance of seismic reinforcement. For this reason, with pride and a sense of mission to protect the lives of our customers, I am striving to make the railway more disaster resilient as soon as possible and as comprehensively as possible.

I am committed to proceeding with the seismic reinforcement as swiftly as possible and continue to work on seismic reinforcement to increase the disaster resilience of our railway.





Safety



Society



Environment

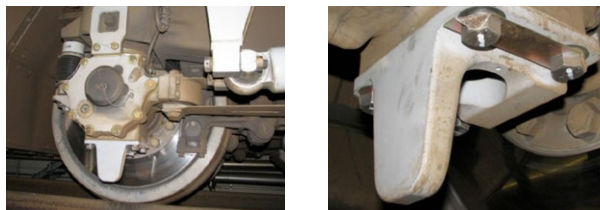
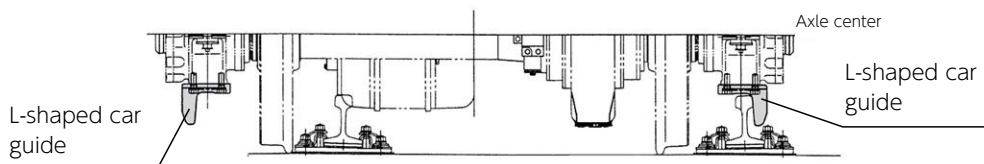
Emergency train stopping measures

For Shinkansen lines, to automatically stop trains as quickly as possible JR East utilizes the Shinkansen early earthquake alert system, which is based on the installation of wayside and coastal seismometers to detect primary tremors (P-waves). Additionally, the time required for the activation of emergency braking is shortened by approx. 1 second. To be prepared for an earthquake with an epicenter directly beneath the Tokyo metropolitan area and also for inland earthquakes, seismometers are installed at 30 locations and JR East started using the Earthquake Early Warning of the Japan Meteorological Agency from October 2012.

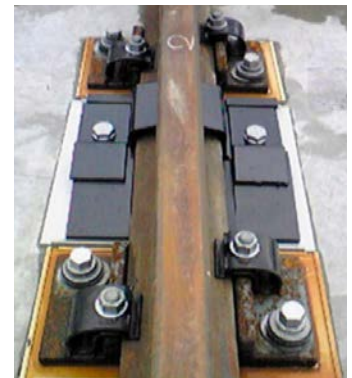
For conventional lines, using information from the Shinkansen early earthquake alert system and also the Earthquake Early Warning of the Japan Meteorological Agency, JR East utilizes the Early Earthquake Alert System for conventional lines to activate the emergency brake of trains in the necessary sections at the time of a large-scale earthquake.

Prevention of secondary accidents after derailment

During the Niigata Chuetsu Earthquake in Oct. 2004, one of our Joetsu Shinkansen trains derailed. Fortunately, passengers and crew were uninjured. However, by learning lessons from the earthquake, JR East has taken preventative measures for Shinkansen trains and tracks. For Shinkansen trains, we have installed L-shaped car guides on bogies. By guiding the derailed trains along the rail, the L-shaped car guides prevent Shinkansen trains from completely leaving the track in a derailment. We have also improved glued insulated joints to reduce the impact of wheels and bogie parts in the event of a derailment. Additionally, we completed the installation of rail rollover prevention devices to guide the wheels along the rails following a derailment, thereby preventing a rail rollover and the rails from completely deviating from the track even after a train derails and the rail fasteners are broken.



L-shaped car guide



Rail rollover prevention devices



Before improving glued insulated joints



After improving glued insulated joints



Safety



Society



Environment

Column Efforts to save lives

In the case of an earthquake directly beneath the Tokyo metropolitan area, many 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.



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.



First aid kits



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 the 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

A drill with a disaster relief helicopter to confirm the extent of the damage 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



A drill with a disaster relief helicopter (Photo: AERO ASAHI CORPORATION)



Safety



Society



Environment

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

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 be afraid to make a mistake.)
2. Once decided to evacuate, by judging the 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.

Tsunami evacuation navigation system

We developed the Tsunami Evacuation Navigation System to assist train crews in evacuating passengers from unfamiliar places along railway lines through the use of their tablet devices.



Tsunami evacuation navigation system

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 FY2017, 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



Safety



Society



Environment

Measures for rainfall

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.

[Countermeasures for rainfall]



Cutting slope protection (spray frame work)



Embankment slope protection (spray frame work)

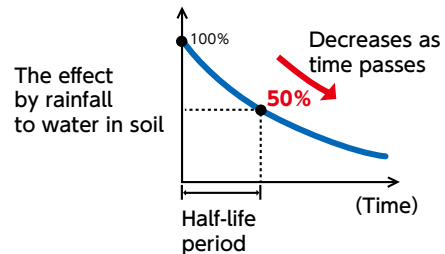
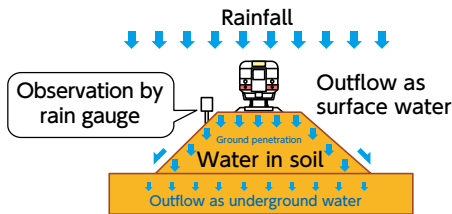


Natural slope protection (spray frame work)

Operational restrictions for rainfall

For heavy rainfall, JR East ensures the safety of train operations by introducing operational restrictions such as limiting train speeds and suspending operations. Since June 2008, we have been using effective rainfall values which are highly related to 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.

[The concept of the effective rainfall]





Safety



Society



Environment

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 passengers.



State of derailment accident

We would like to report on the measures we have taken since this accident.

Issuing tentative early restrictions for all lines

For all railway sections of conventional lines with operational restrictions for 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. For locations with windbreak fences, we use prior general 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 -

Installation of windbreak fences

Since 1991, in order to reduce wind force on trains, we have installed windbreak fences at 27 locations as of the end of March 2017.



Uetsu Main Line, between Sagoshi and Kita-Amarume



Keiyō Line, between Shiomi and Shin-Kiba



Safety



Society



Environment

Foundation of Disaster Prevention Research Laboratory

JR East founded the Disaster Prevention Research Laboratory at the Research & Development Center of the JR East Group in Feb. 2006. The Laboratory undertakes various research and development activities related to meteorological and terrestrial phenomena.

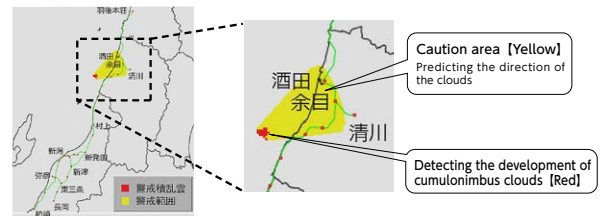
Expanded introduction of the gale warning system

JR East has been using gale warning systems on the Keiyō Line since Aug. 2005 and has installed the systems in all 296 locations as of the end of Mar. 2017 on its conventional lines with a gale operational restriction, including the accident location between Sagoshi and Kita-Amarume of the Uetsu Main Line. The gale warning system restricts or suspends 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.

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 such as the intensity of rainfall obtained from the Japan Meteorological Agency's radars and Nowcast that supports detection of tornados, and by detecting the development of cumulonimbus clouds, we developed a method 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

JR East has been researching the possible application of Doppler radar observation for train operation restrictions in the case of local gusts.

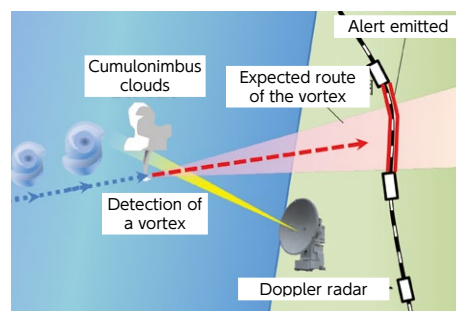
Doppler radar is an observation system that can be used to ascertain the wide-area distribution of wind conditions. Jointly with the Meteorological Research Institute of the Japan Meteorological Agency, we have been developing a system that can detect a vortex of gusty wind in the air and emit an alarm to stations along the expected direction of the vortex to warn of possible adverse effects on train operations. In FY2017, we installed a higher performance Doppler radar on a hill of the Shonai Plain in Yamagata Prefecture, which is close to the ocean where local gusts are generated. We will continue our observations and R&D to commercialize the system.



Doppler radar



Antenna



Local gust monitoring (image)

Introduction of operational restriction methods by evaluating wind force on trains

The wind force on trains constantly changes. We have been researching the following methods to properly evaluate the wind force on our trains and to further improve our operational restrictions to enhance the safety levels of our operations, while incorporating opinions from external experts.

- 1) Further improved wind observation methods by anemometers
- 2) Calculation methods for rolling stock windproof stress taking account of track conditions and railcar shapes

These two methods have been utilized on railway lines including the Uetsu Main since Dec. 2011.



Safety



Society



Environment

Safety measures at platforms

To prevent accidents involving customers falling from platforms or coming into contact with trains, we are installing platform doors. On the Yamanote Line, we have been introducing platform doors since 2010. Out of all 30 stations on the line, including Shinagawa New Station (provisional name) and excluding stations with planned large-scale improvements, we have completed installation at 24 stations. Additionally, we are currently introducing platform doors at all 37 stations between Omiya and Sakuragicho on the Keihin-Tohoku and Negishi Lines; will start their introduction at Shin Koiwa Station on the Sobu Rapid Line; and will install them at Sendagaya and Shinano-machi Stations on the Sobu Local Line, which are the stations closest to the New National Stadium.

Furthermore, JR East is currently working to install an increased number of emergency stop buttons on platforms and dot-Braille blocks that indicate which direction is away from the edge of the platform.

Moreover, to ask customers for their cooperation in preventing accidents, we are promoting platform zero accident campaigns.

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.

ITV for station platforms and concourses



Conventional ITV



High resolution ITV

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. Additionally, at some stations, we have installed high resolution ITVs for more vivid monitor images.

CP (color psychology) lines



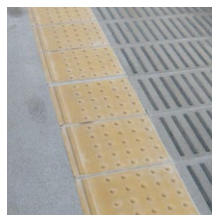
Painting the ends of platforms red or orange to create CP lines promotes awareness among railway users and also improves visibility for station staff and train conductors. JR East had introduced CP lines to test their effectiveness at 15 stations as of the end of Mar. 2017.

Platform doors



To improve visibility, glass is used for platform doors.

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

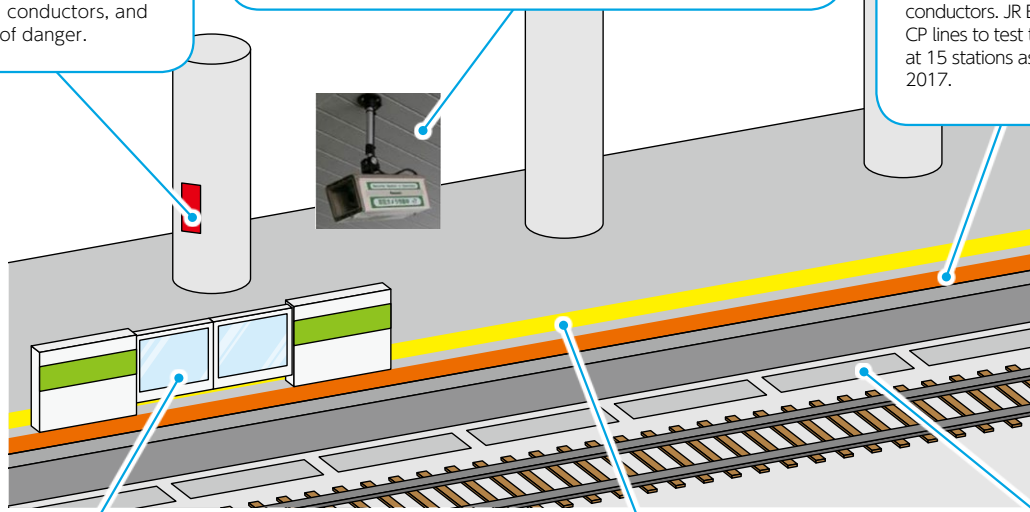


The inner line of the blocks is trimmed with lined bumps so that visually challenged customers can tell which side is away from the edge of the platform.

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.





Safety



Society



Environment

About the trial introduction of new-type platform doors

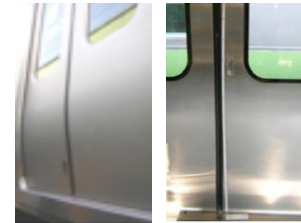
On a trial basis, we are introducing smart platform doors with wider openings, at lower costs and a shorter construction period at Machida Station on the Yokohama Line.



Smart platform door®

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.



Measures to prevent level crossing accidents

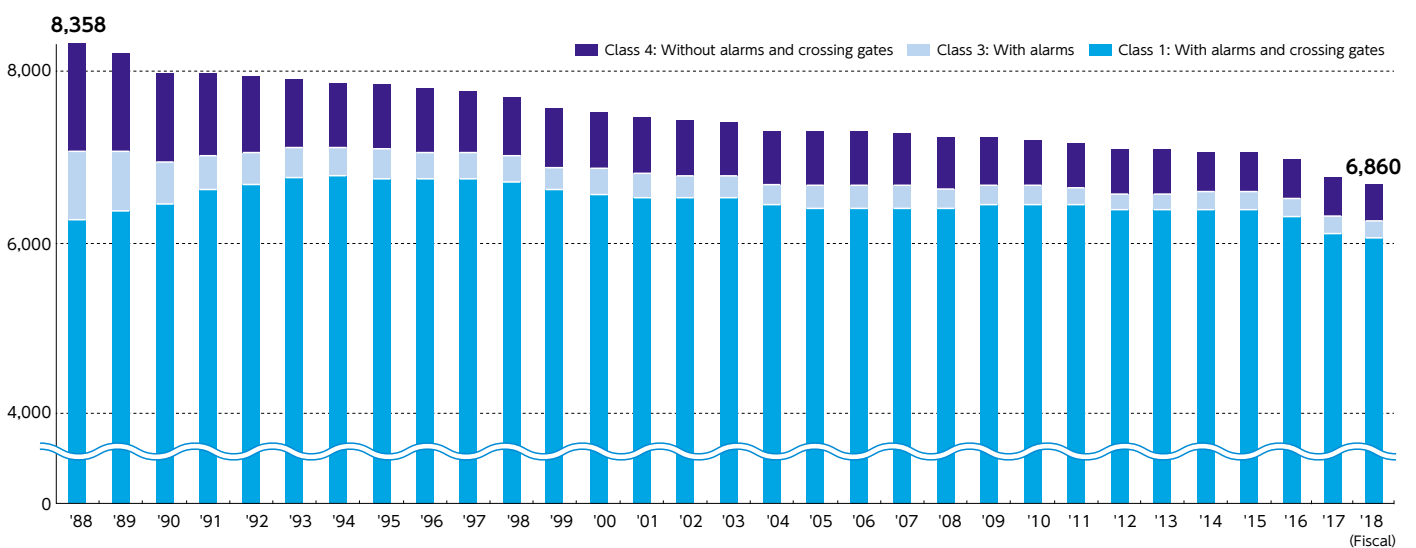
As safety measures at level crossings, in cooperation with local communities, JR East is working on the elimination of level crossings with the introduction of grade separated crossings, thereby integrating and reducing the number of level crossings.

To further improve our safety measures, we are further increasing the installation of large 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.

Additionally, based on the Act on Promotion of Railway Crossings revised in April 2016, for level crossings requiring improvement, depending on the situation at each level crossing, we will take measures such as introducing overhead crossings instead of level crossings, and increasing the width of crossings. Moreover, if necessary, we will also apply colored paint to level crossings and overhead pedestrian bridges.

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)





Safety



Society



Environment

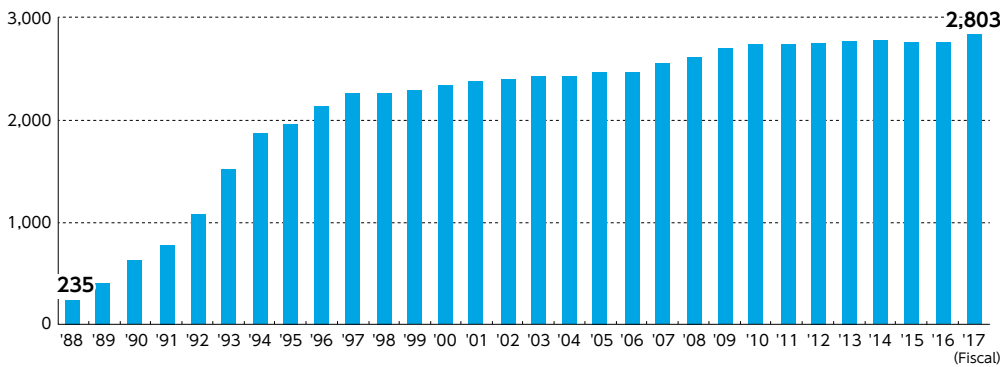
Efforts to abolish level crossings

[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	2016	2017
No. of abolished level crossings	22	11	24	12	37	17	37

Obstacle detectors

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

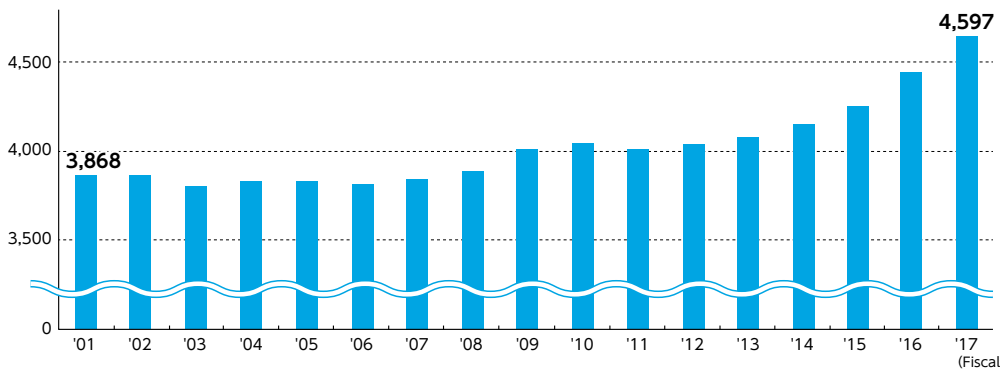


Three-dimensional laser radar obstacle detection method (large obstacle detector)

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



Level crossing alarm system

Increasing visibility of level crossing alarm system and standardization of display

We are improving the visibility of all level crossing emergency buttons so that pedestrians and drivers can immediately push the emergency button in case of an emergency on a level crossing. By using high-luminance reflective panels, furigana for Chinese characters, an English-language sign, and a pictograph, we will make it easier for children and people from abroad to use the emergency buttons.



Current



Improved button (image)



Safety



Society



Environment

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 in a higher position, level crossings become more visible to pedestrians and drivers.

[Omnidirectional warning light]



The warning light can be seen from all directions.

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

For Class 4 level crossings that do not have crossing gates or alarms, in cooperation with neighboring communities, we are either removing them or upgrading them to Class 1 crossings by installing crossing gates and alarms. Additionally, to prevent accidents at level crossings, we are taking measures such as installing solar-powered illuminated signs or whistling signs to alert pedestrians of approaching trains.



Class 4 level crossing



Safety



Society



Environment

Fostering safety-oriented 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



Train protection drills on training tracks

TICKET
TO
TOMORROW

Fostering future generations

Hiroki Kasano Instructor, JR East Personnel Service CO., Ltd.

As a lecturer at the JR East General Education Center, I am working on fostering future generations. In train crew training, in addition to work knowledge, I need to teach the importance of and reasons for the basic actions required of all train crews. In teaching and guiding trainees, I share my experiences as a train crew member and as a transport dispatcher so that trainees can get a vivid image of each basic action.

Additionally, in practical training to prepare crews to face an accident, I expect employees to think and act for themselves, not for the sake of the training itself, but so that they are truly prepared for an emergency.

To avoid repeating the same kind of accidents, and through remembering the major accidents in the past, I teach the importance of life, of the safety rules, and of stopping trains whenever they feel it is necessary for safety reasons. I am committed to fostering in future generations a strong awareness of safety in train operations.





Safety



Society



Environment

Enhancement of educational and training facilities

We are conducting safety-related education and training based on the following principles:

- ① In basic education in classrooms and in on-the-job training at each workplace, importance is placed not only on work procedures, but also on the purposes, objectives, reasons, background, structures and working principles that underlie them so that trainees can think about and learn the sense of values that underpin the reasons for each action.
- ② During training to improve responsiveness, trainees can touch and feel actual devices and equipment so that they can encounter situations that are as similar as possible to actual situations. By experiencing failures in training, they can learn by practice and acquire the level of responsiveness required in daily operations.
- ③ By experiencing the most serious accidents, trainees can be ready for the worst-case scenario and take the necessary countermeasures. Engraving the importance of lives on the minds of employees will drive them to further improve their countermeasures.

To improve the levels of education and training, we are enhancing educational and training facilities at General Training Centers and Skills Training Centers at all of our branch offices by introducing cut models of actual devices and equipment. Furthermore, we are currently introducing simulators for training at all train crew offices.



Cut model of rolling stock equipment



Simulator for train crew training



Track facility at Skills Training Center

Education and training to understand the real nature of each action

For higher quality operations, it is necessary to truly understand the sense of values, objectives, and background for each basic action and rule.

For these reasons, in our education and training, trainees learn not only procedures including manuals, but also undertake practical training so that they can understand the true nature of the lessons including the reasons, structures, and working principles behind them.

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.

In the 30th anniversary since the company's foundation, we are renewing the Accident History Exhibition Hall so that we can remember past accidents, and pass on the lessons learned from these accidents to future generations.



Accident History Exhibition Hall



Accident History Exhibition Hall (Accident Train Preservation Center)



Safety



Society



Environment

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 are taking various measures as indicated below.

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

We have selected Safety Professionals 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. We assigned 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).



Assignment of ex-employees of JR East who possess an abundance of knowledge and applied skills in railway safety to act as our "Chroniclers of Safety" (narrators of oral history)



Safety



Society



Environment

Ingraining the cultures of safety

The Challenge Safety Campaign

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.



Development of safety-related discussions in each workplace



Examples of CS Campaigns

TICKET TO TOMORROW

Actively passing skills and knowledge to future generations: Passive to active

Takeshi Ogawa Sales planning section, Transport Div, Morioka Branch Office

Until April 2017, I was in charge of signaling and shunting at Aomori Station, which included tasks such as coupling and uncoupling sleeper trains.

Aomori Station is facing the retirement of a large number of experienced employees' and a decrease in workload. In the Challenge Safety campaigns, we prepared materials to pass skills and knowledge to future generations by using video images. However, videos and paper documents have their limitations. By actively learning from on-the-job training and fully utilizing training facilities, to overcome weak points, we need to plan and continue our training. With a strong awareness that we are the ones responsible for the safety of our railway, I am actively not passively teaching skills and knowledge to future generations, while thinking and acting voluntarily.



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 (July 2017 issue)

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.



Safety portal



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 25th Railway Safety Symposium in FY2017



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

Round table discussions between front-line employees and executive officers

We are increasing the frequency of opportunities for the exchange of opinions between front-line employees and executive officers to further deepen mutual understanding.

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

Group-wide efforts to further improve safety

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.

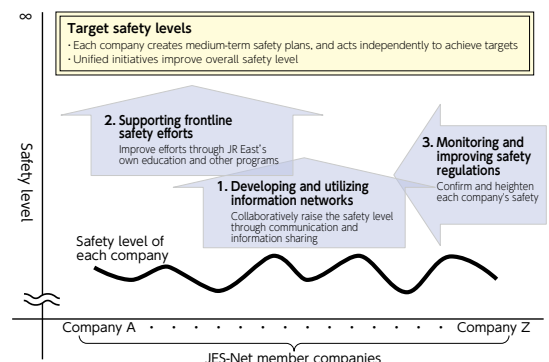
To this end, the JR East Safety Network (JES-Net) was established in FY2005 as a safety promotion network consisting of 25 JR East Group and partner companies that are engaged in work directly affecting train operations. As of March, 2017, the number of companies in this network had expanded to 37.

JR East Group continues to promote measures for improvement and share issues to enhance safety levels across the whole group through JES-Net Presidents' Meetings with presidents of each group and partner company and JR East's top management; through safety collaboration camps with safety-related managers of branch offices and JES-Net member companies to discuss safety issues; and through safety reviews where frontline staffs exchange various opinions on site.

Additionally, through active exchanges of human resources among JES-Net members, we are working to improve safety levels and sharing safety awareness across the whole group.



JES-Net presidents' meeting



JES-Net (image)



Safety



Society



Environment

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.

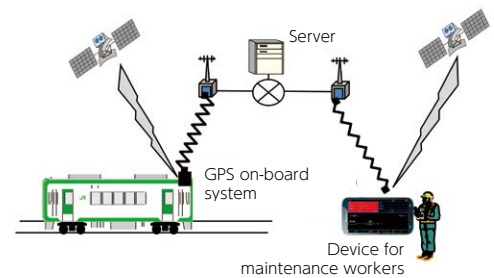
Research themes at these organizations include those related to promoting the sharing of safety information and knowledge, in addition to efforts among employees; development of systems to prevent accidents due to failures in maintenance work procedures; research on safety evaluation of natural disasters 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.

Research themes at these organizations include those related to major accidents such as derailments, systemization of maintenance work, promoting the sharing of safety information and knowledge among employees by utilizing human factors, safety evaluations of natural disasters such as strong winds, earthquakes, and heavy rain.

R&D related to systemization of maintenance work

To improve the safety of ground workers in charge of maintenance work on tracks, we developed the GPS train approach alarm system and installed the system in 8 railway sections.

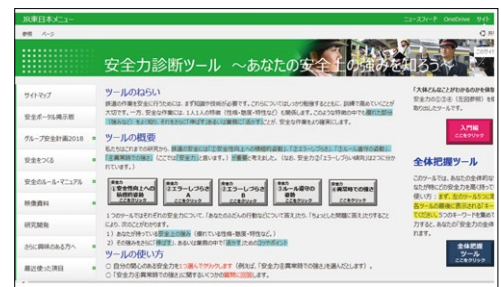
We will continue with its introduction and are currently conducting R&D for the commercialization of the system for multiple line sections with five railway lines and more.



GPS train approach alarm system (image)

R&D related to human factors

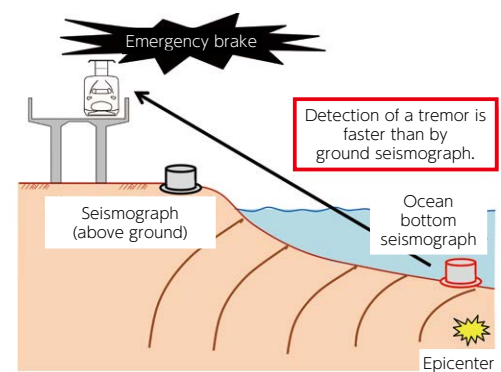
We developed a tool to measure the safety capability of employees so that they can identify their key strengths and then utilize and foster that strength in their work.



Development of a tool to measure safety capability of employees

Early detection of earthquakes by utilizing ocean bottom seismographs

To heighten the safety of trains at times of earthquake, we are considering the utilization of information from ocean bottom seismographs currently being installed by the National Research Institute for Earth Science and Disaster Resilience (NIED).



Utilization of ocean bottom seismographs (image)



Safety



Society



Environment

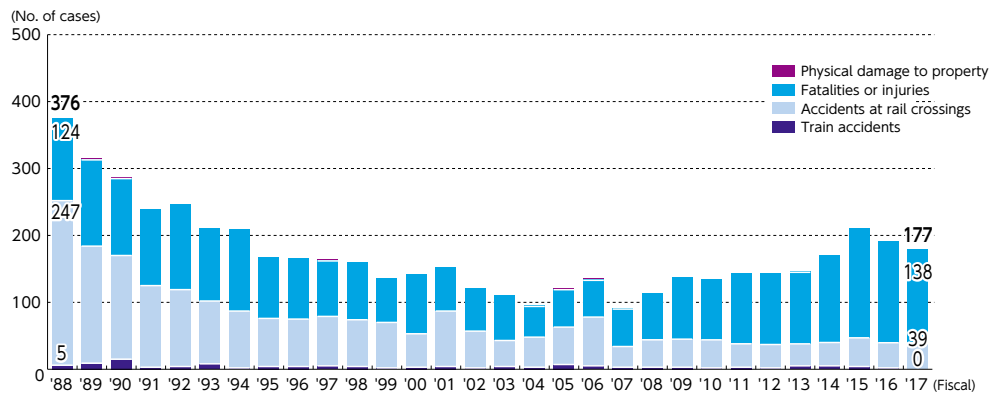
Current safety record of JR East

Railway accidents

In FY2017, JR East recorded 177 railway accidents, a reduction of nearly 50% since the company's foundation. Approximately 80 percent of the total number of accidents involved an injury or fatality.

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 excluding suicide
Physical damage to property	Accidents causing more than 5 million yen damage to property by train operation

[Occurrences of railway accidents]



* From the third quarter of FY2014, incidents which could not be determined to be a suicide are involved in accidents at rail crossings or fatalities or injuries.

Train accidents

JR East recorded zero train accidents in FY2017.

Accidents at rail crossings

JR East recorded 39 accidents at road crossings in FY2017. The accidents were caused by automobiles stalling on the tracks (9 cases), pedestrians/automobiles crossing the track immediately prior to the passing of trains (29 cases), and others (1 case).

Fatalities or injuries

JR East recorded 138 accidents involving injury or fatality in FY2017. A total of 77 of these accidents related to customers on platforms or trespassers on tracks coming into contact with trains, and customers falling onto the tracks from platforms. Approximately 60% of these involved intoxicated customers.

Physical damage to property

JR East recorded zero accidents involving physical damage to property in FY2017.

Incidents

JR East recorded four incidents in FY2017: 2 failures to close level crossings, 1 failure with signals, and 1 failure in maintenance work.

*Incidents	"Incidents" mean situations that could lead to a railway accident. The definitions of incidents are stipulated by the rules and regulations for railway accidents that require reporting.
------------	---



Safety



Society



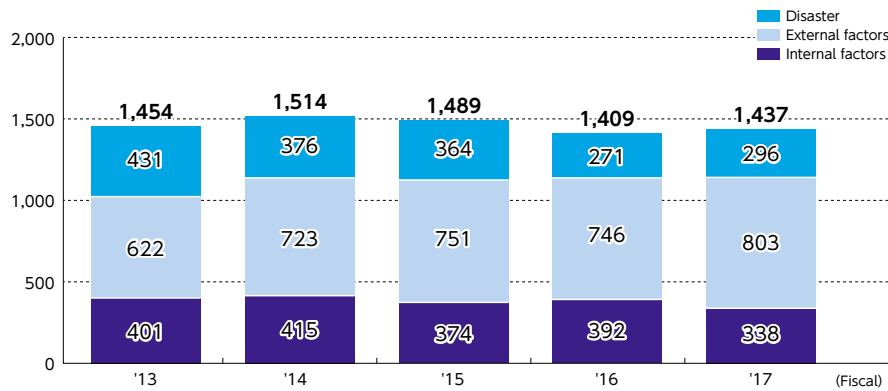
Environment

Transport disorders

JR East recorded 1,437 cases of transport disorder in FY2017.

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.
---------------------	---

Disaster	Natural phenomena such as powerful storms, heavy rainfall, heavy snowfall, flooding, high tides, earthquakes, tsunamis, etc.
External factors	External factors such as trespassing or suicide
Internal factors	Internal factors such as those related to crews, trains, or facilities





Safety



Society



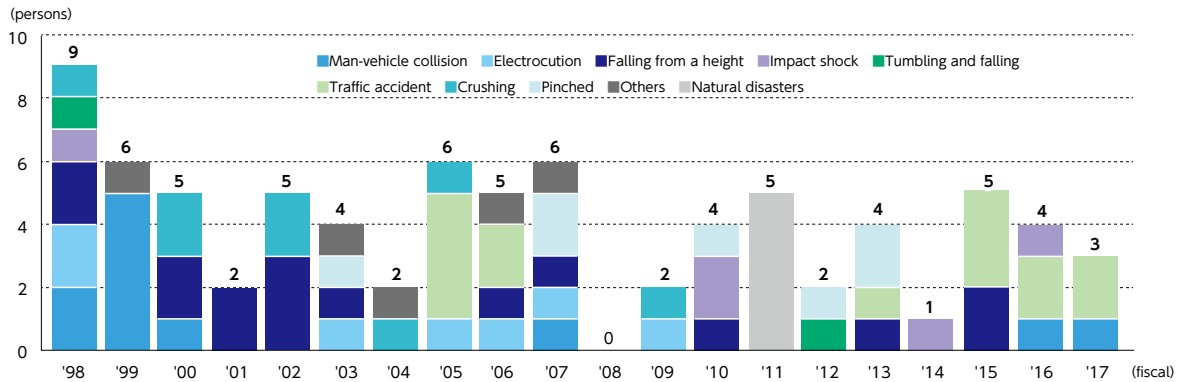
Environment

Current state of employee accidents

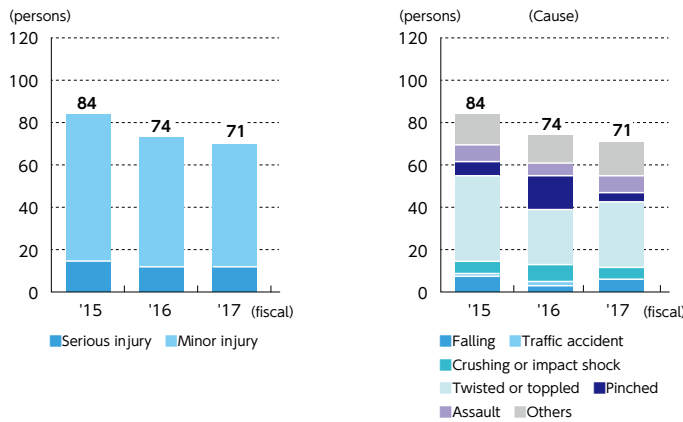
In FY2017, three lives were lost due to fatal accidents, and 201 accidents resulted in lost work time. Accordingly, as set out in Group Safety Plan 2018, we will continue our efforts to ensure that safety systems and rules are clearly defined and complied with across the entire JR East Group in our aim to achieve zero passenger accidents involving injury or fatality, and zero employee fatalities for both Group and Partner companies.

[Status of accident fatalities
(*Employees of JR East and Group companies, etc.)]

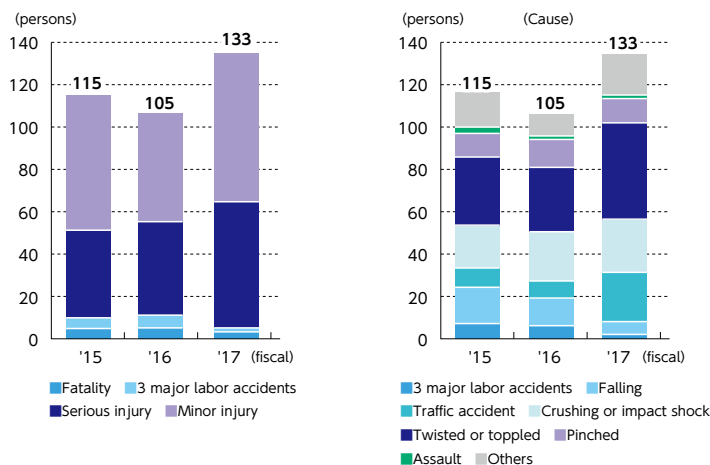
*Employees of Group companies, etc. include those of consolidated subsidiaries and partner companies with close relationships with JR East.



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



[Accidents with lost work time and fatality (employees of Group companies, etc.)]





Safety



Society



Environment

Cooperation with customers and communities to ensure safety

To ensure the safe use of stations and trains, we are implementing various measures so that our customers and people in communities can press emergency stop buttons when they sense danger.

Platform zero accident campaign

We are conducting platform zero accident campaigns to alert customers to avoid coming into contact with trains or falling onto tracks at platforms. Additionally, the campaigns aim to ask customers to push emergency stop buttons when they sense danger.



Platform zero accident campaign

Campaigns to prevent customers and their belongings from being stuck between doors

The campaigns aim to alert customers of the dangers involved in jumping onto trains or getting their belongings trapped between closing doors.



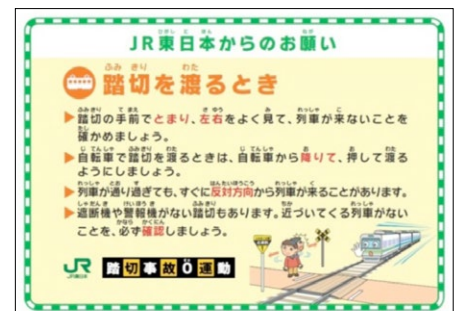
Campaigns to prevent customers and their belongings from being stuck between doors

Level crossing zero accident campaigns

We ask our customers and neighboring communities for cooperation in the safe use of level crossings, through awareness increase activities with local police stations and by posting campaign posters at stations.



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, which do not have crossing gates or alarms, for educational activities.

Utilization of simulators for platforms and level crossings

We are offering opportunities for our customers to try pushing emergency stop buttons that can be found on platforms and at level crossings. Platform simulators are located at stations and local events, while level crossing simulators are located at driving license centers, etc. so that people can try pushing the button and see how it works.



Platform simulator



Level crossing simulator



Society

CONTENTS

- Relationship with Passengers..... 55
- Relationship with Society..... 74
- Column: Development of rolling stock manufacturing business 89
- Relationship with Employees 90
- Column: In preparation for Tokyo 2020 Olympic and Paralympic Games 97

Relationship with Passengers

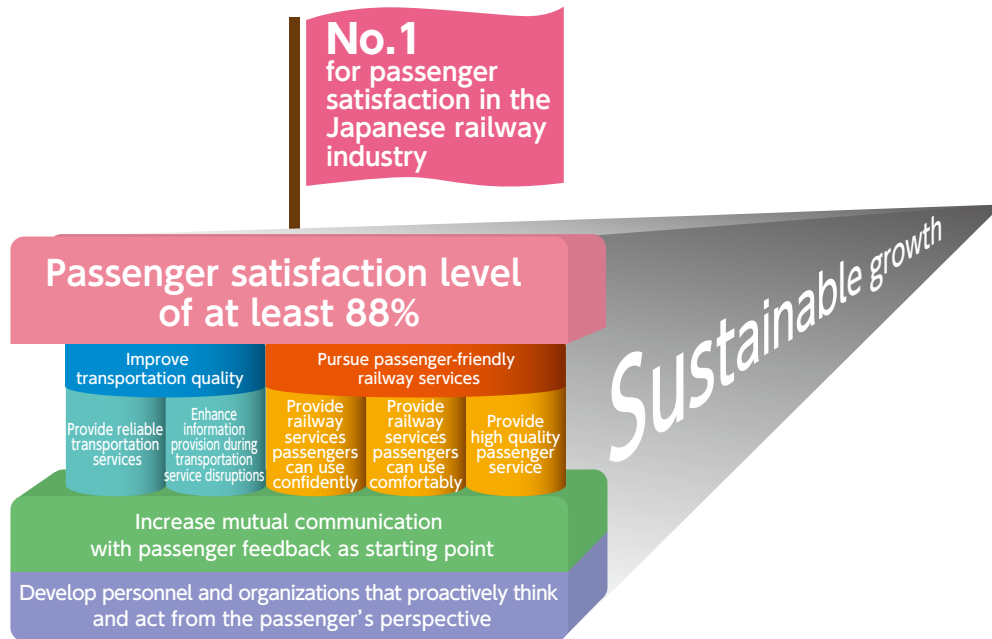
Our fundamental concept of service quality

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 passengers 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 passenger 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 passenger-friendly railway services.



Medium-term Vision for Service Quality Reforms 2017

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 passenger satisfaction, this vision is founded on enhancing mutual communication with passenger feedback as the starting point and developing personnel and organizations that proactively think and act from the passenger's perspective. It specifies five pillars for further improvement: safety, information provision during service disruptions, confidence, comfort, and service.



Confirm our understandings of issues and effects of measures implemented through passenger satisfaction surveys

We conduct passenger satisfaction surveys via our JR East Passenger Questionnaires to enable us to gain an understanding of how passengers evaluate our services that we cannot get simply through passenger feedback and to quantitatively check levels of passenger satisfaction. Based on the survey results, we are addressing various measures while making it a rule to pick up such matters as the "stability of transportation" and "provision of information to passengers during transportation service disruptions" as issues we should most urgently address.



Safety



Society



Environment

Provide reliable transportation services

Transport disruption prevention 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 to make 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 passengers.

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.

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



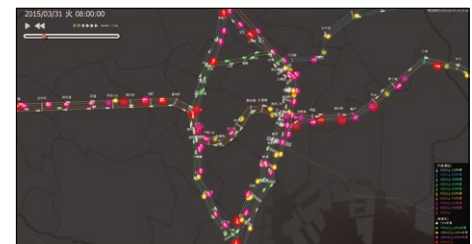
Rescue drill

Addressing measures to reduce congestions at the morning commuter rush hours

A major cause of delayed trains during the morning commuter rush hour is congestion. For the purpose of reducing congestion during the morning commuter rush hour, we have thus far taken such measures as increasing train services and adopting railcars with widened passenger space. In addition, we are also addressing measures to disperse passengers to different trains and to shift commuting time to off-peak hours. We will continue to try to reduce congestion by indicating congestion spots for each railcar of trains during the morning commuter rush hour on posters at stations and information displays at the wickets.

Real-time visualization of the status of conventional railway lines

We have developed a system of visualizing the complete status of congestion on conventional railway lines in real time by indicating data for each train pertaining to its location, delays and number of passengers and overlapping the data on the map of regional railroad lines, and introduced the system to the Tokyo General Direction Office in April 2017, where we control train operations.



Visualization system for congestion on conventional railway lines (an image)



Enhance information provision during transportation service disruptions

Information Enhancement

For better information provision in an emergency, JR East is taking steps to provide passengers 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 resulting in casualties, and giving subsequent updates depending on the situation. Furthermore, we have started in April 2017 a system of announcing the expected time of resuming train operation at a time of suspending the train operation due to reasons other than injury accidents. In addition, as tools for providing transport information, we have installed "service disruption information displays" (installed at 266 stations as of the end of March 2017).



Information display during transport disruptions

We also provide information through various media, such as onboard liquid crystal displays and the content of cellular devices. 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.

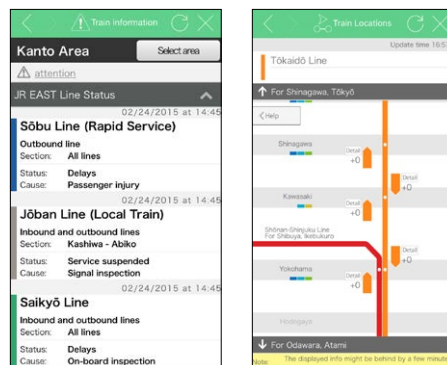
Timely Information Provision through Smartphones

In order to provide timely information to meet individual passenger needs, we released the smartphone app "JR EAST APP" in March 2014. "JR EAST APP" allows passengers to view information on train operations of not only JR East's trains but also of 15 companies including private railway companies. In addition, it allows for viewing of information on all stops (transfer lines, platform maps and station premise maps) and the status of congestion and temperature in all cars of all trains currently in operation on the Yamanote Line.



JR EAST APP

In addition to the above services, we launched "JR-EAST Train Info," an English version of the JR EAST APP which is made based on the JR EAST APP and delivers information on operating status of individual trains, maps of major stations and such in English, in March 2015. Furthermore, for smartphones, we instituted "JR East Train Operation Information Push Notification," a service for notifying information on our train operations. In addition, we provide "Doko-Train," a train operation information service that enables passengers to confirm the operating status of individual trains on their own.



JR-EAST Train Info



Railway services passengers can use confidently

Assistance Campaign and Support

We have a campaign in which we personally greet all passengers in need, including those passengers with disabilities and elderly passengers, to make sure that they can use our stations and other facilities safely and with a sense of security. In order to foster the momentum for supporting one another and to create a society where all people can live safely and comfortably with peace of mind, we are promoting the "Assistance Campaign and Support" by asking not only our own employees but also employees of other group companies and, even passengers using our services to greet others. Starting from FY 2017, we plan to expand the campaign by addressing the issue in cooperation with private railroad companies within the metropolitan area (Tobu, Seibu, Keisei, Keio, Odakyu, Tokyu, Keikyu, Tokyo Metro, Sotetsu, Shin-Keisei, Tokyo Metropolitan Government Transportation Bureau and Tokyo Monorail) and thereby will further disperse and reinforce the movement.



"Assistance Campaign and Support" poster

Acquisition of Care-fitter certification

We have encouraged our employees to qualify themselves for Care-Fitter certification to acquire hospitality mindset and assistance skills, and approximately 13,000 employees in total from all job category groups were certified. In addition to acquisition of new qualifications by employees, we are also endeavoring to brush up their knowledge and technology. The qualified employees wear a "Care-Fitter" name tag so that passengers will be able to recognize them easily.

TICKET
TO
TOMORROW

Initiatives as a Care-Fitter

Miho Araki Conductor, Omiya Transportation Depot, Omiya Branch

I work as a conductor for the Saikyo and Kawagoe Lines. I acquired Care-Fitter certification while I was working at the station. I now try to proactively help customers in trouble by utilizing the knowledge and skills for assistance I acquired then. The other day, I received an unexpected word of appreciation when I offered a help to a visually-impaired person at Kawagoe Station, and that made me happy. Moreover, I am taking the lead in "Assistance Campaigns and Support" by exerting the "mindset of hospitality" I learned as a Care-Fitter. I would like to continue making efforts so that the customers in need of assistance as well as all other customers will be able to enjoy our services with peace of mind.





Reinforcing provision of multi-lingual information during service disruptions

To enhance the provision of information at stations and on trains during service disruptions, we expanded in March 2017 the "Multilingual information provision app for service disruptions," which had been introduced on a trial at select stations, in order to have it installed at all stations and all crew member sections where tablets are installed. The tablets provide emergency information in both the text and speech of four languages (Japanese, English, Chinese and Korean).

In addition, we have introduced the function of providing service disruption information in the speech of two languages (Japanese and English) and in the alphabet of four languages (Japanese, English, Chinese and Korean) to the railcars installed with the information indicators above doors of the trains that are being run within the metropolitan area.

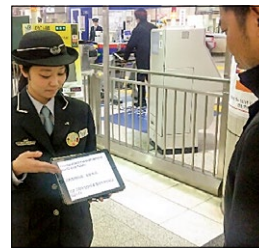
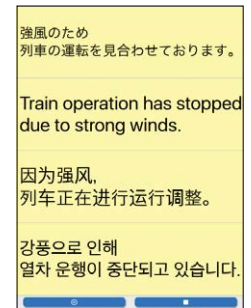


Image of information provision



Multi-lingual information provision app for service disruptions

Barrier-free Stations

JR East has been working with local governments and other entities to install elevators at stations in accordance with the "new barrier-free law (Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc.)" As of the end of March 2017 we had completed the installation of elevators in 533 stations.

Barrier-free Railcars

We have introduced the universal design E233 series railcars, in which the height of luggage racks and hand straps at the ends of railcars was changed, location of priority seats was clarified and information indicators for displaying operation information in texts were installed, sequentially to the Chuo Rapid, Saikyo, Yokohama, Nanbu and other Lines. Furthermore, E235 series trains, which started operation on the Yamanote Line in 2015, now have priority seats in each railcar as well as feature free space in all railcars that can be used more safely by wheelchair users and baby stroller users (whereas there used to be a space for wheelchair users only in the front railcar).

Spacious toilet rooms capable of accommodating advanced electric wheelchairs with improved handles have been introduced on new Narita Express E259 series cars as well as the Shinkansen E5, E6 and E7 series cars and the new limited-express E657 series trains on the Joban Line.



Free space on E235 series

Escalator Safety Measures

To prevent injuries to passengers on 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 passengers through such means as posters and handing out free pocket tissues that call for the safe and proper use of escalators.



"Escalator Safety" campaign poster



Safety



Society



Environment

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

To increase safety for passengers 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 passengers with baby strollers to be careful, as well as asking passengers with baby strollers and other passengers 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. In addition, we have baby rooms installed at 48 stations as of the end of June 2017.



Baby stroller sign

■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.

■Crime Prevention Measures

For conventional lines, security cameras are installed in the two-level green cars on the Tokaido, Tohoku, Takasaki, Joban and other Lines in addition to the Saikyo Line and at the decks of cars of Series E259 and E657 limited express trains, and in and after the spring of 2018, the same device will also be sequentially installed on the Yamanote Line E235 series trains.

For Shinkansen railcars, security cameras are installed at the decks and in the cars of E5, E6 and E7 series trains, and we are now proceeding with the installation at the decks and in the cars of part of the E2 and E3 series trains.



Railway service that can be comfortably utilized

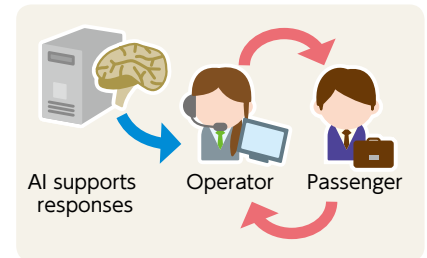
■System to respond to inquires

JR East Center for Inquiries receives questions from passengers through telephone. In order to quickly and correctly respond to the passengers' inquiries, the Center is addressing measures to introduce the work supporting system utilizing AI and to improve the function of the system for controlling lost and found objects as well as to enhance the quality of responses by regularly implementing the monitoring evaluation of calls and responses.

■Operator supporting system by utilizing AI for the purpose of raising the response rate

Since the Center for Inquiries must receive a great number of various questions, we plan to introduce the Center for Inquiries work supporting system utilizing AI (artificial intelligence) sequentially from the latter half of FY2018.

With this system, we expect to become able to raise the rate of responses to inquiries and homogenize the responding quality as well as to reduce the cost of training operators.



Work supporting system at the Center for Inquiries utilizing AI (an image)

■Transport Services Improvements

In consideration of the situation of the passengers' utilization after the opening of the Hokkaido Shinkansen Shin-Hakodate-Hokuto Station and Hokuriku Shinkansen Kanazawa Station, we have increased in March 2017 the number of Tohoku Shinkansen "Hayabusa" services and reinforced the transportation capacity of Joetsu and Hokuriku Shinkansen during evening commuting hours to reduce congestion.

For the conventional lines, we have enhanced convenience by increasing the number of the limited express "Narita Express" trains to leave and arrive at Shinjuku Station at every 30 minutes during 10:00 and 19:00 hrs. and tried to enhance service for commuting on the seat by newly setting the limited express "Swallow Akagi" services during the morning commuting hours.

For "Tokyo Mega Loop*," we also increased the frequency of operations during the evening commuting hours for the Keiyo Line to reduce congestion.

As a result of implementing the above-mentioned and other efforts, in the fiscal year ended March 2017 the average level of in-train congestion during morning commuting hours was 168%, 70 percentage points below the rate in the fiscal year ended March 1988.

*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.

■Improvement of onboard service

As part of improvement of onboard service, Furthermore, in addition to liquid crystal display (LCD) on trains in the Tokyo metropolitan area showing guides and advertisements, LED displays in full color installed in limited express trains and new Shinkansen railcars are showing newscasts as well as destinations and other transport information.

Passengers can also avail themselves of Internet connections on some of the limited express trains through WiMAX and Wi-Fi.

Furthermore, we have installed power receptacles on all the seats of the E7 and part of E5 series railcars, and on part of the seats of E2, E3 and E5 railcars of Shinkansen trains as well as E6.



E235 series digital signage



Creation of new stations to develop railway network

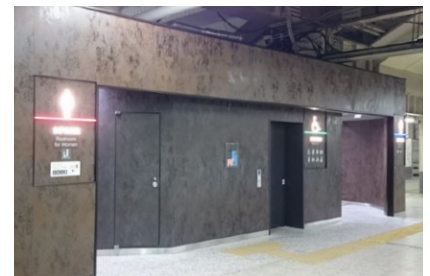
We are also cooperating with local governments in the creation of new stations in line with their city planning, based on requests from local governments, etc.
In April 2017, we opened a new station, Koriyama Tomita on Ban'etsu West Line.



Koriyama Tomita Station on Ban'etsu West Line

Improvements in Station Toilets

In order to dispel the image of station toilets as dark, dirty, and malodorous and to enable passengers to be able to use them comfortably, since its establishment JR East has been steadily upgrading its toilet facilities.
Measures taken include changes 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 the fiscal year ended March 2017, we renovated the toilets in 21 more stations, as a way to increase passenger comfort and satisfaction.



Toilet in Ueno Station

Provide impressive passenger service

Efforts to improve passenger service

We prepared a "Green Handbook," establishing the basics of passenger service in 1987 and started distributing it to all employees. We have been utilizing it while making repeated renewals to suit the changes of the times to improve our passenger service since then.
In March 2016, we replaced the former six important passenger service terms with "hospitality terms" to further draw out the needs of each passenger.



Cover and contents example of Green Handbook



A poster of words for expressing hospitality



Increase mutual communication with passenger feedback as the starting point

Constant attention to passenger comments

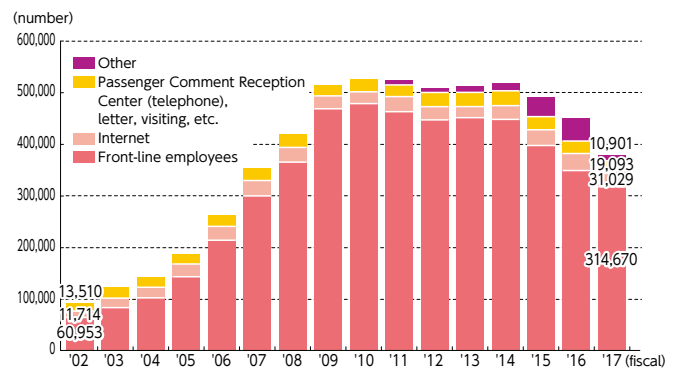
The starting point of enhancing the service quality at JR East is the passenger comments. To constantly improve our services, it is most important for us to listen carefully to passenger comments, including their interests and complaints, and then promptly respond to their requests through service improvements.

JR East is endeavoring to collect passenger comments on a daily basis including those which are received by each of our employees directly from passengers but also those posted on the Internet, those given over the telephone, and those which can be collected by utilizing other various types of tools.

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 passenger comment contributes to the core of improved passenger satisfaction.

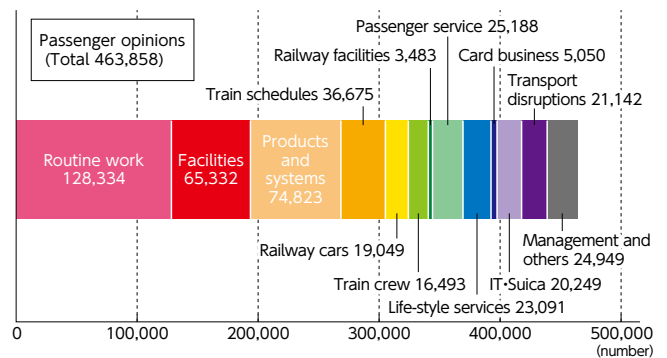
Passenger comments are considered at various levels within the company. Initially, a decision as to whether or not some action of improvement is possible is made at the level that initially received the original passenger comments. The action will reflect this decision. If action is difficult to take 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 Passenger Comments Committee comprised of concerned executive officers, which considers the possible implementation of improvement measures based on collected passenger comments. Through this system, we are constantly striving for the attainment of improved passenger services.

[Trends in the number of passenger comments classified by the method of reception (FY2002~)]



*Since the number of comments collected via "others," which are comments collected through the Group companies, etc., grew among the number of comments collected via passenger Comment Reception Center (telephone), letter, visiting, etc., such has been categorized separately under a new "Others" category.

[Itemized breakdown of the Passenger comments in FY2017]



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

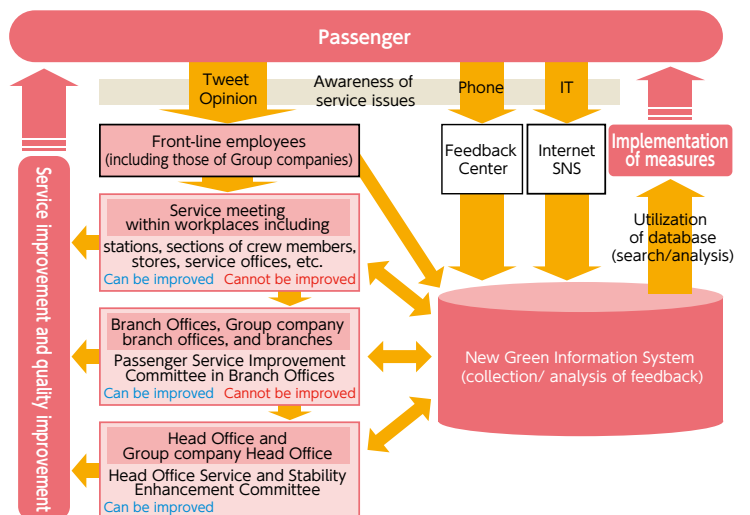
[Case of improvement based on passenger comments]

About installation of luggage spaces on E7 and W7 series trains

As the railcars of Hokuriku Shinkansen has been renewed, the luggage space that used to be equipped on the former railcars is now unavailable, and therefore, I feel great inconvenience. When I must carry a large piece of luggage, where can I place it?

For the Hokuriku Shinkansen Line, since the numbers of passengers from abroad and passengers carrying a large piece of luggage such as skis and snowboards during the winter season are increasing, we have newly installed a baggage space each on the deck of the even-numbered cars (except for the grand class cars) and the Green Car (No. 11) of the relevant trains.

[Systematic improvements based on passenger comments]





Utilization of various channels

In order to ascertain what our passengers really need, JR East considers it necessary not simply to receive comments directly given us by passengers, but also to actively and widely collect and analyze passenger comments. Therefore, we are also striving to comprehend their potential opinions that are transmitted through social media.

Through the "JR East Official Facebook" launched in May 2012, we proactively provide information including information about our company's various measures as well as notification of our campaign plans to promote two-way communications with passengers.

Furthermore, the "Projects for Improving Service Quality," designed to identify passenger needs and to promptly improve service quality and transmit information, began during 2013.

We not only provide information on our entire company related to the enhancement of our service quality through posters, videos and other media, but also introduce example cases of improved service quality at each workplace based on passenger comments.



JR EAST Official Facebook



Projects for Improving Service Quality (Crew Members Version)



Poster of example cases of improvement at each workplace



Safety



Society



Environment

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

■ Service Quality Symposiums

JR East holds the "Service Quality Symposium" once a year. We consider it an opportunity for all JR East employees to think over how to challenge the enhancement of service quality through team work through special lectures, presentations of example cases, etc.



Service Quality Symposiums

■ Service Quality Promotor and Service Quality Coordinator

As leaders to promote overall improvement of service quality beyond the borders of job category groups and divisions, we appoint employees working in the frontlines of workplace in all the job category groups as the "Service Quality Promoters."

In addition, for overall improvement of railway service quality including the stability of transportation 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 solutions for 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 operating fields, branch offices and the head office working as a team, we instituted Service Quality Meetings, in which senior executives from our head office visit operating fields and exchange views with field supervisors.

In the fiscal year ended March 2017, we held discussions on the theme of "early announcement of expected time of resuming train operation after the occurrence of a transport disorder" so that we may promptly provide necessary information to passengers.

JR East strives to improve quality of service by means of overall teamwork beyond the borders of divisions and job category groups.

■ Improvement of service quality pursued by the entire Group working as a single team (SQ Network)

To rapidly promote improvements in the quality of our services by reflecting passenger comments deemed the starting point as the JR East Group, our Company and group companies closely involved in transport service established the SQ (Service Quality) Network in 2011. The SQ Network holds meetings of representatives of JR East and group companies in the frontlines of operating fields such as stations, branch offices and the head office, to share passengers' 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 passengers' satisfaction.



IT and Suica Business

About Suica

Suica is an IC ticket provided by JR East. Its service started at 424 stations in the Tokyo metropolitan area in November 2001, and the number of Suica cards issued reached approximately 63.98 million on July 31, 2017. The locations where Suica can be used continues to expand as more shops in JR East's business area begin to accept payment with Suica; interchangeable use with the other 10 IC cards throughout the country was made available in 2013.

Furthermore, e-money service enabling use of Suica for shopping payment started in March 2004. Speedy settlement, no hassle over small change and additional convenience have been supported by many passengers, and the maximum number of uses on a single day of Suica and other e-money cards operated by transport companies reached approximately 6.64 million (recorded on August 25, 2017). We aim to increase the number to 8 million by FY2021 by further expanding the number of affiliated stores and promoting its use.

【Number of Suica cards issued】 (of which with e-money function)	Approx. 63.98 million Approx. 61.81 million
【Number of Mobile Suica users】	Approx. 4.44 million
【Membership of Suica Point Club】	Approx. 2.47 million
【Number of uses in March 2017】	Approx. 149.09 million
【Number of uses per day (record-high)】 (recorded on August 25, 2017)	Approx. 6.64 million
【Number of shops accepting Suica】	Approx. 388,040
【Number of locations accepting Suica (number of terminals)】	Approx. 705,260

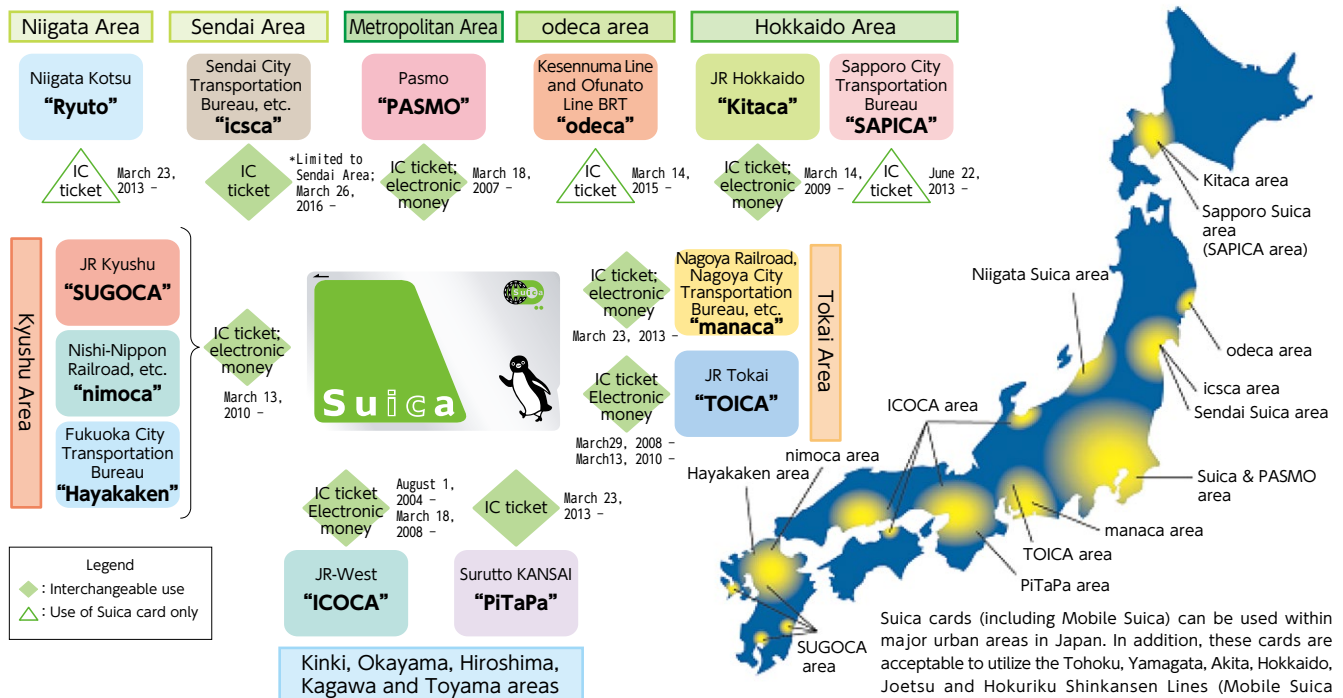
(As of the end of March 2017 unless otherwise specified)

As an IC Ticket

Ten IC cards, including Suica, used in public transport throughout the country were made interchangeable in March 2013. In addition, interchangeable use of Suica with "icsca," IC cards issued by Sendai City Transportation Bureau, in the Sendai region started in March 2016. Furthermore, from April 2017, all stations from Nirasaki to Matsumoto within the metropolitan area (except for the stations to be reached via Tatsuno Station between Okaya and Shiojiri Stations) became included in the Suica area, and these stations, including the stations that used to be able to partially handle Suica cards, started to provide all Suica services including handling of Suica commuter tickets. Also, Miyauchi Station on the Shin'etsu Main Line in the Niigata area which used to be able to partially handle Suica cards and Koriyama Tomita Station which newly opened in April 2017 on the Ban'etsu West Line in the Sendai area similarly became included in the Suica area and started providing all Suica services including handling of Suica commuter tickets. The number of stations where Suica can be used, including stations of railway companies accepting interchangeable use, is 4,850 across the nation as of April 1, 2017.

[Interchangeable Use of IC Cards Area]

(As of April 1, 2017)





■As Electronic Money

The number of places where Suica can be used as electronic money has been increased, to include shops not just inside but also outside stations. In FY2017, Suica electronic money was adopted by large-scale chains including TSUTAYA, Tully's Coffee, and CoCo Ichiban. 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 services, such as online shopping sites like "Amazon" and "Rakuten Ichiba."

■Responding to Diverse Needs

The number of users of "Mobile Suica," reached approximately 4.44 million at the end of March 2017, reflecting the fact that Suica service for Apple Pay was started in October 2016.

Also, in order to enhance convenience to foreign visitors to Japan in the station premises, we have started from September 2016 to install cash dispensers for exclusive use with cards issued in overseas countries. In addition, in order to make it possible to access the Internet by means of WiMAX even at concourses inside the wickets and underground platforms in the station premises where radio waves cannot easily reach, we proceeded with establishing WiMAX base stations.

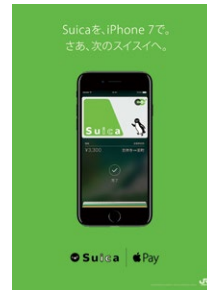
We have also been working to enhance convenience in the railway business and the life-style business and to further develop passenger services by utilizing information obtained from Suica and View cards.



Mobile Suica



View Suica Card



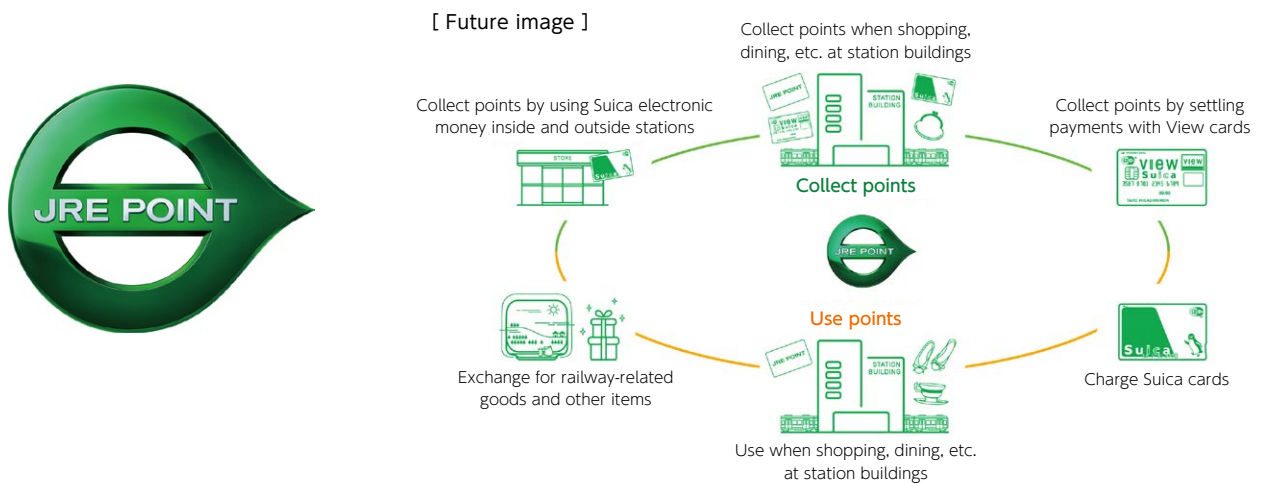
Advertisement related to Suica for Apple Pay (an example)



Improvement of a WiMAX base station

■JRE POINT

In order to build a service system that is attractive to both passengers and member stores by communalizing the multiple number of point systems existing within the Group, we launched in February 2016 the "JRE POINT" program. As of the end of August 2017, it has become to be usable at 77 places including station building (including uses at Ekinaka through NET), and hereafter, the entire Group will continue to address measures to build a highly convenient point service system by further communalizing it with Suica point and View-thanks point.





Taking various measures for inbound tourism

In order to take in demand of rapidly increasing overseas visitors, we are taking active measures such as proposing attractive products and carrying out promotional activities in full cooperation with communities. Furthermore, we are working to reinforce capability to accept overseas visitors so that they will be able to use the railway network safely and comfortably.

Improved environment where foreign visitors can purchase products free of worry

"JR EAST Travel Service Center" for foreign visitors is located at Narita International Airport Terminal 1, Narita International Airport Terminal 2, Haneda Airport International Terminal Station on the Tokyo Monorail line, Tokyo Station and Shinjuku Station that many overseas visitors use.

In April 2016, a foreign visitors' travel counter was set up in Travel Service Center (View Plaza) at Sendai Station, and with regard to "JR EAST Travel Center," we are reinforcing the system by expanding that in Tokyo Station in June, newly opening that in Ikebukuro Station in October, expanding that in Airport Terminal 2 in January 2017, and other works for improvement.

At those centers, foreign language speaking staff engage in sales of products for foreign visitors such as the "JR EAST PASS." At Tokyo, Shinjuku and Sendai centers, tourist information centers are also placed to help overseas visitors consider their trips using JR East. In addition, we have enhanced convenience for overseas visitors by setting up a duty-free counter, etc. in the stations.



JR EAST Travel Service Center at Tokyo Station



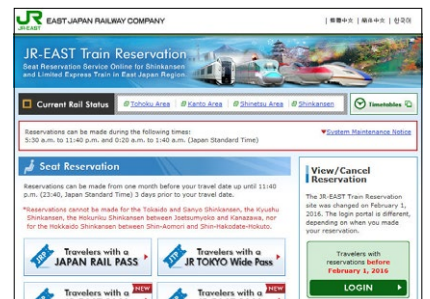
Inbound Travel Counter at View Plaza Sendai Station

Products that Appeal to Overseas Visitors

As products that can accommodate to different travel plans, we offer the "JR EAST PASS," which allows unlimited travel within the JR East service area, the "JR Kanto Area Pass," which allows unlimited travel within the Kanto area, and "N'EX TOKYO Round Trip Ticket" as a product providing access from Narita International Airport to Tokyo. Starting from April 2016, we divided "JR EAST PASS" into two products ("Tohoku area" and "Nagano/Niigata area") to improve convenience while launching new products such as "JR East-South Hokkaido Rail Pass" for traveling on Hokkaido Shinkansen and "Tokyo-Osaka Hokuriku Arch Pass" for traveling on Hokuriku Shinkansen to provide overseas visitors with more convenient and reasonable products and encourage them to take enjoyable trips using railways.

Seat reservation system allowing reservations from overseas

We offer "JR-EAST Train Reservation," which is a seat reservation service allowing reservations from overseas for Shinkansen and major limited express trains of JR East. Starting from February 2016, real time reservations became possible online, and reservation service in Chinese (traditional Chinese and simplified Chinese) and Korean in addition to English was made available, further enhancing convenience for overseas passengers. Furthermore, we have expanded in February 2017 the areas for which reservations can be made in cooperation with JR Hokkaido and JR-West, and as a result, "all areas" of JR Hokkaido and "Hokuriku Shinkansen (up to Kanazawa Station)" are now covered by the system.



Online seat reservation site "JREAST Train Reservation"



Free Public Wireless LAN Service for Overseas Visitors

As of March 31, 2017, we have installed and provide free public wireless LAN services at 89 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.)



Adoption of Station numbering system

To offer easier and safer use of railways not only for foreign visitors but also for all passengers, a "station numbering system" has been sequentially introduced in the Tokyo metropolitan area, with station names indicated in four languages (Japanese, English, Chinese, and Korean), starting at Meguro Station from August 2016.



Station numbering

- 1 Shows the combination of the route code (two letters) and station number (two-digit number) using the route color.
- 2 In addition to the route code and station number, "three-letter codes" that represent the station names using three alphabetical characters are shown for hub stations.

Image of JR East station numbering

Strengthening service of multilingual business interpreters

In order to smoothly provide information service in stations and railcars, we have changed the service hours for multilingual business interpretation through telephone from the former 10:00 – 18:00 hrs. to 24 hours a day, starting from April 2017. For passengers to whom it is difficult to provide information in Japanese, our employees at stations and crew members call up the Interpreter Center, and information is provided over the phone through operators.

JAPAN RAIL CAFE

In December 2016, the "Japan Rail Café" has opened in Singapore, providing a "venue" to offer travel information on Japan and personal exchange among local people highly interested in Japan. In cooperation with local governments and other organizations in Japan, it holds special events monthly in which visitors can enjoy culture, meals, tourist attractions, etc. of various regions in Japan, to enhance opportunities for visits to Japan.



JAPAN RAIL CAFE

Establishment of a prayer room

In consideration of the situation that Muslim visitors to Japan from Southeastern countries and other district are on an increase, a prayer room has been established for them in the premise of Tokyo Station.



Prayer room

Technical renovation

Medium- to Long-term Vision for Technical Renovation

Since its inauguration as a company, JR East has established its firm foundation and has promoted researches and developments for creation of new value and service in the railway system in order to sustainably grow as a corporation.

In November 2016, in view of the progress of technologies including IoT, big data and AI, we formulated the "Medium- to Long-term Vision for Technical Renovation" aiming to realize a forward-looking technical renovation.

With the "Medium- to Long-term Vision for Technical Renovation," we will thoroughly review the services provided by the JR East Group from the viewpoint of passengers by utilizing IoT, big data, AI and other technologies, to materialize the "Mobility Revolution" with thinking beyond the traditional mindset.

To be concrete, we aim to create by means of AI and other technologies new values out of the data obtained through our Group's all business activities, in the four fields, namely, "Safety and Security," "Service and Marketing," "Operation and Maintenance," and "Energy and Environment."

To that end, we will strive to promote further open innovations to incorporate the world's most advanced technologies, and thereby build the "Innovation Ecosystem*" which continues to provide innovative services in the area of mobility.

*Industrial cooperation among corporations to promote innovations



"Mobility Revolution" by the four fields

Research and development of service robots

For the purpose of supporting passengers who are not accustomed to railways and providing support for security in the station premises, we are promoting researches and development of service robots (information robots, transfer-supporting robots, etc.) so that all passengers may use stations without worry.

In addition, in order to accelerate development and introduction of service robots, we will establish a limited liability partnership (LLP) to recruit technical and development partners from outside the Company.



Information robot (an image)



Transfer-assisting robot (under joint development)

TICKET TO TOMORROW

About research and development of service robots

Takeshi Saito

Researcher, Frontier Service Development Laboratory, JR East Research and Development Center

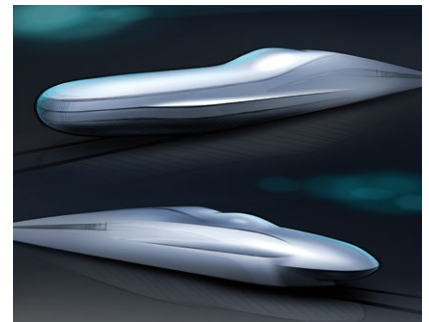
In preparation for the arrival of super ageing society with fewer children in future, the Frontier Service Development Laboratory is addressing the research and development of robots that will be the base for supporting station services including providing information to passengers, cleaning, transportation, security and other services. We do not consider robots to be mere substitution for men, but aim to find method to utilize robots that will work in cooperation with men and facilitate to heighten the level of the entire station services. Differently from factories, since various risk factors that can threaten safe operation of robots are hidden in the station premises utilized by many passengers, it is impossible to utilize mere robotics in station premises. Therefore, we are challenging to combine the safety technology and know-how peculiar to railway industry and the most advanced robotics. Creating stations in which various types of robots can be utilized is the very first attempt in the railway industry, and we feel very satisfied with the work.



Research and development toward the next-generation Shinkansen

We will newly manufacture E956 type Shinkansen experimental railcar (nicknamed ALFA-X) to promote the “development for realization of next-generation Shinkansen.”

For the next-generation Shinkansen, in addition to the conventional concept of providing safe and high-speed means of transfer, we aim to provide new value, and will promote development with concepts of “Pursuit of further safety and stability,” “Comfortability,” “Environmental performance,” and “Maintainability.” The experimental railcar is planned to be completed in spring of 2019.



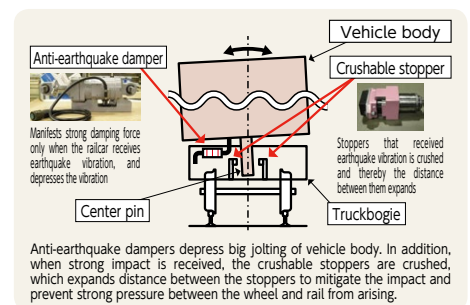
An image of E956 type Shinkansen railcar (ALFA-X)

Concept of next-generation Shinkansen

Pursuit of further safety and stability

-- We will realize the next level of “safety” and “stability.”

- Equipped with a development article to make a train to stop more promptly and to be more hardly derailed when earthquake occurs
- Conducting tests of railcar structure that prevent snow accretion, aiming at Shinkansen that is strong against snow and coldness
- Enhancing safety by autonomously determining the railcar conditions with monitoring of each equipment on the railcar as well as addressing enhancement of transportation quality by detecting sign of failure and prevent its occurrence

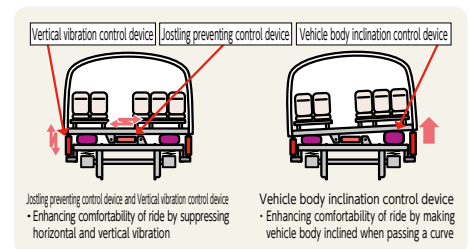


Development to make train stronger against derailment (Anti-earthquake damper and Crushable stopper)

Comfortability

- Flexibly responds to more diversified needs -

- By means of installing oscillation preventing control device and testing vehicle body structure with high sound absorbency and insulation, etc., it is aimed to realize comfortable indoor space that is “quiet” and “does not swing.”
- Addressing development work to realize services with which passengers can pass time as if they were at home.
- In order to enhance the speed, technically verifying possibility of maximum speed of 360 km/h in business operation.

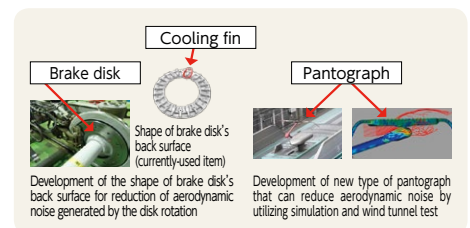


Jostling preventing control device, etc.

Environmental performance

- Brushing up environmental performance -

- Aiming to reduce noise by making lower part of vehicle body, pantograph, etc. to generate less noise.
- Aiming to reduce pressure wave at the time of entering into tunnel by verifying the shape of new head car.
- Addressing promotion of energy reduction by testing technologies related to energy-saving operation



Reduction of noise from lower part of vehicle body, pantograph, etc.

Maintainability

- Innovates maintenance work -

- In addition to realization of further safer and more stable transportation, realization of CBM* is aimed at, by loading device for monitoring ground facilities and each unit of equipment on board.

* CBM: Condition Based Maintenance

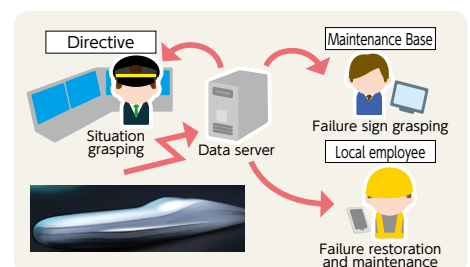


Image of CBM



Safety



Society



Environment

Realization of smart maintenance

By loading devices for monitoring not only equipment on railcars but also tracks and power facilities while train is running, it becomes possible to grasp the condition of facilities very frequently. By utilizing these data, we aim to realize maintenance at optimum timing by means of CBM. We will collect a great deal of data, predict degradation from the data, and capture changes in facility conditions, and manage optimum timing and method of maintenance. Currently, we are examining method of analyzing and evaluating data.

[Examples of CBM]

Railcar ---

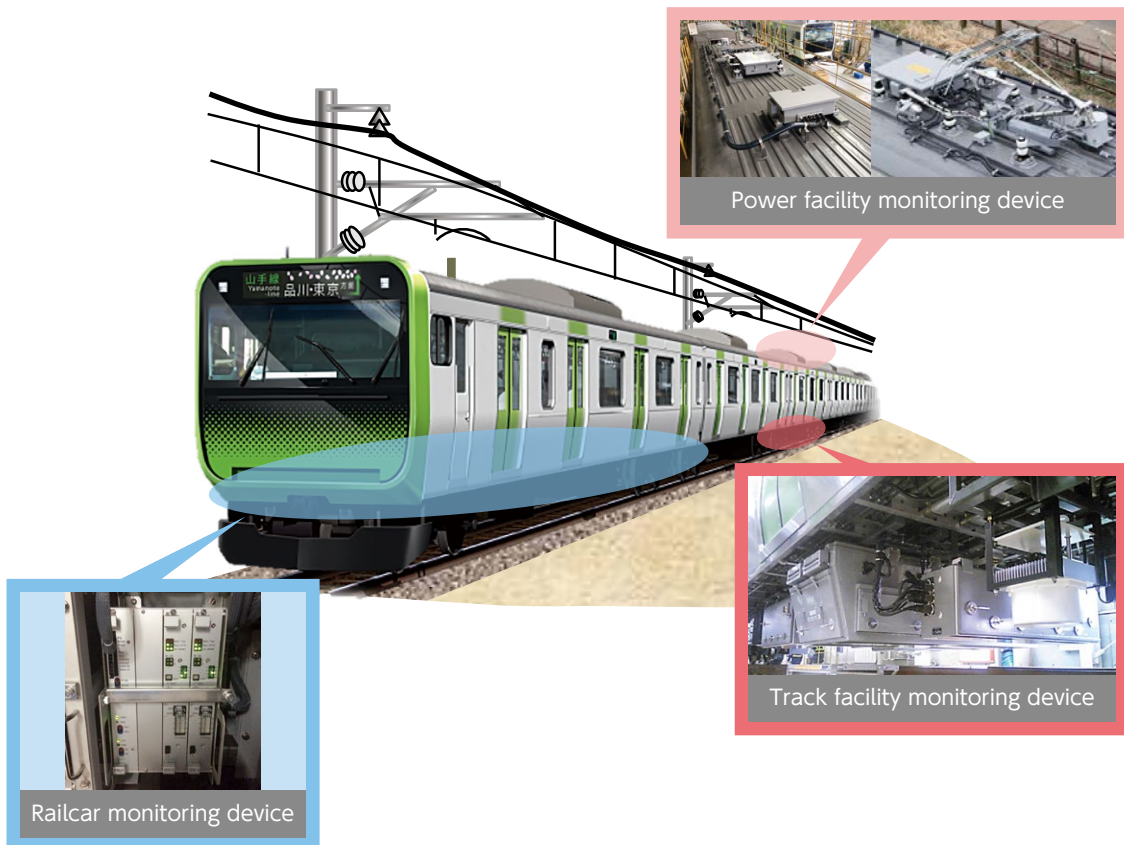
Currently, the condition of major equipment is being monitored from both sides of device on board and that on the ground, and in future, we plan to utilize the system for grasping failure signs and promptly effecting restoration in case of failure.

Tracks ---

We will continue to collect data on track displacement (slight distortion and/or gap of track width). Operation has also been started on Tohoku Main, Echigo and Nikko Lines.

Electric power ---

We aim to collect data on abrasion of trolley wire (wear of wire caused by friction), etc.





Safety



Society



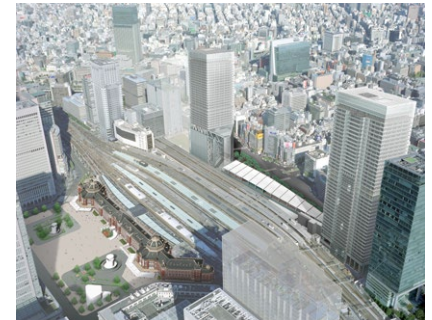
Environment

Relationship with Society

Strengthening Collaboration with Communities

The very existence of the JR East Group 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.

As a member of the local community, JR East has been working to build an energetic community with a strong interest in the community's future by promoting three town development perspectives of "development of large-scale terminal stations," "establishment of a lineside brand that will be chosen by passengers" and "revitalization of core regional cities."



Tokyo Station City (an image)

■Development of large-scale terminal station

In Shinagawa area as a "Global Gateway Shinagawa", aiming to realize town development where advanced businesses and human resources will gather from all parts of the world and new businesses and culture will be created from various types of exchange, construction of a new station which will be the core of the new town has been launched between Shinagawa and Tamachi Stations.

At Shibuya Station, with the move of a portation of the Tokyu Toyoko Line to underground tracks, we are proceeding with renewal and reorganization of the function of the station, rearrangement and expansion of surrounding infrastructure, and construction of jointly-developed buildings, in cooperation with related business operators.

At Yokohama Station, with increasing momentum in the surrounding community for urban redevelopment, we are proceeding with reconstruction of West Entrance Building under theme of enhancing attractiveness of the station and town, strengthening disaster-prevention power, addressing environmental issues, reinforcing rambling activity, etc., in cooperation with the local government.

■Establishment of a lineside brand that will be chosen by passengers

We are addressing a project of "Creation of preferred lineside brands" from which people will feel like "living in" or "visiting" those areas, by promoting redevelopment and renewal of not only the areas around stations but also locations under the elevated tracks between stations, etc. as well as providing information about the areas along the line, including. For instance, we are establishing a lineside area where passengers want to live by promoting development that looks at a railway line and the area alongside it as a unit rather than just as "points" (stations), such as the "FUN TOKYO!" (Yamanote Line) which provides information for rambling around towns along the Line, the Keiyo Bayside Line Project (Keiyo Line) aiming at further progress of Keiyo Line and a place of learning "Kurasu Class" (Nambu Line) planned to foster culture making the most of local resources, in addition to promoting the Chuo Line Mall Project (Chuo Line).



Kurasu Class



Safety



Society



Environment

■Town development focused on regional urban centers

In close cooperation with local governments proceeding with a compact city development plan or central urban district revitalization plan, we are promoting town development focused on central stations. In Akita, for instance, we have entered into the “Agreement of cooperation for a compact city development aiming at regional revitalization” with the Akita City and Prefectural Governments, and are proceeding with the town development around Akita Station by working in close cooperation with the community to establish “Northern Station Gate Akita,” including renewal of Akita Station to make it a base for tourism, reinforcement of function of West Entrance as hub for traffic and attraction of a broadcast station to its vicinity, establishment of health and sports town near East Entrance, and other plans.

In future, we will proceed with functional restructuring of sites around Niigata and other stations making them to be linked with town development projects such as construction of continual multi-level crossings, and we will thereby contribute to revitalization of regional urban centers.



External view of Akita Station
©SATOSHI ASAKAWA

■Contribution of Railway Overpasses in Unifying Towns and Eliminating Traffic Congestion

JR East continues to cooperate with local governments in projects for railway overpasses near Niigata Station and at other places. Focusing on railways including stations, 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. With regard to the project for elevating Niigata Station and nearby tracks, works are now underway, aiming to start use of elevated platforms, abolish two crossings, and start use of the same platforms for transferring between Shinkansen and conventional line trains, in spring 2018.



Entire view of Niigata Station



Restoration of railway sections along the Pacific Ocean that were devastated in the Great East Japan Earthquake

We have been steadily proceeding with restoration work and resumption of operations in railway sections on the Pacific Coast that suffered extensive damage due to the tsunami, beginning with sections where safety can be ensured. With the aim of integrating restoration with urban planning, we have been proceeding with construction work between Soma and Hamayoshida on the Joban Line, and resumed operations in December 2016.

Fukushima Daiichi Power Station, in areas that are preparing to lift evacuation orders, with the support and collaboration of national and local governments for the sake of necessary environmental improvements, such as decontaminating trackside areas and starting preparations for the return of residents, we plan to resume operations in line with the lifting of the evacuation orders.

Based on this policy, in line with the lifting of the evacuation order by the city of Minami Soma, we resumed operations for the section between Odaka and Haranomachi, in July 2016, and in line with the lifting of the evacuation order by Namiemachi, we resumed operations for the section between Namie and Odaka in April 2017. We are currently working on the restoration of the line, aiming for the resumption of operations for the section between Tatsuta and Tomioka in October 2017, and the section between Tomioka and Namie by the end of FY2020.

For the section between Yanaizu and Kesennuma and Kesennuma and Sakari on the Kesennuma Line and the section between Yanaizu and Sakari on the Ofunato Line, with the aim of rapidly providing safe, highly convenient transportation services, we have been offering an interim Bus Rapid Transit (BRT) service. In line with progress made in urban development in the disaster-hit areas, for the further development of communities JR East proposed that the operations of the BRT service continue as a sustainable transport mode to contribute to the restoration, and reached an agreement on this plan with all wayside municipalities.

As for the section between Miyako and Kamaishi on the Yamada Line, we are restoring this section with the aim of re-opening it by the end of FY2019.

As of April, 2017, the total length of the sections where operations were suspended had been reduced from approximately 400km immediately after the earthquake to approximately 83km, with resumption of services for approximately 218km by railway and for approximately 99km by BRT.

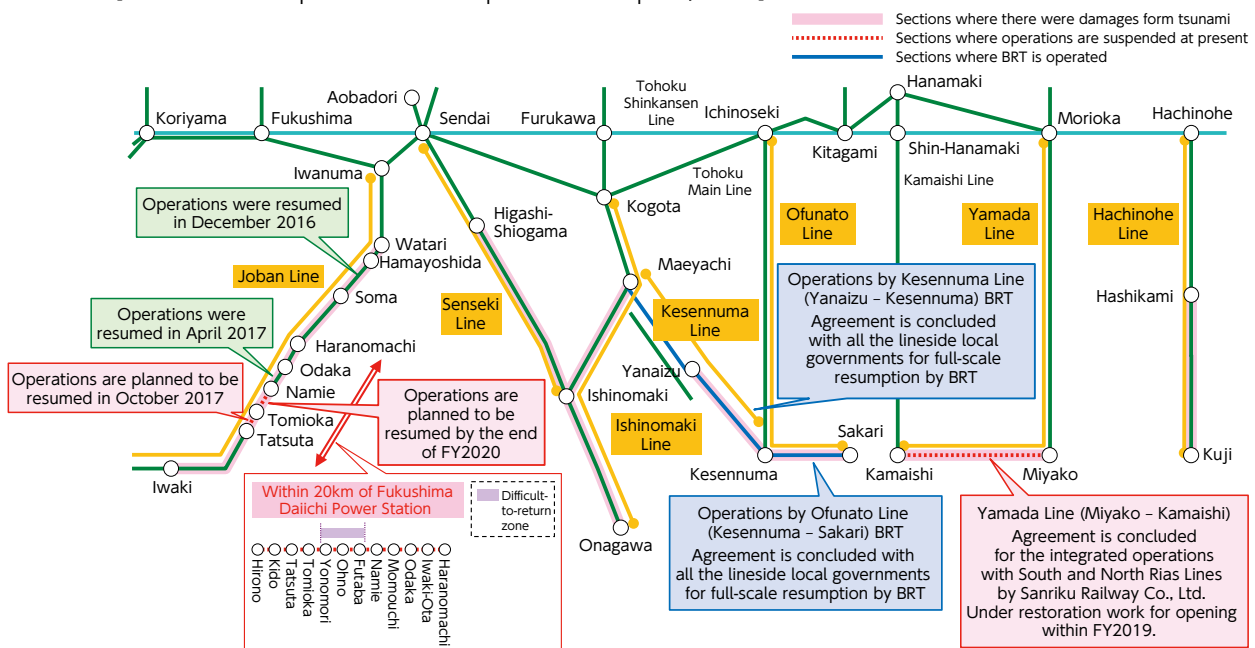


Kesennuma Line BRT running between Soma and Hamayoshida



Kesennuma Line BRT on exclusive lines

[Sections where operations were suspended as of April 1, 2017]





About railway resumption of Tadami Line (between Aizu-Kawaguchi and Tadami) by the scheme of separating infrastructure and operation

Tadami Line was forced to suspend its entire operations and suffered from damages to the section between Aizu Bange and Koide including breakage of bridges, collapse of banks, sediment inflows, etc. due to the "Heavy rains in Niigata and Fukushima Prefectures in July 2011."

Thereafter, operations were sequentially resumed from sections where restoration work was completed, but on the section between Aizu-Kawaguchi and Tadami where operations are still suspended, immense damages occurred such as three bridges having been washed away, and the section has been served by substitution transportation by buses till today.



The 5th Tadami River Bridge



The 6th Tadami River Bridge



The 7th Tadami River Bridge



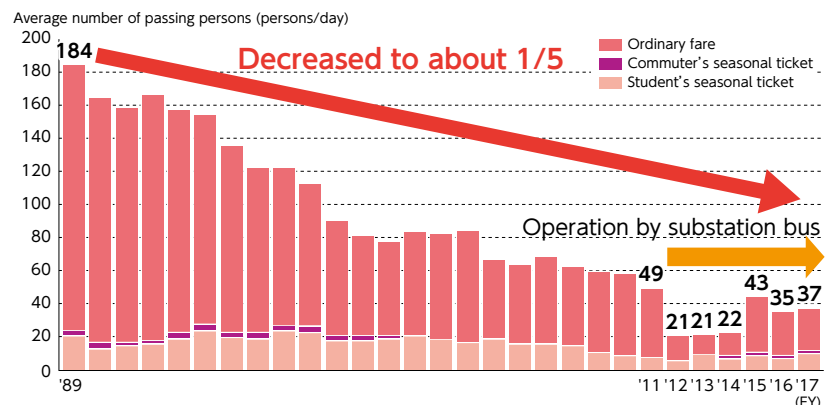
Substitution bus

Concerning the section where operations are suspended, because there are small number of users there, we have repeated discussions with related people about the way regional transportation ought to be. As a result, in response to strong request for railway resumption from the prefectural and local government staff, we have reached a conclusion to aim to resume operations by means of the scheme of separating infrastructure and operation, and we entered into the "Basic Agreement and Memorandum on Railway Resumption of Tadami Line (between Aizu-Kawaguchi and Tadami)" with Fukushima Prefectural Government in June 2017.

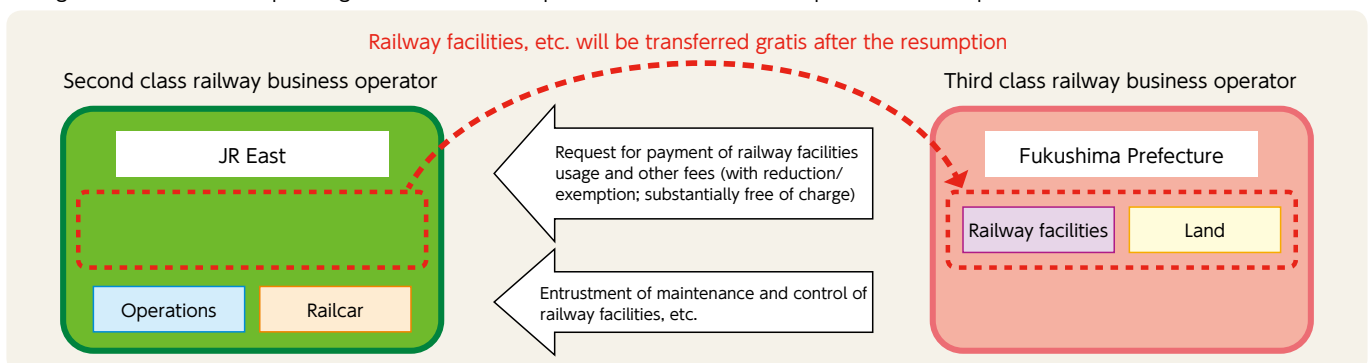
The agreed scheme of separating infrastructure and operation is a method that we will transfer the railway facilities including tracks and electric equipment and land after the resumption gratis to Fukushima Prefecture and Fukushima Prefecture will become a third-class railway business operator and our company will lease those facilities and land substantially free of charge and take charge of daily operations and maintenance and control of railcars as a second-class railway business operator.

As for future matters, we aim to start the work around spring of 2018 with the work duration estimated at approximately three years after the start of the work. As for the time of recommencement of business operations, we will decide it after consultation with Fukushima Prefecture, based on the progress status of the work.

[Status of utilization of the sections where operations are suspended]



[Image of the scheme of separating infrastructure and operation for section where operations are suspended]

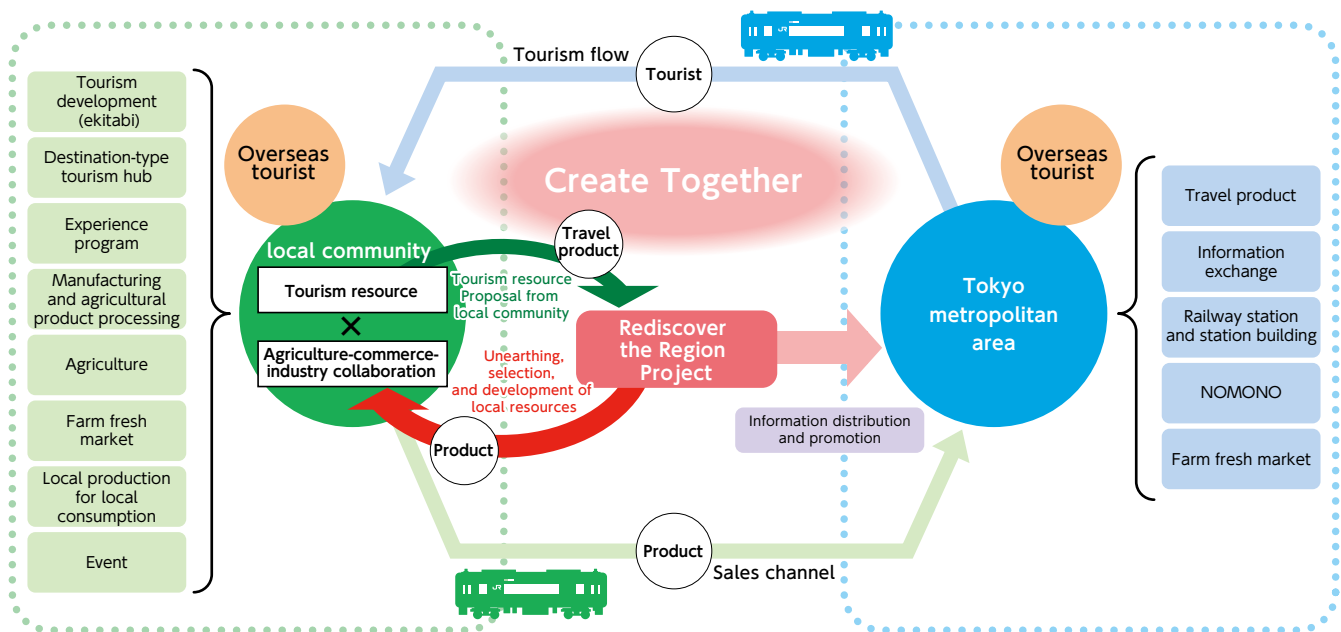


Rediscover the Region Project

Development of the Rediscover the Region Project

Under the "Create Together" strategy, which specifies enhanced cooperation between JR East and local communities, we are promoting the Rediscover the Region Project. The aim of the project 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, 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 and more. The strategy utilizes JR's such unique abilities to discover traditional cultures, local produce and other tangible and intangible tourist resources as well as to promote the interactive exchange of information and to expand sales channels between the Tokyo metropolitan area and local communities.

[Conceptual diagram of "Rediscover the Region Project"]



In the Tokyo metropolitan area, in collaboration with destination campaigns and other marketing tools, we are hosting "Rediscover the Region Project: Farm Fresh Markets" at Ueno Station and opened a permanent shop, "NOMONO," where producers convey their products and local appeal to passengers, at Ueno and Akihabara Stations.

Various efforts to expand demand for local products have been put forth across the business areas of JR East, and farm fresh markets were held on total 4,900 days amongst the group as well as many other events to revitalize communities in the fiscal year ended March 2017.

In addition, during 2017, an awards program for distinguished efforts such as Monozukuri and Kotozukuri fairs held in Ekinaka and station buildings, named "JR East Real 'NOMONO' Awards," was established, to recognize local producers and processors who contributed to deepening cooperative relationship.

We intend to promote distribution of local products in the Tokyo metropolitan area by utilizing existing infrastructures such as our group's Tokyo metropolitan area logistics hub and trunks of highway buses, with an eye to developing the "Rediscover the Region Project." (Established "Regional Revitalization Logistics Limited Liability Partnership (LLP)" in April 2016)



Rediscover the Region Project "Farm fresh market"



NOMONO, the local produce shop at Ikebukuro East Exit



NOMONO 1-2-3 Project

In order to further strengthen collaboration with regional communities, we feature products that combine high-quality ingredients such as local produce with superior processing techniques. Through this initiative, the JR East Group encourages manufacturing that integrates regional primary, secondary, and tertiary industries. The NOMONO 1-2-3 Project is a manufacturing project that supports the eastern Japan area via product development and sales in collaboration with regional farming, forestry, and fishing industries. Behind the project is our wish to promote manufacturing aimed at sixth sector industrialization, by us linking primary, secondary, and tertiary industries.



Shinshu Jibie Venison Burger using venison from Shinshu



Sendai Kinako (ground soybean) Series using soybeans from Miyagi



Dried Sweet Potato Farmer's White Pudding using dried sweet potatoes from Ibaraki

Participation in primary industry

Furthermore, in order to find solutions to issues in the primary industry and to enhance appeal of food through agricultural produce, we entered agribusiness in collaboration with local farmers in the spring of 2016. We are using high-quality tomatoes produced at a sunlight-based plant factory of "JR Tomato Land Iwaki Farm" in Iwaki City in Fukushima Prefecture for processing at the adjacent sixth Sector industrialization facility and for food served at our group companies. "JR Niigata Farm" in Niigata City is an agricultural corporation established by taking advantage of the status of Niigata as a National Strategic Special Zone. It is bearing a part in developing Niigata's sake culture through production of rice suitable as an ingredient of sake.

In addition, the "JR Agri-Sendai" in Sendai City produces goods fitting to market needs through its integrated management covering from production to sales activities, and also operates direct-sales depots in stations having high ability to attract passengers, to provide places for giving information on quality "dietary culture" in the communities. We will continue to work to increase the nonresident population and revitalize regional communities by stably producing safe and secure agricultural produce and enhancing the appeal of the communities.



JR Tomato Land Iwaki Farm



JR Agri-Sendai



JR Niigata Farm

TICKET TO TOMORROW

Events and happenings from tomato production

Hiroyuki Suzuki Director of JR Tomato Land Iwaki Farm

"JR Tomato Land Iwaki Farm" was established through cooperation between JR East Group, who learned in the process of working on the "Rediscover the Region Project" that the number of "producers" of agricultural produce is on the decline, and like-minded farmers. In addition to shipments of tomatoes utilizing the group's network, we are delivering the delicious taste of Iwaki tomatoes to many customers through development of sixth sector industrialization products such as hamburgers and juice, teaming up with group companies; holding of tomato picking and other events; face-to-face sales in Tokyo metropolitan area; and other efforts. We would like to continue contributing to regional revitalization by expanding nonresident populations through information communication and happenings-creation while working on production of delicious tomatoes as well as on sixth sector industrialization in cooperation with the local community.



© Kōji Arimitsu



Addressing measures to promote tourism

■ Destination campaign (DC)

Destination campaign (hereafter, DC) means a large-scale tourism promotion campaign implemented by local governments, tourism-related people, JR Group and other related organizations and persons working together for the purpose of developing local sightseeing resources and implementing nationwide advertisement, to attract visitors and promote uses of JR. We make it one of the targets to cause the event to create new superb tourist resorts that will lead to the promotion of tourism in the communities, by holding “Pre-DC” at just one year in advance of the DC period as well as “After-DC” at one year after the DC, without finishing it as mere a temporary even. Since we held the “Twinkling Kishuji” in Wakayama Prefecture in 1976, we have continued to hold DCs till today, the number of which is average four per year. After the “Great East Japan Earthquake” in March 2011, we have held DCs in each of six prefectures in Tohoku District as one of the measures to support reconstruction, one of which was the “Aomori Prefecture and Hakodate DC” held from July through September 2017. Also, the “Shinshu DC” is being held from July through September 2017. From now on, we will continue to strengthen the revitalization of local tourism and fixing of tourists as well as cooperation with local governments.



Ceremony at Shinshu Destination Campaign

TICKET TO TOMORROW

Bond with communities and hospitality deepened by DC

Yasuto Okamura

Station Master, Nakagomi Station, Nagano Branch Office

The Koumi Line runs through highlands, offering a view of the grand Yatsugatake mountain range. Nakagomi Station serves as the key station for the Koumi Line, and alongside it stands the Koumi Line Office, which is in charge of overall operation, sales and engineering of Koumi Line.

Upon the launch of Shinshu DC, we partnered with local communities and held welcome events, including an opening ceremony in cooperation with towns and villages along the Koumi Line, chambers of commerce and others along with a Star Festival hosted by local municipalities. Furthermore, on service days of HIGH RAIL 1375, which commenced service on July 1, station managers of Koumi Line stations as well as all of the office members welcome and see off passengers, and conductors hand out postcards made by employees. Please come and ride the Koumi Line and fully enjoy the crisp highland air.





Safety



Society



Environment

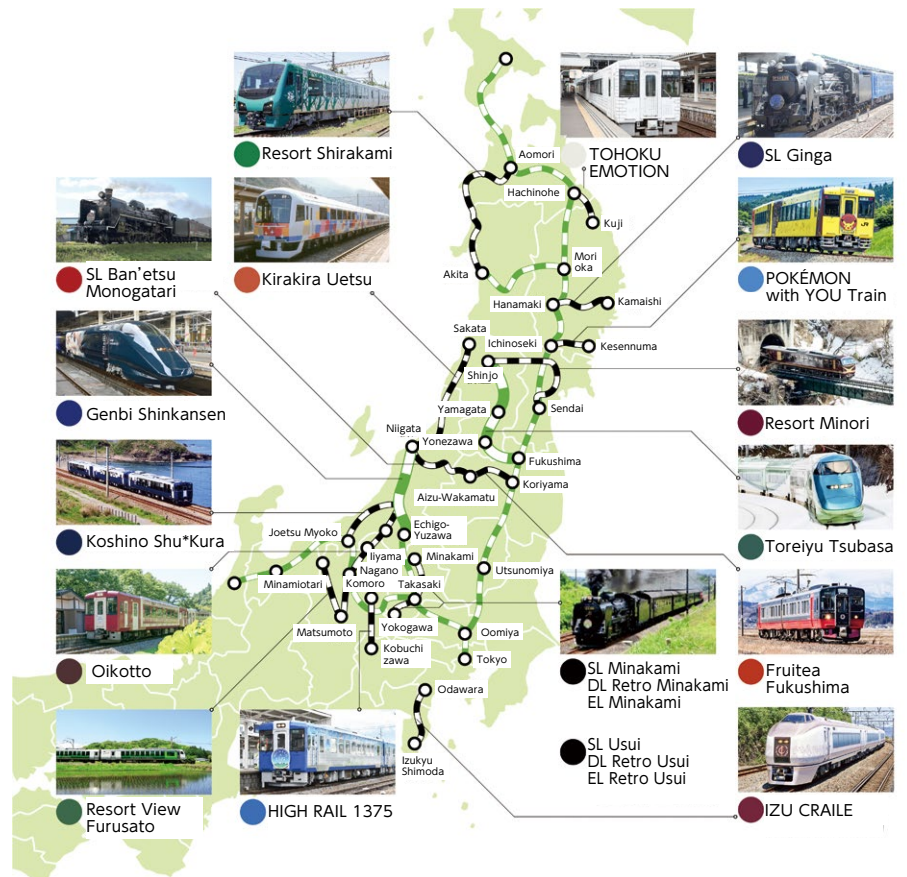
■ Trains for enjoying riding

JR East operates various “Trains for enjoying riding” which provide passengers enjoyment in riding in them itself. Those include Shinkansen, limited express, SL and other trains each of which has its own theme and is so elaborately and uniquely designed that reminds us of something like a running theme park.

The trains offer travels with such new feeling that passengers fully enjoy meals, sweets, arts, music, and even “foot bath” on board, and upon alighting from the train, they feel excited to wonder which train they should select for their next trips.

In support of the aim of “POKÉMON with YOU,” an activity by The Pokémon Company to support disaster-affected areas, JR East operates POKÉMON with YOU trains with the cooperation of the company.

©2017 Pokémon. ©1995-2017 Nintendo/Creatures Inc. /GAME FREAK inc.
Pokémon is a registered trademark of Nintendo, Creatures Inc. and GAME FREAK inc.



[Major trains for enjoying riding and efforts made in cooperation with local community]

Train names	Characteristics of train name and efforts made in cooperation with local community
Resort Shirakami	Live performances of Tsugarujamisen music, talks by a “storyteller” in the Tsugaru dialect, Tsugaru Traditional Kinta Mamejo puppet plays, and other shows are offered on board.
TOHOKU EMOTION	People of “Hirono-cho” across which JR Hachinohe Line runs have been continuing to gather and wave their colorful “tairyobata” fisherman’s banners and their hands with their whole hearts to passing trains for over one year, which has coined a new phrase, “HIRONO EMOTION.”
Fruitea-Fukushima	Cakes and tarts which are made sumptuously using fruits grown in Fruit Kingdom Fukushima are offered on board. As the menu is changed in accordance with the season, passengers can enjoy fruits in season.
Koshino Shu* Kura	Special events are held in which persons from local sake brewery and Nagaoka University come aboard by turns and offer local brew for tasting and talk about sake in general.
HIGH RAIL 1375	Highland vegetables produced lineside and “Saku” sweets, one of the Japan’s best three sweets are offered, and in addition, aboard the train named “Hoshizorago” which runs at night, stargazing meeting is held at a station in between, with explanation about stars given by a special guide residing along Koumi Line.

About Regional Revitalization

In our Group Management Vision V, JR East Group aims to cause the eastern Japan region to progress with the key concept words, “Live in the community” and “Expand to the world” through our business activities. With regard to Regional Revitalization among those endeavors, we are proceeding with “promotion of tourism,” “revitalization of regional industries” and “town development focused regional urban centers” among other projects. Specifically, we are addressing such activities as dissemination of information on the attractiveness of local areas through “TRAIN SUITE SHIKI-SHIMA,” operation of trains for enjoying riding and others for the sake of “promotion of tourism,” production of agricultural goods as an effort for sixth Sector industrialization of agriculture, forestry and fishery and sales of locally produced goods in the Metropolitan Area by utilizing our Group’s network for “regional revitalization,” and town development focused on stations in Akita, Niigata and other regions in cooperation with local governments and other organizations for “town development focused on regional urban centers.”



Childcare Support Services HAPPY CHILD PROJECT

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 usually within a five-minute walk from stations in order to support the combination of childcare and commuting to work. A total of 102 childcare support facilities were opened from 1996 through May 2017, and JR East aims to increase the number of these facilities to 130 by April 2020. These nursery schools near stations provide added convenience as they allow parents to drop off and pick up their children on the way to and from work. As evidenced by children who are accompanied to nurseries by their fathers, our childcare support encourages paternal participation in childcare as well.

In May 2017, in commemoration of that the number of the childcare support facilities reached 100, the "HAPPY CHILD TRAIN" in which pictures drawn by children going to childcare support facilities were exposed was operated.



View of a "nursery school near station" (Sakuraso Nursery School in front of Toda Station)



HAPPY CHILD TRAIN

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 regularly 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.



Seventh Children's Train Craftwork Exhibition

Paper-craft Class

Hoping that "children will become more familiar with railways and make many memories with their parents," we are holding "Shinkansen Paper-craft Class," a workshop for parents and children in various locations.



Image of completed paper-craft work



Safety



Society



Environment

Development of COTONIOR

We have opened complexes for childcare support and eldercare themed with multigeneration interaction, "COTONIOR".

COTONIOR is a coined word from "kodomo (children) + to (and) + senior (senior)" and four COTONIOR facilities have been opened in Kichijoji, Akabane, Nishi-Funabashi, and Kunitachi.

With a well-thought-out facility layout, seasonal events and such, COTONIOR has created a heartwarming place that brings together a wide range of generations.



COTONIOR Kichijoji



COTONIOR Kunitachi

TICKET TO TOMORROW

Creating the future through childcare support

Yuuna Yamazaki

Childcare/Senior Group, Life-Style Business Development Headquarters

I am currently assigned to JR East from JR East Sports Co., Ltd. and engaged mainly in planning and implementation of childcare support programs for JR East Group. For the "Children's Train Craftwork Exhibition" held at the Railway Museum during the summer holiday and "HAPPY CHILD FESTIVAL" held to commemorate establishment of the

100th childcare support facility, we discussed various programs, negotiated with outside parties, requested cooperation from related sections within the company and made arrangements with the venue in order to provide enjoyable moments to children and families. I was at the venues during the events, and felt a sense of reward and great accomplishment seeing the children and families enjoy the events with smiles.

I would like to aim to expand the number of childcare facilities to 130 by April 2010 while trying to implement new childcare support programs by further advancing current ones, such as childcare events involving group companies, taking advantage of my position as an assignee.





Cultural Activities

■ 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 Railway Museum

On October 14, 2007, Railway Day, the Railway Museum based on three major concepts was opened in Saitama City. 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 770,000 visitors in the fiscal year ended March 2017. Going forward, with planned renewal work of building interior and construction of a new building, section by section opening will take place followed by a grand opening scheduled in summer 2018.



The Railway Museum

Tokyo Station Gallery

In the spring of 1988, a year after the foundation of JR East, Tokyo Station Gallery was born in Tokyo Station Marunouchi Building out of the desire to offer everyone a place for fragrant culture rather than simply being a passing point through the station.

We continue to be active while deeply recognizing the significance of carrying out our activities as a gallery in the important cultural property of Tokyo Station that is located at the geographical and historical heart of modern Japan.



Tokyo Station Gallery

Supporting local cultural activities

Starting in FY1994, we have been supporting local cultural activities in the form of providing financial support for the purpose of succeeding the conservation of precious cultural heritage and traditional performing arts in our company's area and development of community, aiming at promotion of regional culture. The number of the supports provided by the end of FY2018 is to total 182.



Supporting cultural activity

Developing Our Business around the World

Global Development

The "Group Management Vision V" hoists the "Challenging New Business Fields - Globalization -" as one of the objectives, "Pursuing Unlimited Possibilities." In order to realize the vision, we are challenging new business fields aiming at further growth of the Group in future, making the most of experiences, technologies, know-how, and other resources held in our company.

At the same time, we will brush up railways of our country by absorbing technologies, services and others related to the overseas railway industry and integrate those with our own technologies and know-how to further brush them up. Furthermore, by letting our Group's employees participate in international businesses, we will aim to foster our human resources so as to enhance their motivation, ability and sense of accomplishment as well as to innovate our Group's corporate culture so that it will become open to both inside and outside of our country.

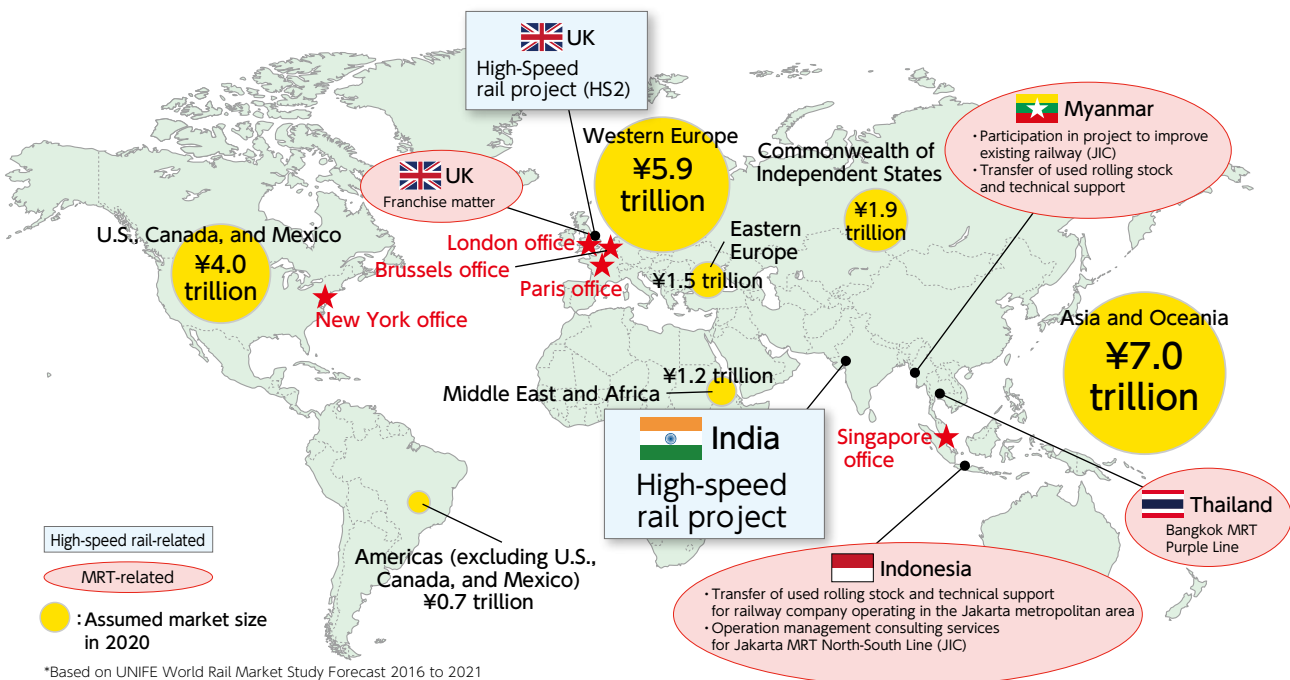
In the context of the current trends of reviewing means of public transportation in many countries in the world and increased awareness of global environmental issues and the economic growth of emerging nations, there is growing interest around the world in railways as an environmentally friendly form of public transportation. At present, railway projects are being considered in many parts of the world, and the global railway market is expected to grow in future by an average of 2.6% per year, expanding in size to around 22 trillion yen in 2020.

Given these circumstances, JR East is challenging the global development of our business by collaborating with both domestic and foreign companies while leveraging our expertise in the fields of operations and maintenance (planning, management, support, and implementation relating to train operation, facility maintenance, etc.). In proceeding with the global development of our business, we have identified rapidly-growing Asia as a priority region and are engaged in railway projects in various countries there.

In November 2011, partnering with a domestic railway company which possesses an extensive track record and expertise relating to high-speed railways, urban railways, and freight railways, we launched Japan International Consultants for Transportation Co., Ltd. (JIC) to handle our railway consulting business focused on the areas of operation and maintenance around the world. JIC is currently actively developing international railway consulting projects. In addition, Japan Transport Engineering Company (J-TREC) which will take charge of manufacturing railcars was added to the group in April 2012.

In addition to the abovementioned, we have established the "International Affairs Headquarters" in the Head Office in June 2017. While many overseas railway projects are in progress, we will accelerate efficient management and fostering human resources for the purpose of further challenging international businesses.

[Locations of International Railway Projects and Overseas Offices]





Safety



Society



Environment

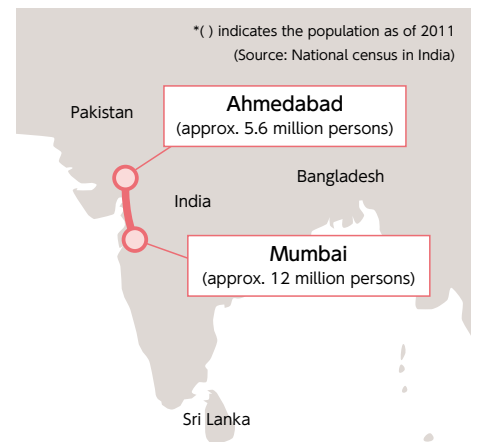
■ Participation in Indian High-Speed Rail Project

For the Mumbai-Ahmedabad Line among the seven high-speed railway lines announced by the Indian government, the “Memorandum of Cooperation between the Government of Japan and the Government of the Republic of India on High Speed Railways” was entered into in December 2015, and it was decided that Japan’s Shinkansen method would be adopted for the Ahmedabad-Mumbai high-speed railway plan. At present, consultations about the high-speed railway plan of India including concrete business scheme are underway, and at the consultation between the two governments held in November 2016, a progress report for the high-speed railway plan was announced, indicating the schedule for the work to be commenced in 2018 and operations to be commenced in 2023.

Through a public-private partnership arrangement, JR East is providing technical support for these discussions, based on our extensive experience as a Shinkansen operator.

In addition, in March 2016, one of the companies in our group, Japan International Consultants for Transportation (JIC), received an order from JICA to provide consulting services relating to the formulation of high-speed rail technical standards through the Indian High-Speed Railway-Related System Development Support Project, which is currently ongoing. We have also enhanced our internal organization through measures such as appointing executives with responsibility for the Indian high-speed rail project.

Furthermore, in December 2016, a joint venture (JV) formed by three companies, namely, Japan International Consultants for Transportation Co., Ltd., Nippon Koei Co., Ltd. and Oriental Consultants Co., Ltd. received an order from JICA for the “Detailed Design Study on the High Speed Railway Construction Project in India to Commence” which is for formulation of design and tender documents (draft) for the Mumbai-Ahmedabad High Speed Railway Construction Project, and the JV is now implementing the work.



■ Participation in Thailand's Purple Line Project

We are also involved, along with Marubeni and Toshiba, in a project to provide comprehensive maintenance for rolling stock and ground installations for the MRT Purple Line being constructed in Bangkok, Thailand.

The Purple Line is 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, which began operation in August 2016. In December 2013, through a joint investment with Marubeni and Toshiba, we established the maintenance company Japan Transportation Technology (Thailand) Co., Ltd. (JTT) in Bangkok. It will provide maintenance services for a ten-year period, including the rolling stock, signals, tracks, power systems, platform doors, automated fare collection system, and rail yard facilities.

In addition, Japan Transport Engineering Company (J-TREC) has manufactured stainless-steel rolling stock for use on the Purple Line, and delivered a total of 21 train-sets (63 cars).



A running Purple Line train



Maintenance of track for vehicle



■ Endeavor to participate in UK Passenger Rail Franchise

With regard to railway operations in UK, the “Scheme of separating infrastructure and operation” has been incorporated, under which the railway operation sector and infrastructure sector are separated, and currently, the country’s railway service for passenger transportation is divided to be provided by 19 train operating companies. The UK franchise system means a system under which each train operating company’s right to operate trains is selected by performing bidding, and the right to operate trains, effective for 7 to 10 years, is granted by the Ministry of Transport or relevant government authorities of the country.

In August 2017, our company obtained the right to operate the West Midlands project in collaboration with Mitsui and Co., Ltd. and Aperio, UK, a Dutch Railways-affiliated company. This project is to bear services for the commuting railway lines to London, long-distance line connecting London and Liverpool, a city in the Northwestern region of England, and transportation in the urban district of Birmingham, the country’s second largest city in the Mid-Western region of England. This project is the first undertaking in which we are involved in the overseas railway operation.



Image of a train in operation after commencement of services for this project



New Street Station, Birmingham

■ Providing Technical Support to Overseas Railway Operators

In Jakarta, the capital of the Republic of Indonesia, there is extreme traffic congestion, and public transportation infrastructure is being developed to address this issue. Since the carrying capacity of existing railways also needs to be rapidly enhanced and there is an urgent need for new rolling stock to be introduced, in the three years since 2013, we have transferred 476 railcars (205-series cars) that we used on Saikyo and other Lines to the railway company that operates the Jakarta metropolitan area’s MRT. At the same time, we have provided technical support for rolling stock maintenance so that the transferred railcars may be operated stably, and also, we have been providing support for improvement of services, starting from 2016. With regard to the Republic of the Union of Myanmar, since 2007 we have also been transferring rolling stock to Myanmar Railways, which operates passenger trains and transports freight in Myanmar. In 2015, we transferred 19 diesel railcars (Kiha 40 series/Kiha 48 series) that had been used in the Tohoku and Niigata areas, and in addition we have been providing technical support related to maintenance of the rolling stock.



205-series train in service in Jakarta following transfer to PT KAI Commuter Jabodetabek



Technical support for maintenance



Diesel train transferred to Myanmar



International Cooperation

Our company actively offers railway-related professionals from overseas the opportunity to observe our operations; in FY2017, we hosted some 1,000 observers from around 100 countries worldwide. These observers included government- and railway-related persons from various nations as well as researchers from overseas research institutes. Their visits play a valuable role in promoting mutual understanding.



Inspection of maintenance of Shinkansen railcars



Inspection of coupling of Yamagata Shinkansen train

Global Contribution through International Institutions

In addition to actively collecting and providing information through international conferences and publications 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 from January 2013 to December 2016, President and Director of the UITP Policy Board from June 2015 to May 2017 and President of UITP Asia-Pacific regional assembly since May 2017, 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 extending invitations for international conferences.



June 2015 – May 2017
Vice President Ogata serves as President of UITP



October 2016
UITP and LTA (Singapore Land Transport Authority) International Transport Conference and Exhibition (Singapore)



May 2017
UITP Global Public Transport Summit (Montreal)



Column Development of rolling stock manufacturing business

1. Endeavors that have been made till today

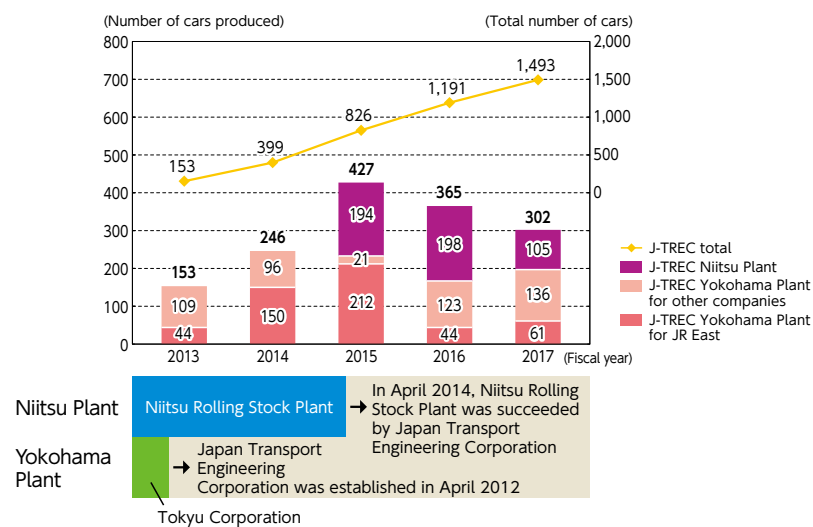
In October 1994, Niitsu Rolling Stock Plant was established and has been mainly manufacturing commuting and suburban type railcars for use in the metropolitan area, for the purpose of acquiring know-how as well as enhancing technical capability.

In April 2012, in order to establish the rolling stock manufacturing business as the “Fourth pillar for management” of JR East, Japan Transport Engineering Company (former Tokyu Car Corporation) which manufactured the Japan’s first stainless steel railcar joined our company. Also, in April 2014, Japan Transport Engineering Company succeeded the business of Niitsu Rolling Stock Plant. Due to the above, it became possible to make use of the railway business operators’ technical power and viewpoints for developing rolling stock manufacturing business. In addition, it became possible to manufacture a wide range of rolling stock from cars for commuting and suburban use to those for Shinkansen, and in addition, not only to pursue efficiency, but also to operate business making the use of the scale merit.

2. Focusing of “sustina” series

Japan Transport Engineering Corporation has been offering not only rail cars for commuting and suburban use, but also a wide range of products having high quality and high added value, including limited-express E353-series, battery electric car EV-E301-series, Hokuriku Shinkansen E7-series, TRAIN SUITE SHIKI-SHIMA, Thai Purple Line, and other railcars.

[Transition of the number of railcars manufactured by Japan Transport Engineering Corporation in recent years]



(For reference)
Number of cars manufactured by former Niitsu Rolling Stock Plant: Total 4,293 (FY1996 –FY2014)
Number of cars manufactured by former Tokyu Corporation: Total 16,622 (FY1947 –FY2012)

Among those railcars, we have been focusing on the stainless-steel cars “sustina” which is the company’s main product making the use of strength of stainless-steel car. “Sustina” aims to reduce the manufacturing cost owing to the effect of mass production of common platform (specifications of car body structure and equipment systems made common and consolidated).

In FY2018, it is planned to introduce E235-series cars to Yamanote Line as commuter-type cars of “sustina” series for use in large cities, as well as use by passengers other than our company, such as Tokyo Metropolitan Government Transportation Bureau, Tokyu Corporation and Keio Corporation.

From now on, the company aims to enhance the added value of “sustina” to make it to be widely used by continuing to reduce its lifecycle cost while making the most of the Group’s total power as well as to offer quality products.



Relationship with Employees

In order to enhance the power of human resources

The nature of our work is “to have consciousness of social duty and to act up to it” that we should support daily life of passengers and contribute to the progress of the community. In order for JR East Group to continue its sustainable growth, it is indispensable to foster professionals of each area of endeavor who think and act by themselves and are trusted by passengers and people in the community.

Therefore, in fostering human resources, we aim to enhance the power of human resources of the entire JR East Group by addressing measures to strengthen the managers’ controlling power, to succeed technologies and to foster human resources including those of the Group companies while responding to the motivation of employees.

■ Focused items to be implemented

	Target	Focused items to be implemented
Development of human resources	General employees	System for responding to motivations of employees
	Manager	Addressing measures to enhance managers’ controlling power
	Group companies	Enhancing power of human resources of entire JR East Group
Succeeding technologies	Employees of all generations	Implementing assured succession of technologies and skills and education for learning the nature of work

■ System for responding to motivation of employees

For the purpose of responding to motivation of employees and draw out their potential abilities, the “application-based trainings” are being improved, with the “Training for fostering practicing managers” being positioned at the center. The targets of this training are about 240 foreman-class employees with the purpose of fostering “managers who lead next generation.” The program is implemented in the form of training camp lasting for two and a half months at JR East General Training Center. In addition, different places for responding to motivation of employees are established, including the “Foremen’s seminar” and “Night activity seminar.”

In addition, there is a program named “Technology academy” which is similarly an application-based program for fostering engineers. The purpose of this program being to foster employees who will play a central role in the technology area in the future, and trainees are enrolled at Head Office for one year to learn railway technologies (structure, theory and basis). Furthermore, we provide opportunity for employees to address “what they want to do” with their free thinking during regular working hours, as the “My Project” program. This program is designed by upgrading former small group activities, and 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.

After six years since its commencement, the “My Project” is leading to the expansion of “Employees who think and act by themselves,” as seen in the fact that many cases are noticed where employees addresses matters beyond the framework of workplace and job category group and have experiences that cannot be had in the course of their regular work.



Training for fostering practicing managers



Technology academy



■Addressing measures to enhance managers' controlling power

Since the essence of fostering human resources is with managers at workplaces, we strive to increase the opportunities to take trainings such as "Newly appointed field leaders training" for the purpose of letting manager-class personnel recognize the importance of fostering human resources and revitalization of workplaces. In FY2018, we place importance to strengthening the lower half of the body of manager-class personnel and are promoting to foster their subordinates by managers through daily work, by reviewing training programs implemented in the past.

■Addressing measures to enhance the power of human resources of the entire Group

Our company aims at realization of the integrated Group management and enhancement of the Group value, promoting positive human resource exchanges in terms of fostering human resources. Specifically, with such programs as the "JR East Group seminar for fostering management personnel (General Manager course and Section Manager course)" for the purpose of fostering managements of the Group companies, and "JR East Group exchange training" for the purpose of creating sense of unity among the foreman-class employees of our company and Group companies, we are proceeding with endeavors to enhance the power of human resources of the entire Group.

■Addressing measures to succeed technologies

Our company is facing a period of rapid generation change, and the succession of technologies has become an important issue to us. Therefore, we are proceeding with a countermeasure of designating employees having high level of motivation and technology to foster human resources as "Technical specialists," elderly employees as "Advisers" or "Meisters," who will take a pivotal role to overcome the issue. As part of this endeavor, we are enriching the training facilities at the "General Training Center" and "Skill Training Room" in each Branch Office in order to lead employees to understand the "essence of work" and implement practical and experience-based training at each workplace.

TICKET TO TOMORROW

Create a corporate culture that encourages taking on challenges without fear of failure

Hideei Sakai

Technical expert, Niitsu Transportation Depot, Niigata Branch

I am in charge of OJT, etc. at a section which conducts maintenance of various cars including diesel railcars, steam locomotives and diesel locomotives.

Our section has many staff members who have been with JR East for less than 10 years, and they tend to wait for instructions when they encounter work or technical hitches they have never handled. In situations like this, I believe they can better refine sensibility and gain confidence through repetition of experiences in which they for themselves and complete tasks, rather than through just being provided with answers. As a technical expert, I work to cultivate as many staff members as possible to take on everything, educating them in ways that best suit their personalities.

As new diesel railcars will be in service in 2018, we will be prepared for their maintenance. At the same time, I will try to create a workplace where everyone will be self-motivated and have a say in matters.





Promotion of Diversity Management

We recognize that the strength of JR East lies with the diversified viewpoints and differences in values that reflect gender and other attributes, experience and skills possessed by employees and others working at the JR East Group. While not only specific employees but also all generations from young persons to veteran employees work together in mutual cooperation, we promote "diversity management" with an aim to create a company group where such diversified personnel can exert their capabilities to the fullest.

Efforts on globalization of corporate culture

In addition to the overseas study program for obtaining MBA, etc. (about 10 persons travel overseas every year) which we have been offering for some time, "overseas experience program" (for around 100 people), in which employees are dispatched to various cities in the world (including non-English speaking countries) for three months to experience local culture through mainly learning the language while in homestay or at other facilities, is conducted. There is also "overseas railway consulting OJT training program" (for around 30 people), in which employees participate in an overseas railway consulting project centering on Japan International Consultants for Transportation Co., Ltd. for about three months. Other programs include overseas training (for about 500 people) taking place mostly in Southeast Asia, and altogether more than 600 employees are provided with opportunities to experience overseas every year. Many front-line employees participate in these overseas studies and trainings with the motivation.



OJT trainees (Myanmar)

As an endeavor to improve language skills of our employees, we are encouraging them to take the TOEIC® test at the expense of the company (once a year), and approximately over 4,000 employees take the test annually. Not only this, we have established "Challenge! Foreign Language Program," a correspondent training system, to learn Thai, Indonesian and Vietnamese, in which many employees participate and are starting to shift their attention to overseas with the language learning as starting point.

TICKET
TO
TOMORROW

Welcoming guests with hospitality

Hirohisa Suzuki

Chief Driver, Sakura Transportation Depot, Chiba Branch Office

I applied to an overseas experience program and participated in training for three months in Brisbane, Australia. After the training, I wanted to share valuable experiences with as many employees as possible and started various activities utilizing these experiences.

My activities include English and cross-cultural study sessions at work, launching a global bulletin board for posting JR East-related news on its world business development, and hosting ekinaka study sessions at stations frequently used by overseas customers. My main activities focus on welcoming overseas guests with our hospitality, omotenashi.

I hope to continue my efforts in sharing my experiences and overcoming uneasiness and increasing awareness among our employees when welcoming overseas guests. My endeavors will never end to realize the best hospitality.





Promoting Involvement of Female Employees

Power of each single employee is supporting JR East. The fundamental attitude of JR East for its human resources lies in its wish to recruit employees chiefly based on their personal character and real ability, foster them taking sufficient time and let them sow off their abilities.

Among the measures to accomplish such target, with regard to the promotion of participation by female employees, as many employees are working under an irregular work schedule, we have positioned involvement of female employees as a key test for diversity and have been strongly pursuing such with focused efforts.

As a result of various measures centering on expanding the positions available to women, including appointment as crew, in order to realize gender equality since our establishment, all positions now have working female employees. In accordance with prolonging the careers of female employees, we will swiftly implement necessary measures with an eye to cultivate personnel capable of playing an active role in management going forward. Specifically, we have set the following targets for each stage of "employment," "development" and "appointment."



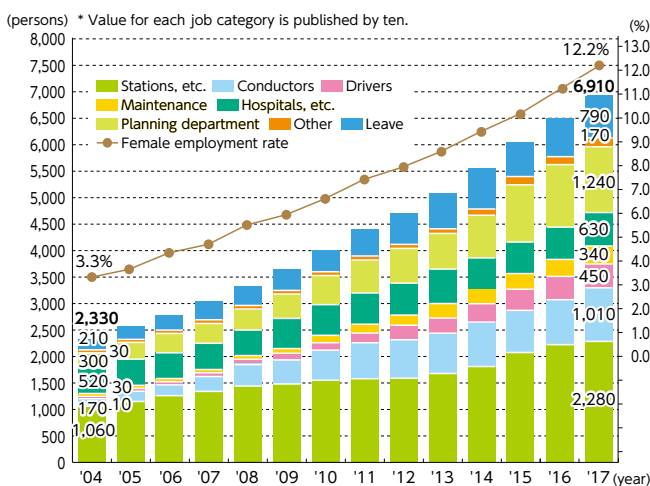
JR East was certified as an "Eruboshi" company (the highest rank, Grade 3) from the Ministry of Health, Labour and Welfare based on the Act of Promotion of Women's Participation and Advancement in the Workplace

Targets for promoting involvement of female employees

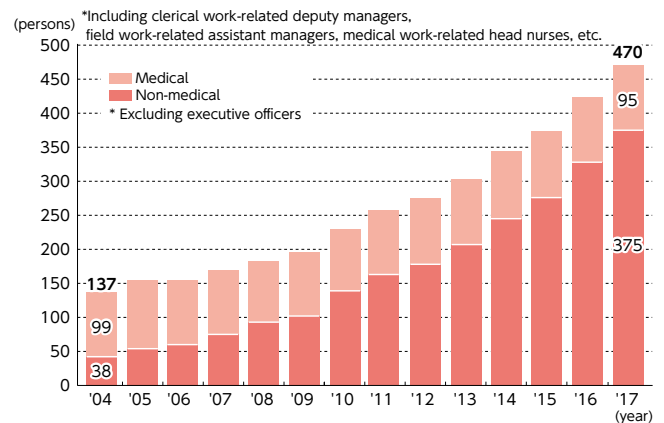
- Aim for a female new graduate employment rate of over 30% by the end of FY2019.
Of the recruited, aim for 40% in the rate of female employees who wish to become crew in the future.
- Develop an environment where diversified working styles are accepted and all employees can continue working with enthusiasm.
- Aim for a female manager rate of 5% by the end of FY2019.

As of April 1, 2017, the number of female employees at our company is 6,912 (12.2% of all employees) and the number of female managers is 166 (4.1% of all managers). The number of female employees 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 directors of group companies is on the rise. As of the end of June 2017, we have appointed one female outside director and two corporate officers.

[Expansion of Employment Opportunities for Female Employees]



[Changes in Number of Female Managers Over Time]





■Employing Persons with Disabilities

As of June 2017, 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

■Addressing measures for understanding sexual minority (LGBT)

JR East is implementing an enlightening activity for the purpose of deepening understanding of sexual minority (LGBT) in its various training programs and seminars for the Group companies, its officers, employees and other persons. Specifically, we held a lecture meeting by an outside lecturer in February and June 2017. In the lecture meeting held in July, about 200 persons including officers and other personnel of our company and Group companies and deepened understanding of LGBT.

■Diversity promotion with the entire JR East Group working as one

We are addressing measures to establish corporate culture in which all people working in the JR East Group will mutually recognize the diversity, under the theme, "Creating sense of unity" in the entire JR East Group. In addition, we have provided information for the purpose of deepening each company's endeavors in future, by holding in February 2017 the "JR East Diversity Forum," through which successful examples of each Group company were shared by all companies, and other events.

■General Business Operator Action Plan

JR East has formulated the "4th phase general business operator action plan" based on the "general business operator action plans" in line with the Act of Promotion of Women's Participation and Advancement in the Workplace and on the Law for Measures to Support the Development of the Next Generation.

Duration: April 2016- March 2019

In November 2008 and in August 2012 we were certified by the Minister of Health, Labour and Welfare as a company supporting the upbringing of the next-generation of children.



Next-generation certified logo ("Kurumin")



Creation of the purpose of life

Various systems aiming to realize the work-life balance

As JR East thought that realization of the work-life balance will bring about a synergetic effect, it has been improving various systems.

With regard to the system to support for the achievement of balanced work and home life, based on the concept of "increasing the options for achieving the balance between work and childcare/nursing, regardless of occupation," JR East introduced "Shorter Working Hours" and "Fewer Working Days" which can be utilized for reason of "child rearing" or "nursing" in FY2011.

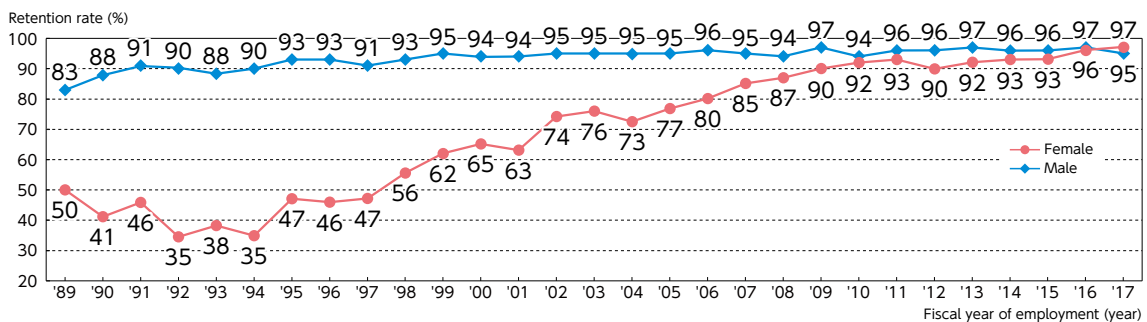
Besides these, we also revised programs, such as extending the availability of childcare leave to the time when the child reaches three years of age and expanding the scope of coverage of "Nursing leave" (entitled to take up to five days off a month for taking care of a child) and "Sick/injured child 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 finishes the third grade of elementary school. In this manner, there is a growing range of options for ways of working during childcare/nursing periods.

In addition, starting in 2011, we have been providing information and holding panel discussions by their seniors to employees who are in the midst of a period of a life event such as child care and nursing. From FY2014, introduction of role models and seminars to which male employees participate for operation thereof, and encourage employees taking a leave to come back early to their workplaces have been held at all the twelve Branches.



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

[Transition of retention rate]



As of April 1, 2017

Promotion of "Renovation of way of working"

In order to review the long-time labor and create environment in which diverse human resources can work at ease, our company is addressing promotion of "Renovation of way of working." Specifically, we will continue to pursue the way of working with higher productivity by promoting paperless work, reviewing scheme of meetings and materials, promotion of mobile work utilizing ICT tools, and other measures.

From now on, we will continue endeavors to enhance the quality of work, without becoming content with the current situation.

Networking activity

Starting in 2010, as a grassroots activity for promotion of diversity, we have been implementing networking activities in which we discuss about "diversity," "work-life balance" and other matters at each institution, in the horizontal connection beyond the framework of workplace and job category group. In addition, as a place for information exchange beyond the framework of institutions, representatives of each institution get together at Head Office to hold the general meeting there, once a year.

Providing information through portal website

On the in-house intranet, we established a portal website titled "Diversity Commu" as a place for two-way communications among employees in April 2013.

This website has been used for not only the said two-way communications but also transmission of various sorts of information related to promotion of diversity, including top comments about the same theme.



Safety



Society



Environment

■ Consultation Desk for Diversity

In February 2017, we opened the "Consultation Desk for Diversity" as a system for providing individual consultations including those about carrier support and support for the achievement of balanced work and childcare and nursing to employees in need including those with disabilities, those having foreign nationalities and sexual minority (LGBT).

■ Elder Employee System

During the fiscal year ended March 2009, JR East introduced the Elder 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.

This plan enables retired employees to stabilize their lives until they reach their fully pensionable ages, as well as encourages them to continue to contribute to our Group-wide accumulation of know-how.

To Improve Working Environment

■ Health Management

Our company implements measures for employees' health enhancement with medical staff playing a central role at JR East Health Promotion Center, JR Sendai Hospital Health Management Center and other seven railway staff health checkup centers.

In February 2017, such endeavors were evaluated, and our company was designated as a "Company with Excellent Health Management (White 500)," that is jointly implemented by the Ministry of Economy and Industries and Tokyo Stock Exchange.



Promotion of Health Measures

In order to maintain/promote health of employees, we are taking the following healthcare measures in addition to comprehensive medical examinations (for employees at 35 years of age or over)

- ・Influenza vaccination (FY2017: vaccination rate of 78%)
- ・Gynecological exams for women under 35 years old aiming for breast cancer and uterus cancer examinations (Application rate in FY 2018: 52.9%)
- ・Special health checkup/special health guidance as lifestyle diseases prevention (FY2016: implementation rate: 44.8%)

In addition, for employees in need of medical examination at a medical institution, we provide support their health in cooperation with JR Tokyo General Hospital and JR Sendai Hospital.

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 booklet titled "Kokorono Self-care" 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 onsite supervisors. In addition, following the partial amendment of the Industrial Safety and Health Act, we offer a stress check to all employees starting from FY2017 to grasp the amount of mental stress employees are under.

■ 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, and also, a consultation desk is established in the company for providing consultations related to human rights.

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



Safety



Society



Environment

Column In preparation for Tokyo 2020 Olympic and Paralympic Games

In June 2016, JR East entered into the Tokyo 2020 Olympic and Paralympic Official Partner Agreement (for Passenger Rail Transportation Services) with Tokyo 2020 Olympic and Paralympic Games Organizing Committee.

As a Tokyo 2020 official partner and also as a corporation whose business area in East Japan area, JR East will take various measures to support smooth operation of the Tokyo 2020 event as well as to increase momentum toward the opening of the games.

In addition, we consider it is what JR East is supposed to be as a corporation which satisfies the expectation of the community to continue endeavors so that those will become sustainable "legacy" even after 2020 to both the regional community as well as JR East and will not become mere temporary affair.



Press conference for announcement of agreement with JR and Tokyo Metro

■ JR East 2020 Project

Pillar of initiatives I

Helping to ensure that the Games proceed without issues

- Provide safe and reliable railway infrastructure that is barrier free
- Provide information to facilitate usage and provide comfortable passenger rail transportation services

Pillar of initiatives II

Contributing to the growing enthusiasm surrounding the event

- Stimulate tourism with a view to restoration of the (Tohoku) disaster area
- Realize regional revitalization in eastern Japan
- Enhance the appeal of the Tokyo metropolitan area by upgrading large-scale stations
- Advance diversity
- Contribute continuously to local communities through support for sport



Improvement of a station (Harajuku)



Participation in related event (Japan Walk in SENDAI 2017 Spring)



Regional revitalization in collaboration with the "Economic Community Conference on Olympic and Paralympic Games, etc."



Promotion of diversity (Experiencing Paralympic sports)

TICKET TO TOMORROW - Future tickets to all people -

This is a communication slogan aiming to continue to satisfy the expectation of our passengers by providing quality services in all business fields and to succeed "legacy" to communities and JR East Group in and after 2020, as JR East Group.

Under the slogan, all employees working in our Group will continue to challenge toward their new possibility.

未来のキップを、
すべてのひとに。

TICKET
TO
TOMORROW



Environment

CONTENTS

Basic Concept for Ecology Promotional Activities	98
Environmental management	100
Measures to prevent global warming	106
Measures for resource circulation ..	116
Chemical substance management ..	120
Environmental Conservation Activities along Railway Lines	121

Basic Concept for Ecology Promotional 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 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 CO2 emissions, a contributor to global warming.
2. We ensure the proper management and processing of environmental pollutants and ozone-depleting substances, in compliance with laws and regulations.
3. We ensure the appropriate processing of various types of waste generated at our offices, establishments, stations, trains, and other locations.
4. We respect the natural environment, which nurtures diversified life, and endeavor to reduce noise and vibrations caused by train operations.
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.

Committee on Ecology

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. Furthermore, 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 April 1, 2017)]

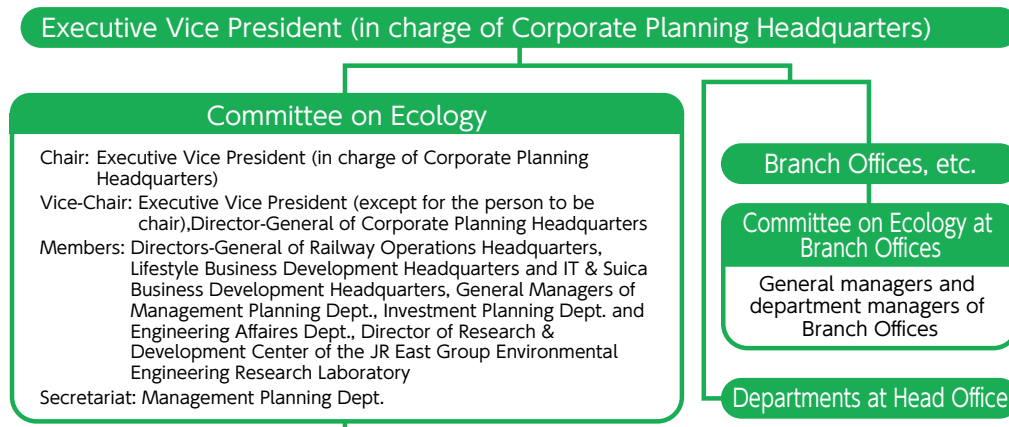


Table with 2 columns: Activity Category and Description. Rows include Environmental management, Measures to prevent global warming, Measures for resource circulation, Chemical substance management, and Environmental activities along railway lines.

Compliance with environmental laws and regulations

There were no major violations of environment-related laws and regulations resulting in penalties in FY2017.



Safety



Society



Environment

Environmental Management

Management of Environmental Goals

FY2031 goals

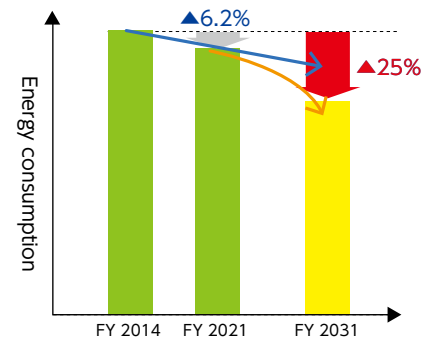
Since 1996, JR East has been conducting environmental conservation activities with a focus on specific goals. With the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21) held in December 2015 adopting the Paris Agreement which will be a new international framework for global warming countermeasure after 2020, we have set environmental goals which plan to be achieved in FY2031.

Category of environmental conservation activities	Performance indicators	Targets to be met by FY2031
Measures to prevent global warming	Energy consumption from railway business activities	25% reduction (compared to FY2014)
	CO ₂ emission volume from railway operations	40% reduction (compared to FY2014)

Concept for goals determination

25% reduction of energy consumption for railway operations (compared to FY2014)

To achieve the FY2021 goals which aim to reduce energy consumption for railway operations by 6.2% when compared to those of FY2014, we have promoted activities such as the introduction of energy saving trains and LED lighting. Towards realizing the FY2031 goals, we pursue achieving a reduction of 25% energy consumption for railway operations (compared to FY2014) by accelerating reduction pace up to FY2021 through activities such as installation of power storage facilities, self-consumption of renewable energy, increasing the introduction of E235 series trains. In addition, we aim to achieve further system innovation such as enabling energy-saving automated operation.



40% reduction of CO₂ emission volume from railway operations (compared to FY2014)

In terms of CO₂ emission goals, based on the assumption that power company emission factors will be 0.37 kg-CO₂/kWh in FY2031, we set goals which convert a 25% reduction of energy consumption into CO₂ emission volume.



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.

State of progress toward FY2021 goals

FY2021 Goals

Energy consumption of the railway business has been steadily reduced by conducting activities such as the introduction of energy saving trains and others. In accordance with the nation's FY2031 goals, the baseline year was set as FY2014.

figures in parentheses are in comparison to FY2014

Category of environmental conservation activities	Performance indicators	Unit	Reference value (FY2014)	FY2021 goal	FY2017 result
Measures to prevent global warming	Energy consumption from railway business activities	Billions of MJ	51.7	48.5 (6.2% reduction)	50.2 [☆] (2.9% reduction)
	Electricity consumption for train operation (Shinkansen lines)	kWh/car-km	2.49	2.36 (5.1% reduction)	2.44 [☆] (2.0% reduction)
	Electricity consumption for train operation (conventional lines)	kWh/car-km	1.59	1.46 (8.3% reduction)	1.49 [☆] (6.0% reduction)
	Energy consumption at branch offices, etc.	kL/m ²	0.0407	0.0366 (10.0% reduction)	0.0376 [☆] (7.6% reduction)

Progress of Environmental Measures

Category of environmental conservation activities	Performance indicators	FY2021 goal	FY2017 result
Measures to prevent global warming	Implementation of more ecoste Model Stations	Total of 12 Stations	Total of 6 Stations
	Switching Platform and Concourse Lighting to LEDs	Total of 36 thousand units (reduction of 83 million MJ)	Total of 21 thousand units (reduction of 44 million MJ)
	Improving Efficiency of Large-scale Air-conditioning Systems	Total of 10 Locations (reduction of 82 million MJ)	Total of 6 Locations (reduction of 57 million MJ)

Annual Targets through FY2021

Category of environmental conservation activities	Performance indicators	Goal	FY2017 result
Measures to prevent global warming	Reduction Rate of Energy Consumption Intensity of Each JR East Group Company	Every year 1% reduction in each group company	2.2% reduction by all group companies
Measures for resource circulation	Recycling rate for waste generated at stations and on trains	94%	93% [☆]
	Recycling rate for waste generated at General Rolling Stock Centers, etc.	96%	95% [☆]
	Recycling rate for waste generated in facility construction projects.	96%	92% [☆]
	Implementation Rate of Recycling by Group companies	100%	100%
Environmental management	Setting of numeric targets by Each JR East Group Company	Targets to be revised continually	Established

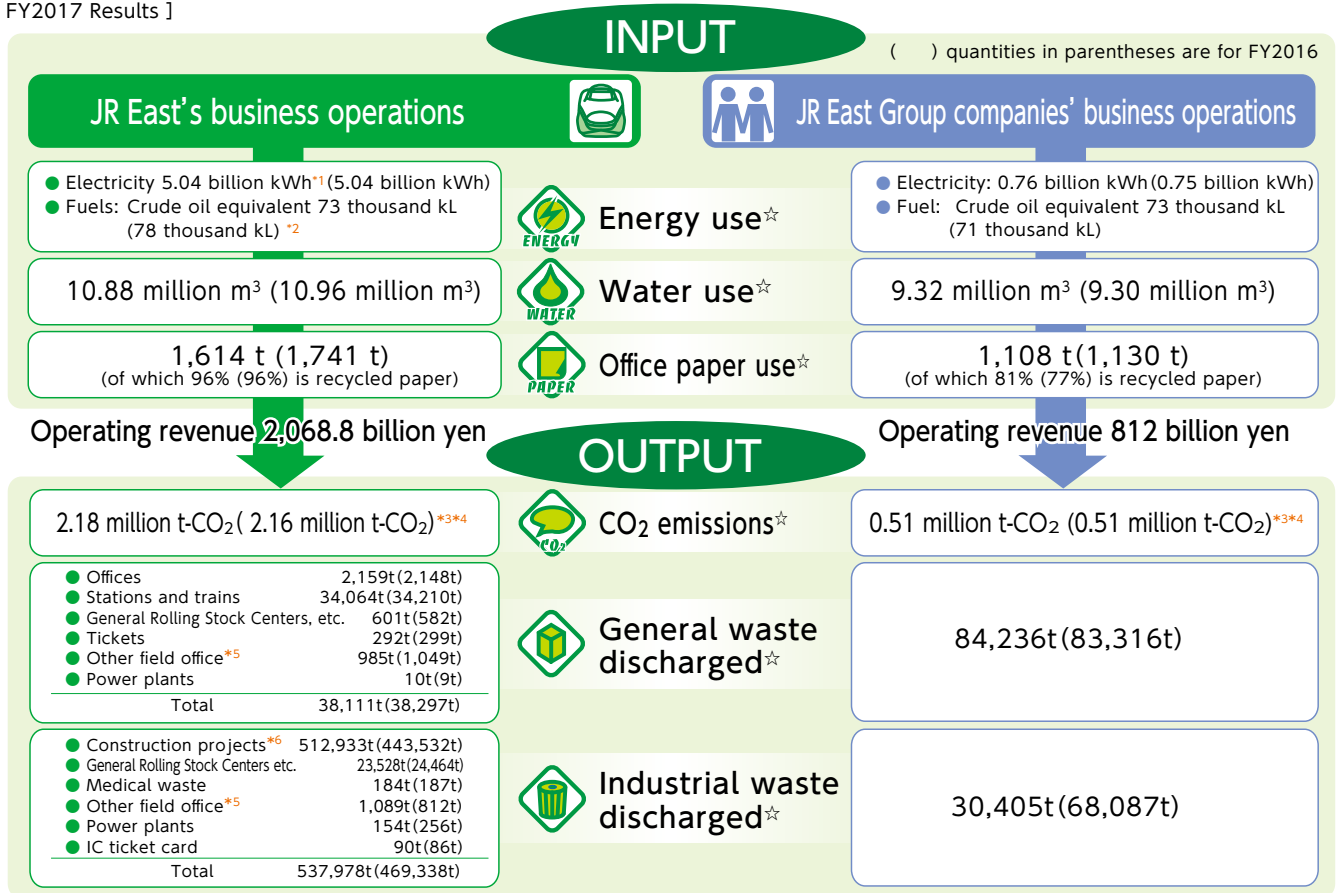
■ Targets for Group companies



Progress of Environmental Management by Entire Group

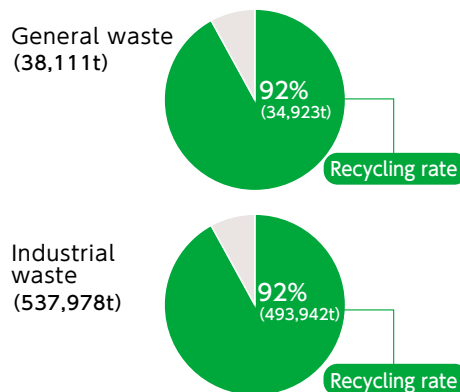
JR East Group's environmental impact

[FY2017 Results]

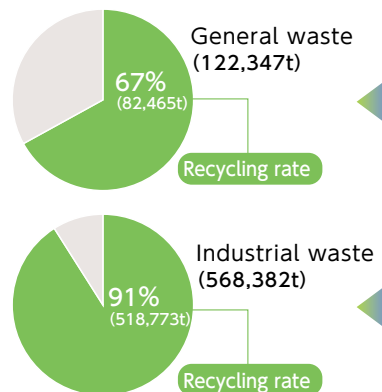


*1 Electricity: Both electricity generated in JR East's power plants and used internally and electricity purchased from electric companies are included. Please refer to the "JR East Energy flow map" on page 106 for details about electricity generation and use. *2 Fuels: Natural gas and other fuels used for generating electricity in JR East's thermal power plants are not included. *3 CO₂ emissions by Scope: Scope 1 emissions of the entire Group is 1.51 million tons CO₂ and Scope 2 emissions 1.69 million tons CO₂. (please see page 107) *4 CO₂ emissions attributable to electricity provided from external suppliers are calculated based on the adjusted emission coefficient of each power company. *5 Other field office: Technical centers that perform maintenance, and other locations such as train crew depots. *6 Construction projects: Waste generated by our construction projects, for which contractors legally become the waste-discharging entities, is included in industrial waste.

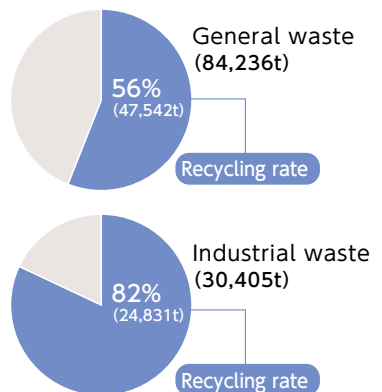
JR East recycling rate*



Entire JR East Group recycling rate*



Group companies recycling rate*



Definition of waste disposal

- Waste includes salable waste.
- Recycling includes thermal recycling* where general waste is treated at incineration plants etc. and industrial waste is incinerated as intermediate treatment for 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 for hot-water supply.



Progress of Environmental Conservation Activities at Each Workplace

■ Creating an environment-conscious culture

JR East believes it is important to promote environmental activities with clear goals established for the entire JR East Group, and to have every employee actively involved. 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.

■ Implementation of 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 activists in the local organization of 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 holding JR East Group Environmental Management Promotion Conferences for people in charge of environmental matters in those companies.

[Environmental education & training system]

Education of environmental-activity promoters at local 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: 20

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: 10

JR East Group Environmental Management Promotion Conference

- Persons participating: those in environmental departments at all group companies (twice a year)
- 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 and others which obtained ISO 14001 certification, 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
JR East Mechatronics Co., Ltd.	Mar-08
East Japan Marketing & Communications, Inc.	Aug-08
JR East Rail Car Technology & Maintenance Co., LTD.	Dec-10
Japan Transport Engineering Company	Oct-14



Safety



Society



Environment

Environmental Communication

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 FY2017, the program was implemented at 81 schools, primarily elementary schools, in the JR East area. From FY2014, JR East employees working in each area are visiting neighboring schools for the programs.



Delivering Lectures

TICKET
TO
TOMORROW

What I learned from a delivery session

Misaki Kasuya

Conductor, Toyoda Transportation Depot, Hachioji Branch Office

As a conductor, I work on the Chuo Line between Tokyo and Otsuki. In my daily duties, I focus on thoroughly conducting basic procedures as a conductor and making easy-to-understand on-board announcements to provide safety and peace of mind for our passengers.

When I delivered a lecture at a neighborhood school, I spoke on the theme of railways which is familiar to students and explained how we utilize information-related systems and how JR East tackles environmental issues. Through this session, I was involved in the education of neighborhood children, and it was a valuable experience. At the same time, in serving the railway infrastructure myself, I reaffirmed the importance of working on environmental issues.

I would like to continue my efforts in further improving safety measures and service quality by utilizing an even more convenient information network.



Holding Environmental Events

We exhibit at the Eco Life Fair hosted by the Ministry of the Environment and stage events with other companies, for the purpose of explaining JR East's environmental preservation activities, and communicating directly with customers. In November 2016, we held an event in collaboration with NTT Group which successfully appealed to a large number of customers through a variety of activities, including panel displays introducing both companies' environmental initiatives, participatory events that enabled people to learn about the environment while having fun, and model exhibits

Initiatives for: environmental activities of the Shinanogawa Power plant

In July, 2016, we opened the "Citizen house; Ojiya Shinanogawa Hydroelectric Plant House" as a part of popularization activities for the Shinanogawa Hydraulic Power Plant to give the opportunity to learn about the mechanism of hydraulic power generation which is a source of clean energy.

On top of that, we continue the release of juvenile salmon as a part of initiatives to harmonize water usage and the river environment of the Shinanogawa River with the people of the local community.



Ojiya Shinanogawa Hydroelectric Plant House

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 have continued to publish our Environmental Report since 1996 (the title was changed to "Sustainability Report" in 2002 and "CSR Report" in 2013). We also communicate about our environmental activities through various media outlets, as well as JR East's websites, posters and pamphlets.



Environmental Accounting and Environmental Management Indicators

In FY2017, our environmental conservation costs amounted to approximately 15.7 billion yen in investments and 20.4 billion yen in expenses. By introducing new type of cars, we estimate we will reduce CO₂ emissions by about 17 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 CO₂ 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 FY2017 the value of the indicator was 5.61t-CO₂ /million yen, compared to 9.45t-CO₂ /million yen for FY1991.

[Environmental accounting for fiscal year ended March 2017☆]

():FY2016

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	4.80 (5.17)	12.72 (8.40)	—	—
Global environmental conservation activities	10.88 (5.87)	—	Energy consumption from railway business activities	50.2 billion MJ
			Electricity used for railway operations per unit of transport volume	Shinkansen 2.44 kWh/car-km
				Conventional Lines 1.49 kWh/car-km
Energy consumption per unit of floor area at branch offices, etc.	0.0376 kL-crude oil equivalent/m ²			
Resource circulation activities	—	5.64 (5.01)	Recycling rate for waste generated at stations and on trains	93%
			Recycling rate for waste generated at General Rolling Stock Centers, etc.	95%
			Recycling rate for waste generated in construction projects	92%
Environmental management	—	0.35 (0.38)	—	—
Environmental research & development	—	1.62 (1.40)	—	—
Social activities	—	0.03 (0.03)	—	—
Total	15.68 (11.04)	20.36 (15.23)		13.87 (14.51)

Notes

Capital investment for the period: 426.5 billion yen
 Total R&D costs for the period: 17.9 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 .
- Environmental conservation costs are mainly based on data available in the current management system.
- To date, we have declared the total amount of investments in energy-saving rolling stock, but starting from FY2016, we do not declare amounts corresponding to upgrades of aging rolling stock.
- Expenses do not include depreciation charges.
- In the costs for resource recycling activities, expenses for treating waste generated at stations and by 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 recycling activities, the expenses for treating waste generated through

construction projects are calculated by multiplying waste volume for FY2017 by standard unit costs for the type of waste in that region.

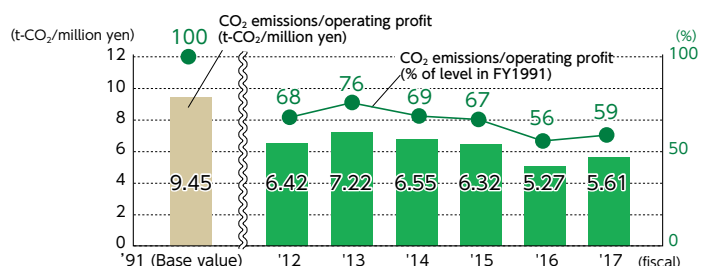
Environmental conservation benefit

- 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.

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☆]





Measures to Prevent Global Warming

Energy conservation and CO₂ reduction

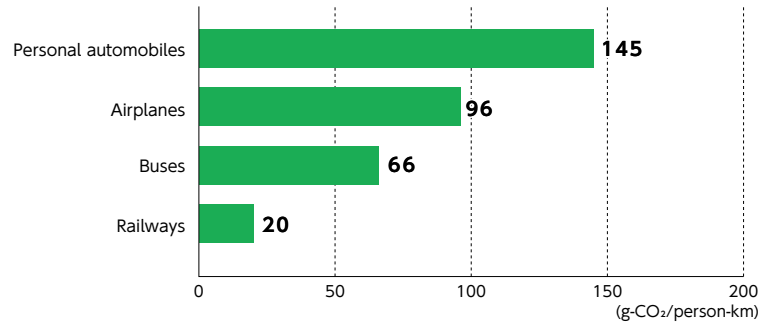
Railways are an environmentally friendly mode of transportation that accounts for a low share of the total CO₂ emissions produced by the transportation sector relative to their share of transportation volume. In FY2016, CO₂ emissions per transportation amount were 20 g-CO₂/person-km for railways compared to 145 g-CO₂/person-km for private automobiles.

However, JR East consumes around 5 billion kWh of power each year, which is a massive amount corresponding to approximately 1.4 million households.

We will therefore strive to save energy for train operation, which accounts for about 80% of our total energy consumption, and furthermore, it will be necessary to conduct a variety of energy saving activities even in offices and others.

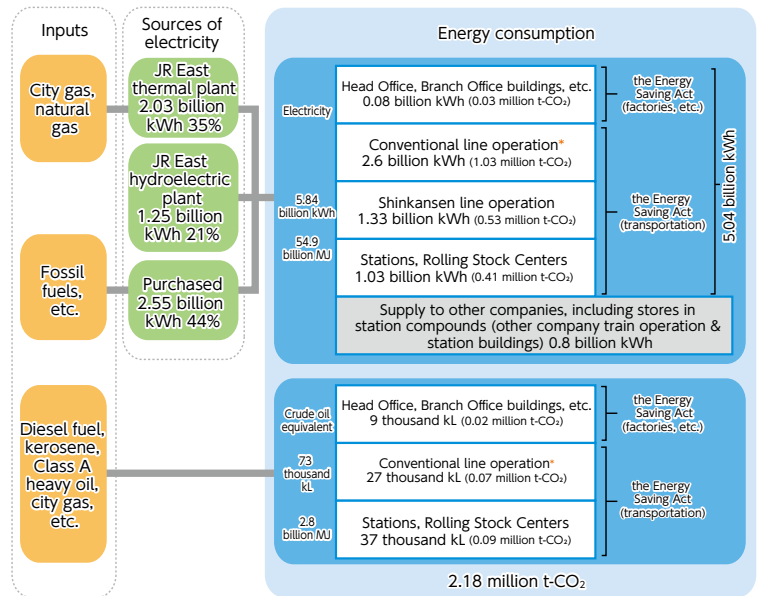
The energy flow map shows the flow of energy from input through consumption. Power supplied by our own power plants and power companies is used for train operation and for station and office lighting and air-conditioning. Diesel fuel and kerosene are also used to operate diesel trains and stations and office air-conditioning.

[CO₂ emissions per transportation amount (passengers)]



Source: Ministry of Land, Infrastructure, Transport and Tourism website (FY2016)

[JR East Energy flow map]*



(CO₂ emissions are the amount calculated with 'adjusted' emission coefficients.)

* Including BRT (Bus Rapid Transit)

Boundary

Though, in principle, the boundary for energy consumption is only JR East, it nonetheless includes energy consumption for the applicable operations of the companies with whom we entrust station operations. On the other hand, the energy consumption of shops on station premise which are operated by group companies is not included in the boundary. Thus, we match the boundary for the energy consumption for the entire JR East business with that of transportation, plants and others defined by the Act on Rationalizing Energy Use (the Energy Saving Act)

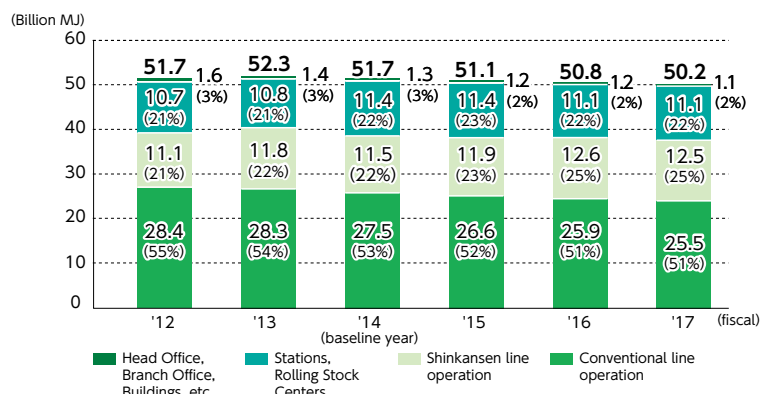
Calculation method

Energy consumption was calculated by the method defined by the Energy Saving Act.

Hydraulic power generated by JR East

The foregoing energy consumption is calculated by the idea of the Energy Saving Act, but hydraulic power generated by JR East is calculated by multiplying by 9.76MJ/kWh. As for hydraulic power generated by JR East, reports required by the Energy Saving Act are reported as 0 MJ.

[Composition of energy consumption by JR East]*





Trends in CO₂ Emissions of JR East☆

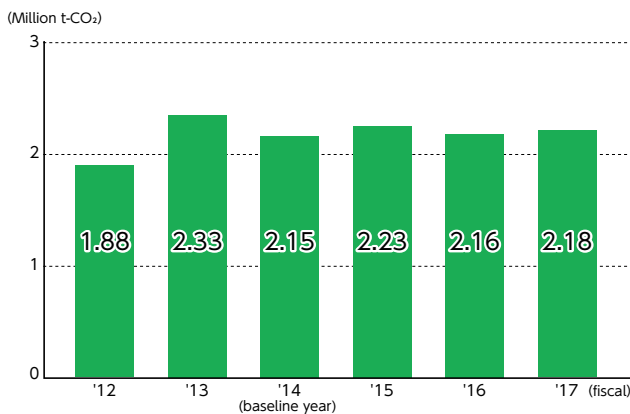
Our CO₂ emissions in the fiscal year ending March 2017 totaled 2.18 million tons, an increase of 30 thousand tons compared to FY2014 (the reference year). This is due to a decline in the CO₂ emission coefficients of electric power companies and other factors. As we did in last fiscal year, we are also reporting CO₂ emissions in Scopes 1 and 2 in accordance with the definition of the GHG Protocol*.

We are moving forward with activities to reduce all CO₂ emissions resulting from our business activities by calculating CO₂ emissions* in Scope 3 and identifying supply chain emissions.

*GHG protocol The standard for calculation and reporting of greenhouse gas emission which was formulated by the organization which was established mainly by the WRI (World Resources Institute) and WBCSD (World Business Council for Sustainable Development)

*Supply chain CO₂ emission Sum of Scope 1, 2 and 3 which is the CO₂ emissions resulting from the whole organization activities of business operations such as raw material procurement, production, capital investment goods, business trips, commuting and others.

[Trends in JR East's total CO₂ emissions]



● Boundary

The boundary of CO₂ emissions is the same as that for the energy consumption described in p. 106.

● Calculation Method

CO₂ emissions have been calculated based on the method specified in the Act on Promotion of Global Warming Countermeasures. However, the CO₂ emissions attributable to the purchased electricity are calculated, including those from the electricity used for rail transport, by using adjusted emission coefficients for each electric power company. The CO₂ emissions in the fiscal year ending March 2017 calculated by using actual emission coefficient is 2.20 million tons CO₂, up 0.04 million tons CO₂ compared to the previous fiscal year.

Item	Scope 1	Scope 2
FY2017 Emission Volume	1.38 million tons CO ₂	1.36 million tons CO ₂

Scope 1... CO₂ 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... CO₂ emissions indirectly emitted from the use of electricity purchased from electric power companies.

Scope 3... CO₂ discharged by the other companies which are related to our business activities.

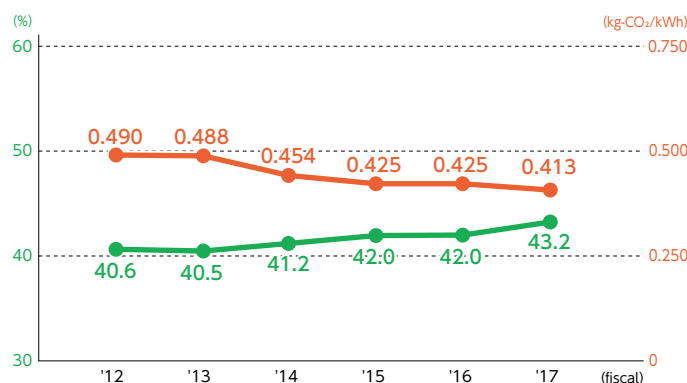
*The sum of the Scope 1 and Scope 2 emissions and the total CO₂ emissions do not match, since the former includes emissions associated with the production of electricity supplied to other companies.

Thermal Power Plant of JR East

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 CO₂ emissions. In addition to the start of operation of No. 4 plant in April 2014, we are proceeding with renovation of No. 1 plant for commencement of operations in 2021.

*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.

[CO₂ emission factor and power generation efficiency at thermal power plant of JR East]*



● JR East thermal power plant efficiency (%)
● CO₂ emissions per unit of electricity generated (kg-CO₂/kWh)

● Calculation method
CO₂ emissions from the thermal power plant of JR East are calculated based on the method stipulated in Act on Promotion of Global Warming Countermeasures, and power generation efficiency is based on the method stipulated in the Energy Saving Act.

● CO₂ emission factor of all power generated by JR East (thermal power and hydraulic power)
Emission factor adjusted in FY2017 was 0.298 (kg-CO₂/kWh)



Safety



Society



Environment

■ Reducing energy consumed for train operations☆

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.

In the fiscal year ending March 2017, JR East had 11,934 energy-efficient railcars in operation. This accounts for 96.2% of our railcar fleet.



E235 series:
New rolling stock models equipped with state-of-the-art train information management system were introduced on the Yamanote Line



E7 series:
The Hokuriku Shinkansen that incorporates the highest level of 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. Moreover, starting from 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 CO₂ emissions and noise associated with diesel engines.

On top of that, in March 2017 we started operation of the accumulator railcar train of the "EV-E801 series" which is aimed for usage on the alternating current(AC) section between Akita station and Oga station.



EV-E801 series
Accumulator railcar train for use on alternating current (AC) section

TICKET TO TOMORROW

Aiming for further improved quality of ACCUM

Keiichiro Ito

Chief Rolling Stock Engineer, Koyama Rolling Stock Center, Omiya Branch Office

I am responsible for technical guidance during regular inspections and manual creation for the ACCUM (EV-E301 series) operated on the Karasuyama Line and studies relating to other rolling stock.

Since the first train-set entered service, we have succeeded in operating it without any major problems, and we are acquiring data on storage batteries, which is essential for future quality management, and conducting periodic analysis, but there are some areas where it is difficult to make judgments about storage battery deterioration trends based solely on the data we currently have, so we will continue considering what we need to do as we move forward.

We also receive inquiries from the crew members who actually operate the trains about storage battery consumption in different usage environments. Going forward, in addition to taking all necessary measures to maintain rolling stock, we will devote effort to acquiring various data on storage batteries and ensuring safe, stable transportation in collaboration with stakeholders.





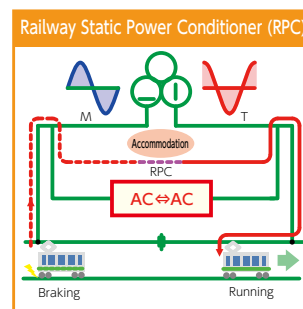
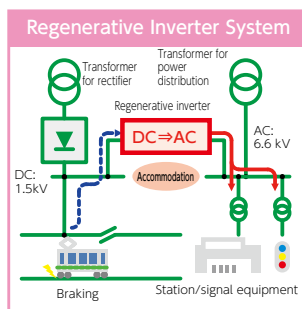
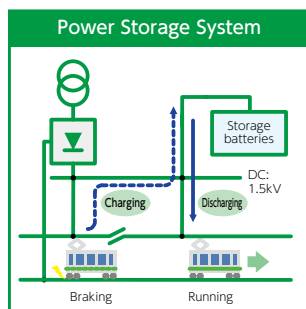
Effective Use of Regenerative Power

As a measure to reduce energy consumed from ground installations for train operation, we are proceeding with efforts to make more efficient use of regenerative power generated by trains when stopping.

On direct current sections, we are working to introduce power storage systems that temporarily store regenerative power and use it when needed. We have introduced these systems in a total of three locations so far, starting with the Ome Line Hajima substation (lithium-ion battery) that entered use in 2013, which was followed by the Takasaki Line Okegawa substation (lithium-ion battery) and the Tohoku Main Line Kuki substation (nickel-metal hydride battery).

Moreover, as a new initiative, we are proceeding with the introduction of regenerative inverter systems, which convert direct current regenerative power generated by rolling stock into alternating current power for use by station facilities, signal equipment, etc., at the Takasaki Line Fukiage substation and Keiyo Line Kajibashi substation.

Meanwhile, with regard to alternating current sections, we introduced a railway static power conditioner (RPC) that makes it possible to alternately accommodate regenerative power generated on feeding sections, which previously could not be used, at the Joban Line Ushiku sectioning post. It has been in use since 2015.



Proactively adopting LED lighting for all new cars

On our conventional lines, LED lighting has been introduced on new rolling stock manufactured since 2013. We are also steadily adding rolling stock with LED lighting for the Yamanote Line E235-series, which is currently being manufactured.

For Shinkansen cars, LED lighting has been introduced on newly produced E5-series trains and E7-series trains, and we will continue to introduce it on additional E5-series trains produced in future.

In summary, at the end of March 2017, 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

[Main railcars on which LED lighting has been introduced]

Model	Line/Area	No. of Train-sets (No. of cars)
E233-series trains	Saikyo Line	31 train-sets (310 cars)
	Yokohama Line	28 train-sets (224 cars)
	Nambu Line	35 train-sets (210 cars)
EV-E301-series trains	Karasuyama Line	4 train-sets (8 cars)
HB-E210-series trains	Senseki-Tohoku Line	8 train-sets (16 cars)
E235-series prototype trains	Yamanote Line	1 train-set (11 cars)
E129-series trains	Niigata area	55 train-sets (160 cars)
E721-1000 series	Tohoku Main Line	19 train-sets (76 cars)
EV-E801-series trains	Oga Line	1 train-set (2 cars)
HB-E300-series (Buna train)	Gono Line	1 train-set (4 cars)
New E5-series trains	Tohoku Shinkansen	5 train-sets (50 cars)
E7-series trains	Hokuriku Shinkansen	19 train-sets (228 cars)



LED lighting in use sticker



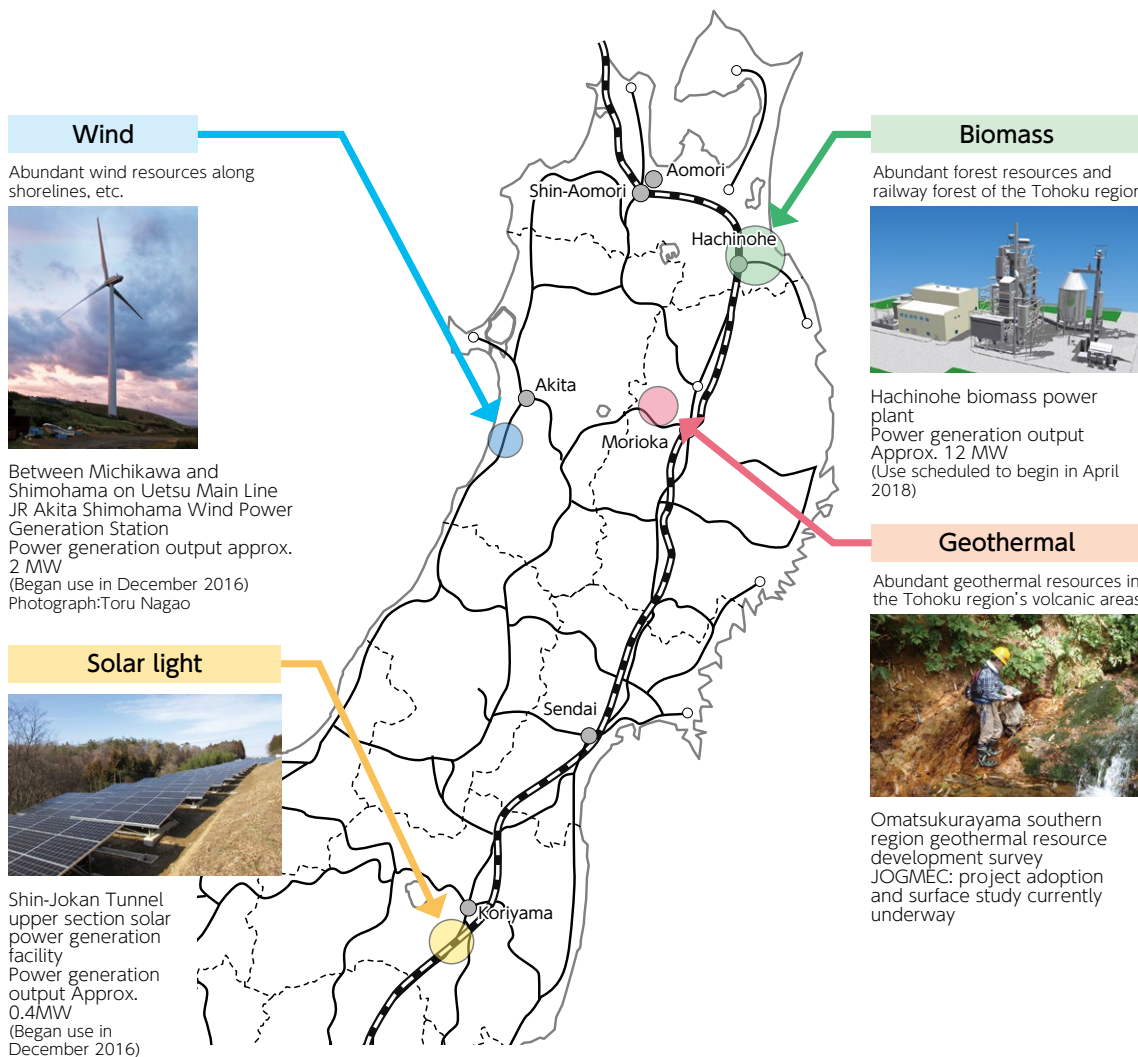
Progress of introducing renewable energy

We also promote use of renewable energies, including solar and wind power. Solar panels have been installed on our own buildings at stations, rolling stock centers, and elsewhere. In February 2011, we installed 453 kW of solar panels above the entire platform for tracks 9 and 10 at Tokyo Station, which serve Tokaido Line trains.

In February 2014, we began using a 1,050 kW mega-solar facility for the first time at JR East, inside the Keiyo Rolling Stock Center, and the electricity that it generates is being used to reduce costs at the Rolling Stock Center and operate railways via our own distribution lines. As a result of such initiatives, about 1.6 million kWh of the power generated by solar panels in FY2017 was for JR East's own use.

Meanwhile, we are also steadily moving forward with the introduction of mega-solar generation facilities using the feed-in tariff (FIT) scheme. Use of a solar power generation facility began between Tomobe and Uchihara on the Joban Line in February 2015 and in the upper section of the Shin-Jokan Tunnel between Shin-Shirakawa and Koriyama on the Tohoku Shinkansen in December 2016.

Furthermore, in December 2016, we began operation of the JR Akita Shimohama Wind Power Generation Station located on JR East land between Michikawa and Shimohama on the Uetsu Main Line, and we are currently constructing a wood biomass power plant in Hachinohe City with the aim of beginning operation in April 2018. Going forward, we will continue working to introduce and use renewable energy.





Safety



Society



Environment

Development of the "Eco-station" model station

We are implementing "eco-stations" which introduce various environmental conservation activities into stations such as energy saving and renewable energy.

Beginning with Yotsuya Station in March 2012, by July 2017 we had completed the development of nine "Eco-station" model stations as trial stations for the Eco-station concept. Our basic policy in developing these has been to incorporate "Ecomenu" green technologies corresponding to four pillars. By 2020, our goal is to have established 12 Eco-station model stations.

At Musashi-Mizonokuchi Station, which began operation as an Eco-station in April 2017, there are solar panels installed on the station building's roof and an independent hydrogen energy supply system has been introduced that enables operation using only water and sunlight. Based on this, in the event of a disaster, it will be possible to supply power to facilities required to use the station as a temporary shelter by using stored hydrogen to power fuel cells.

[Four pillars]

Saving energy:

Promoting better energy-saving measures

Creating energy:

Actively introducing renewable energy

Eco-consciousness:

Developing facilities that enable customers to be eco-conscious

Environmental harmony:

Creating a dynamic balance between people and the environment



Independent hydrogen energy supply system (Musashi-Mizonokuchi Station)

[Established Eco-station model stations (as of July 2017)]

Station Name	Yotsuya	Hiraizumi	kaihim makuhari	Yumoto	Fukushima	Urawa	Niitsu	Musashi-Mizonokuchi	Kobuchizawa
Operation Start Date	March 2012	June 2012	September 2013	March 2015	April 2015	March 2017	April 2017	April 2017	July 2017

TICKET TO TOMORROW

"Hydrogen Eco-Station" Musashi-Mizonokuchi Station

Kouta Asatani

Musashi-Mizonokuchi Station Staff, Yokohama Branch Office

I have worked on making customers "know" and "feel" that Musashi-Mizonokuchi Station is a model "Eco-station." During construction, we posted newsletters on the temporary fences to communicate the overview of "Eco-station" and the changes the station was undergoing. We received a strong response after completion, and the natural wood wall and wall greening, in particular, were favorably accepted by many as they directly project the eco-friendly feel.

Furthermore, as part of the comprehensive partnership agreement concluded with Kawasaki City, we have launched new initiatives with communities, such as having Takatsu-ku of Kawasaki City to include a visit to the hydrogen power generation system site in its eco tours. All of us here will continue to strive to create a station that will be loved by local residents through the "Eco-station" initiative.



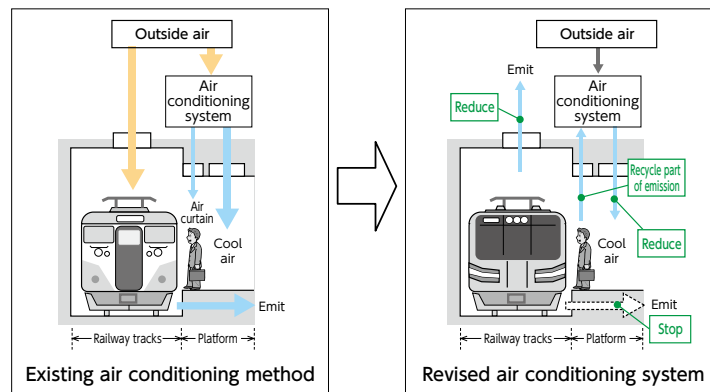


■ Saving energy at stations

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 and replacing platform lighting into LED lighting.

Since Great East Japan Earthquake, we are replacing mainly station platform lighting into LED lighting. In FY2017, we replaced a total of about 7 thousand platform lights with LED lighting and by this replacement, we were able to reduce annual power consumption by about 1.5 million kWh.

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 since 2015, we now recycle and reuse the cooled air to reduce the air conditioning load, which reduces CO₂ emissions by 60% combined with the effects of renewing air conditioning facilities. Similar upgrading work is also under way on underground Keiyo Line platforms at Tokyo Station.



High-efficiency turbo refrigeration and air conditioning units after facility upgrading

We are also pursuing further energy-saving efforts, such as using the BEMS* that we introduced in conjunction with the air conditioning facility upgrading and modifying how we use our air conditioning based on data analysis.

*BEMS (Building Energy Management System): system that plays a role in saving energy by capturing building energy use and indoor environment conditions.



Example of BEMS screen



Environmentally friendly and energy efficient office buildings

We have pursued energy saving initiatives by hardware measures such as introducing LED lighting and high efficiency devices into office buildings and also by software measures such as implementation of "cool-biz" initiatives, thermal control of air conditioners and scrupulous shutting off lights by employees.

In addition to the JR Kanda Manseibashi Building and JP Tower, JR Shinjuku Miraina Tower, which opened in 2016, has acquired a class S rating as an environmentally friendly and energy-efficient building, which is the highest rating under the CASBEE environmental labeling system, an initiative of the Ministry of Land, Infrastructure, Transport and Tourism.

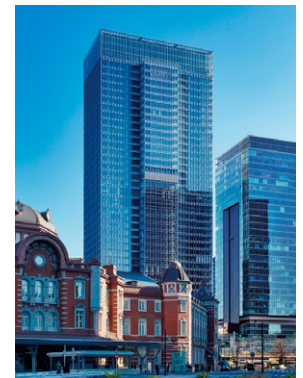
Thanks to their superior performance as office buildings reducing CO₂ emissions, seven offices—including GranTokyo South Tower, GranTokyo North Tower, JR Shinagawa East Building, and Sapia Tower—earned recognition as Offices Taking Excellent Specific Global Warming Countermeasures (top-level office building) under the Tokyo Metropolitan Ordinance on Environmental Preservation. During the first planning period under the ordinance (FY2011 to FY2015), we were able to reduce CO₂ 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.

***LEED (Leadership in Energy and Environmental Design)**

An environmental indicator for buildings that is widely used in the U.S. and elsewhere. The JR Kanda Manseibashi Building has two certifications: Gold LEED-CS (Core & Shell) and Gold LEED-C (Commercial Interior).



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



GranTokyo South Tower, recognized as a top-level establishment



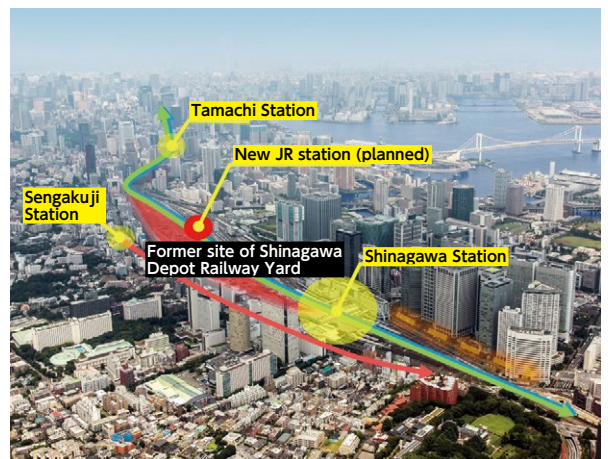
Top-level establishment certification presentation ceremony (July 2017)

Shinagawa Depot Railway Yard Development Project

As part of our efforts to take a leading role in addressing climate change at the global level, the project to develop the former site of Shinagawa Depot Railway Yard, with the support of the Tokyo Metropolitan Government, joined the Climate Positive Development Program*¹ run by C40*², which recognizes low-carbon urban development projects, in FY2016. Going forward, we will continue to contribute to the creation of a sustainable society.

***1 C40 (C40 Cities Climate Leadership Group)** Established in 2005 as a network of cities around the world that work together to reduce greenhouse gas emissions. As of August, 2016, there are 85 participating cities, including Tokyo, which joined in 2006.

***2 Climate Positive Development Program** A program that creates models for highly sustainable urban development. Its purpose is to be a leader for global society as a whole by widely promoting examples of pioneering development models around the world.





Safety



Society



Environment

■ 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. By taking advantage of its location on a station rooftop, "soradofarm," membership rental farms placed next to the garden, provides services such as agricultural, environmental education and creates local community through vegetable cultivation experiments and earns a positive favorable reputation from many customers. At present, these services are implemented at Shinjuku, Ebisu, Ogikubo, Hachioji, Takasaki and others.

As of the end of March 2017, we had completed 94 greening projects (including some cases of moss planting) encompassing a combined rooftop area of 34,487 m².



NEWoMan



Rooftop greenery at the Chiba branch building

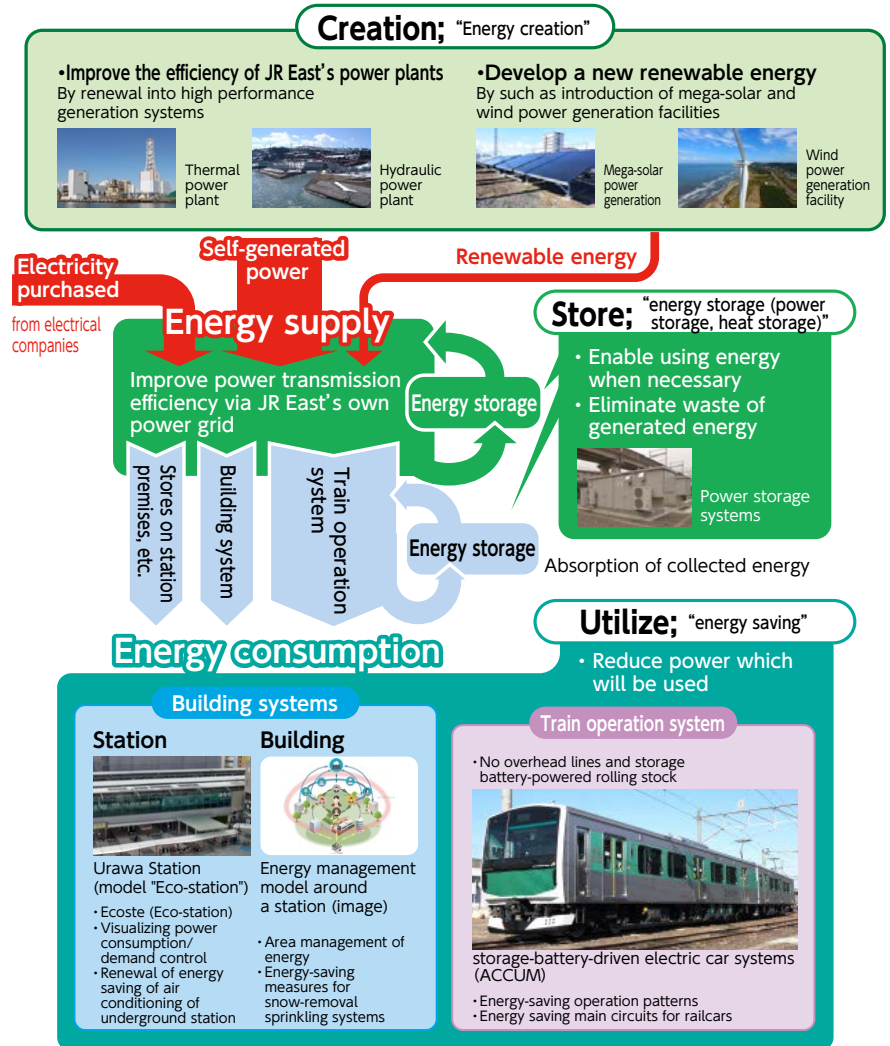


Takasaki Monterey



Research and development for reduction of environmental loads

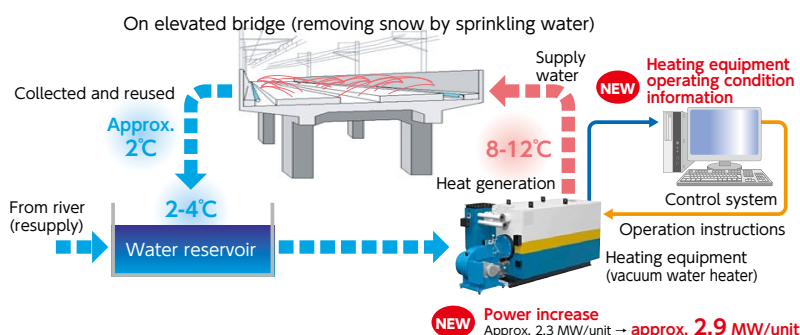
The JR East Group possesses a comprehensive energy network from power generation, transmission, and distribution to usage. We are aiming to establish a railway energy management system that combines these with the creation (energy-creating technology such as mega-solar and wind power generation facilities of renewable energy), use (energy-saving technology such as energy-saving operating patterns), and storage (energy-storing technology such as power storage systems).



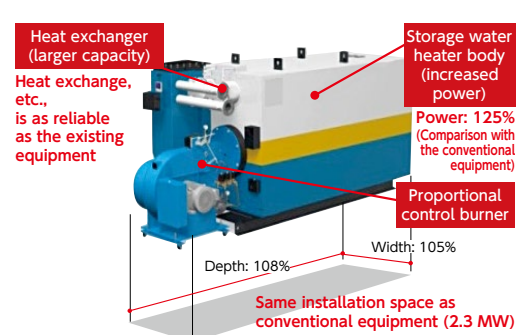
Energy-Saving Measures to Improve the Efficiency of Snow Removal Sprinkler Equipment

In addition to replacing aging snow removal sprinkler equipment, which helps to ensure stable Shinkansen transportation in regions with heavy snowfall, we are working on research and development to save energy by improving the equipment's efficiency. Snow removal sprinkler equipment is a system that prevents accumulation of snow on elevated bridges by sprinkling warm water heated using a heating device. At the same time, these systems also consume a huge amount of energy, and equipment on the Tohoku, Joetsu, and Hokuriku Shinkansen Lines uses 10,000 to 15,000 kL of kerosene per year in winter alone; converted into CO₂ emissions, this corresponds to 25,000 to 37,000 t. We are therefore developing a new, high-efficiency control system that uses heating equipment operating condition information and heating equipment that has a higher output while still occupying the same amount of space, with the aim of reducing fuel consumption by 10%. This fiscal year, we are working to introduce the fruits of our efforts in the field.

[Overview of Snow Removal Sprinkler Equipment and Key Developments]



[Development machine (heating equipment)]





Safety



Society



Environment

Measures for resource circulation

Waste reduction and recycling

JR East generates many kinds of waste through its railway operations, including daily general 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, and recycle." For recycling in particular, goals are set for each type of waste.

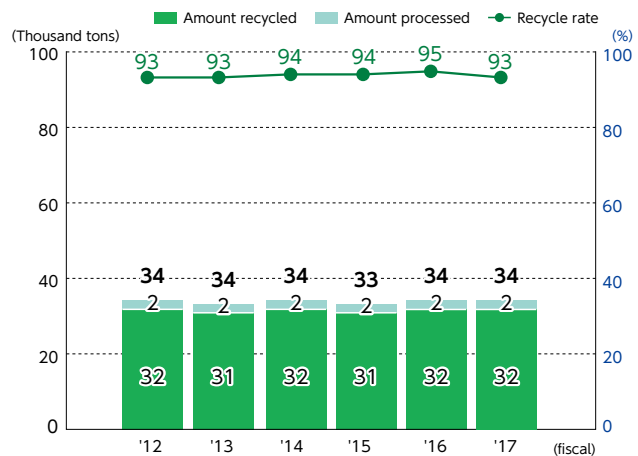
Recycling waste collected from stations and trains☆

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 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.



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 FY2017, we recycled 1,728 tons out of a total of 2,159 tons of waste (80%).

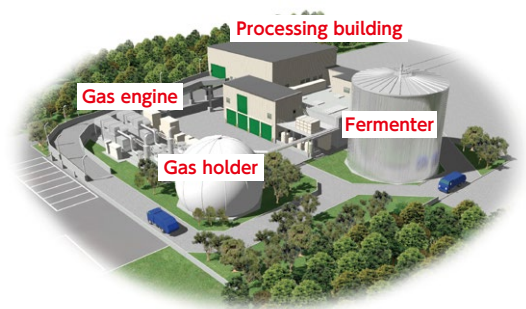


Separate trash bins for different types of trash (inside Chiba Branch Office)

Taking Part in Initiative to Recycle Food Waste into Biogas

In August 2016, the JR East Group entered the food recycling business with J Bio Food Recycle Co., Ltd., established as a joint venture with JFE Group.

The Yokohama facility scheduled for completion in the summer of 2018 will receive up to 80 t of food waste per day from across the city, including JR East Group stations and station buildings, convert it into biogas via a methane fermentation process, and generate power. It is projected to generate enough renewable energy to power 3,000 households, and it will also make efficient use of some waste heat inside the facility.



J Bio Food Recycle Yokohama Facility

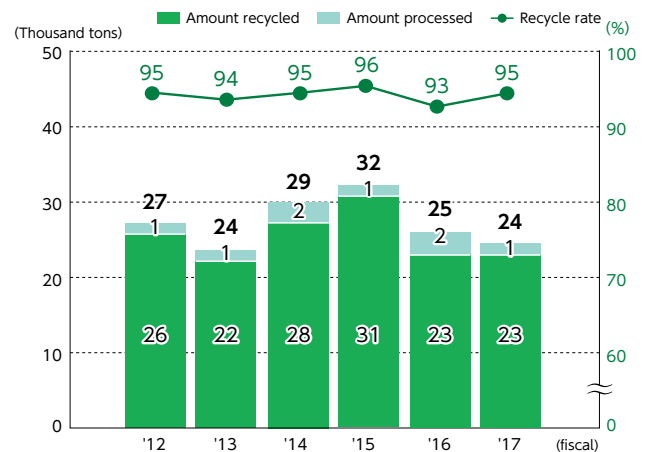
Recycling waste PET bottles into civil engineering materials

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 and in 2009 put it into practical use.

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]





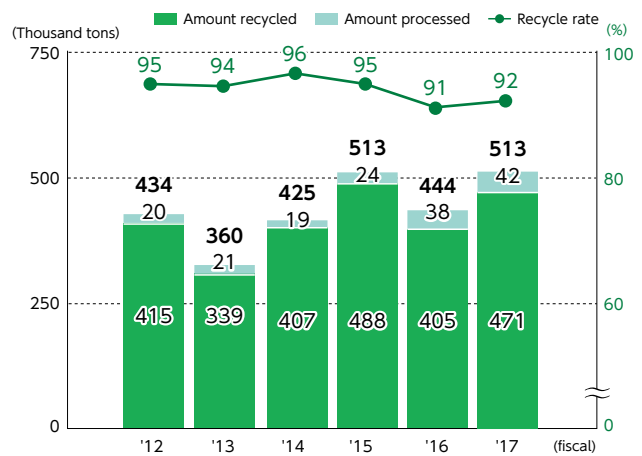
Reducing construction waste☆

JR East endeavors to reduce waste from construction by standardizing design and construction methods that help to properly dispose of construction byproducts and to minimize waste.

JR East reduced waste from construction and maintenance works at stations and other structures, including approximately 72 thousand tons of waste from 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]



Efficient use of water resources☆

As a consumer of 10.88 million m³ 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 m³ out of 33 thousand m³ of water was reused in FY2017.

*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 FY2017, all of the 292 tons of collected tickets were recycled. Collected magnetic season tickets were recycled into solid fuel.

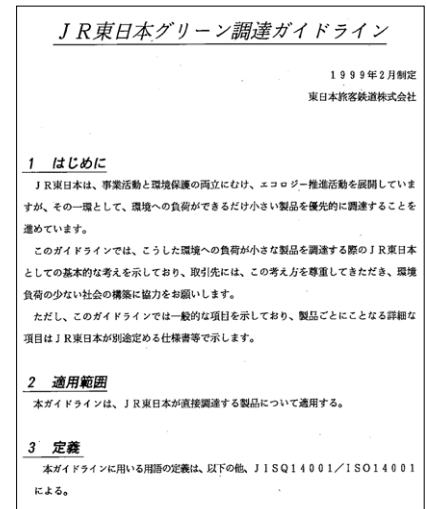


Used tickets collected at stations are recycled into toilet paper.



Promoting green procurement

JR East is procuring 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. We also are promoting the procurement of environmentally friendly office supplies.



JR East Green Procurement Guidelines

CSR Procurement

With regard to selecting suppliers for material procurement, we have published a Code of Conduct Regarding Material Procurement of JR East on our website, which states that we focus on the fulfillment of our corporate social responsibilities when procuring materials by considering factors such as legal compliance and environmental preservation. We also request that all our suppliers comply with the relevant laws and regulations and seek to reduce their environmental footprint.

In addition, we seek to understand the current status of all material-related suppliers by conducting a survey of their CSR initiatives once a year, as a rule, which indicates whether or not they are implementing initiatives relating to green procurement and environmental footprint reduction, initiatives that consider employees' human rights, other compliance initiatives that have an impact on society, and so forth. The results of these surveys are used as one of our decision-making criteria when selecting suppliers.

Reference: Code of Conduct Regarding Material Procurement of JR East (on our corporate website)
https://www.jreast.co.jp/e/data/procurement/code_of_conduct.html



Safety



Society



Environment

Chemical substance management

■ Compliance with laws and regulations and reduction of chemical substances

When using chemical substances, the effects on human health and ecological systems must be fully considered. The JR East not only rigidly adheres to established standard values, but 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 on Rational Use and Proper Management of Fluoro-carbons (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. Under the Act for Rationalized Use and Proper Management of Fluorocarbon, we reported a leakage amount of around 5,000 t-CO₂e for FY2017.

- **Cooling units (large refrigerators)**—We are steadily replacing air conditioning units using specified chlorofluorocarbons (CFCs) with systems that do not use them and completed the removal of such units from buildings.
- **Rolling stock**—Except for some diesel railcars, all of our cars use CFC substitutes. As of the end of March 2017 we were using 1.2 tons of CFCs and 85 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 66 tons of halon gas was still in use as a fire-extinguishing agent as of the end of March 2017, we have it under proper control and are replacing it with non-halon agents (such as powder agents and CO₂) 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 13 JR East facilities submitted the data regarding the release and transfer of these substances to relevant authorities in FY2017, pursuant to the PRTR System*.

We have also been introducing stainless steel railcars that do not require painting. At the end of March 2017, as many as 87.7% of the 10,519 cars operated on our conventional lines were stainless steel railcars. Beside their use for railcars, we used 385 tons of organic solvents for painting railway facilities and stabilizing track beds in FY2017.

***PRTR system** A system where companies notify their releases and transfers of chemical substances as required by Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR). 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 13 reporting-required facilities (kg)]

Chemical substance	Handled	Released into air	Released into sewerage	Transferred to other facilities
1,2,4-Trimethylbenzene	77,211.8	7,455.5	0.0	1,689.9
Ethyl benzene	1,129.4	1,100.0	0.0	0.0
Xylene	70,191.7	6,873.1	0.0	128.5
Toluene	14,369.4	5,520.0	0.0	70.1
Nickel	2,857.1	0.0	0.0	0.0
n-Hexane	2,576.4	300.0	0.0	0.0
Methylnaphthalene	55,492.7	275.1	0.0	0.0
1,3,5-trimethylbenzene	2,022.0	2,000.0	0.0	0.0
Total	225,850.6	23,523.7	0.0	1,888.5

■ Management of PCBs (polychlorinated biphenyls)

Equipment containing PCBs is securely stored in exclusive storage locations and reports on it are filed as required by the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes. We render this equipment harmless to the extent that can be done by PCB waste treatment facilities. In the fiscal year ended March 2017, we had equipment such as stabilizers, transformers and capacitors treated at PCB waste treatment facilities.



Environmental Conservation Activities along Railway Lines

Biodiversity

Hometown Forestation Program

In 2004, in order to protect biodiversity and contribute to a sustainable society, while cherishing our sense of gratitude for 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 FY2017, we began forestation activities in Naruko Hometown in Osaki City, Miyagi Prefecture.



Naruko Hometown Forestation Program in September 2016

Forest development along railway lines[☆]

Beginning in 1992, we have been organizing tree planting activities along JR East railway lines. By FY2017 a total of approximately 50 thousand people had participated in planting about 343 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 role.

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 CO₂, equivalent to 0.7% of the CO₂ that JR East emits (this is the actual amount in FY2017). 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.



Sashimaki No.1 railway forest on the Tazawako Line (forest to protect against blizzards)



Shigekura No.1 railway forest on the Joetsu Line (forest to protect against snow slides)



Safety



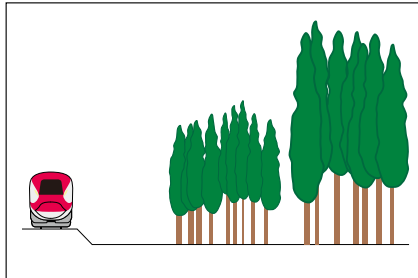
Society



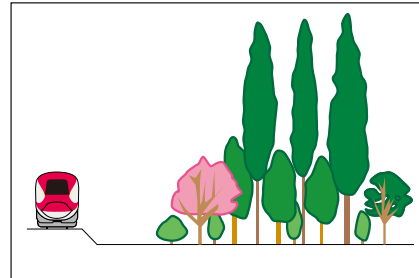
Environment

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 have been held in various locations, as shown in the table below, starting with the Kakizaki No. 1 railway forest in September 2008. During these ceremonies, native tree species were planted, with many local residents and participants from organized tours participating.

Date	Location
September, 2008	Shin-etsu Main Line, Kakizaki No. 1 railway forest
July, 2009	Okitama No. 2 railway forest
May, 2010	Ōu Main Line, Jinguji No. 2 railway forest
September, 2012	Tazawako Line, Ōkama No. 1 railway forest
September, 2013	Ōu Main Line, Sekine No. 1 railway forest
September, 2014	Uetsu Main Line, Hirakida No. 3 railway forest
September, 2015	Ōu Main Line, Kado No. 6 railway forest
September 2016	Tazawako Line, Akabuchi No. 1 railway forest

Past Tree Planting Ceremonies



Tree planting ceremony for Akabuchi No. 1 railway forest on Tazawako Line (September 24, 2016)



Safety



Society



Environment

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 with 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. At present, we plan countermeasure construction for the other areas in incremental steps. 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 wheel movement. This reduces noise by controlling car vibration.

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



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



Safety



Society



Environment

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 with standard levels of toxicity to humans and animals, and with regard to their risk level (S value) in terms of impact on marine life, we normally use those classified as causing no particular problems.

■ 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-beams so as to match the special scenic beauty of Matsushima in the relocated and restored section.



Agatsuma Line Agatsumagawa Bridge No. 3



Senseki Line (between Nobiru and Rikuzen-Ono)



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.
	June	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).
1993	Aug.	Waste collection sorted into three categories began on a trial basis at Sugamo Station on the Yamanote Line.
	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.
1996	Apr.	Ecology education for all new recruits initiated.
	Mar.	JR East website set up. Quantitative environmental targets set for CO ₂ emissions and others. First annual Environmental Report published.
1997	Dec.	Autonomous Decentralized Transport Operation Control System (ATOS) became operational.
	Mar.	Recycling facility at Minami-Akita Operations Center started operation. Separate smoking zones established at all stations. Smoking prohibited on all local trains.
1998	Oct.	Recycling facilities at Nagano Shinkansen Rolling Stock Center and Tokyo Station started operation.
	Mar.	Second set of measures to reduce Shinkansen noise completed.
1999	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.
	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.
2000	Sep.	Information service on train operations made available by cell-phone.
	Apr.	JR East General Education Center established. Uniforms made from recycled PET bottles introduced.
2001	Nov.	Environmental targets revised with the announcement of New Frontier 21, the Group's medium-term management plan.
	Mar.	Oi Workshop, Kawasaki Thermal Power Plant, and Niigata Mechanical Technology Center acquired ISO14001 certification.
	July	"Women-Only" cars for female passengers introduced on the Saikyo Line on a trial basis.
	Dec.	JR East Research & Development Center established.

Year	Month	Environmental and social activities
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.
2004	Dec.	Koriyama Workshop acquired ISO14001 certification.
	Mar.	"Safety Plan 2008" announced.
	Apr.	"F Program" launched, with the aim of creating a better working environment for female employees.
2005	May	Adataro Hometown Forestation Program held.
	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.
	July	Akita General Rolling Stock Center acquired ISO14001 certification. Customer Service Department established.
2006	Dec.	Office-wide JR East Eco Activities started at JR Hachioji Branch Office.
	Feb.	Disaster Prevention Research Laboratory established.
2007	Mar.	Smoking prohibited in all cars of Shinkansen and limited express trains.
	July	World's first diesel hybrid railcars in commercial service, the Kiha E200 type, commenced operation.
2008	Oct.	Railway Museum opened.
	Mar.	"JR East Vision 2020 - i do mu -" announced.
2009	June	Environmental targets revised.
	Mar.	2013 Safety Vision Announced.
2010	Apr.	Environmental Engineering Research Laboratory Established. Total ban on smoking in specified locations in the Tokyo metropolitan area.
	June	Water intake restarted in Shinagawa Power Station based on the "Permission of the Use of River Water." Platform doors installed at Ebisu Station on the Yamanote Line.
2011	July	Environmental Management Promotion HQS established in the Corporate Planning Headquarters.
	Mar.	Operation of Tohoku Shinkansen, Hayabusa, started.
2012	Mar.	Use of "Ecoste" Yotsuya Station begins.
	May	Reconstruction Planning Dept. established in the Corporate Planning Headquarters.
	June	Use of "Ecoste" Hiraizumi Station begins.
2013	Oct.	JR East Group Management Vision V - Ever Onward announced.
	Sep.	Use of "Ecoste" Kaihinmakuhari Station begins.
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.	Use of "Ecoste" Yumoto Station begins.
	Apr.	Use of "Ecoste" Fukushima Station begins.
2016	Dec.	JR Akita Shimohama Wind Power Generation Station started operations.
	Mar.	The EV-E801 series accumulator railcar train for alternating current sections started operations. Use of "Ecoste" Urawa Station begins
2017	Apr.	Use of "Ecoste" Niitsu Station begins Use of "Ecoste" Musashi-Mizonokuchi Station begins
	July	Use of "Ecoste" Kobuchizawa Station begins

Former names are used for some facilities

Corporate Governance

Basic Corporate Governance Philosophy of JR East

JR East aims to meet the expectations of all our stakeholders, including shareholders, customers, and local communities, by making transparent, fair, firm, and timely decisions with regard to management issues such as ensuring safe, comfortable transportation and reforming service quality, in order to achieve sustained business growth centering on stations and railways and improvement of our medium- and long-term corporate value.

We are focused on making decisions from a long-term perspective, taking into account the nature of the railway business that is our core activity, and we consider it appropriate to strengthen our corporate governance in future, based on our existing auditing system.

In addition, JR East set "Guidelines of corporate governance" which shows concrete activities and the basic concept of corporate governance by resolution of the Board of Directors and publishes it on the JR East website.

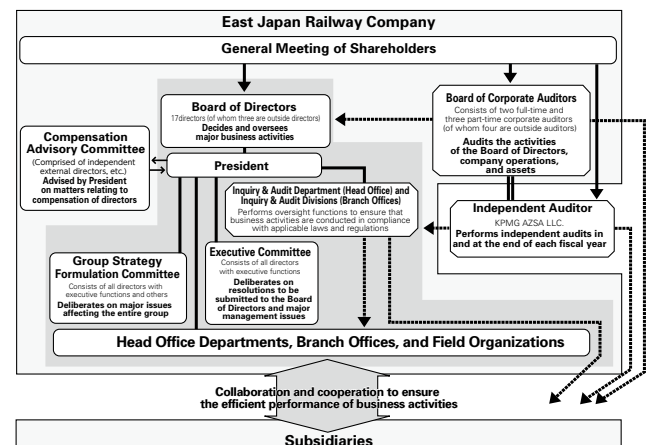
The Reasons Why JR East Adopted the Present Corporate Governance System

In the railway portion of our main business, since a variety of knowledge and experiments for security and decision making based on mid - and long - term perspectives are necessary we, JR East, therefore set up the board of auditors which is composed of auditors who are independent from the board of directors.

Basic Explanation of Our Organizations

Our 16-member Board of Directors, including three outside directors (as of June 30, 2017), 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.

[Corporate Governance System (as of June 23, 2017)]



Internal Audits, Audits by Corporate Auditors and Status of Accounting Audits

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 holds regular liaison conferences with auditors of group companies. 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.

Incidentally, there were no major violations of laws or regulations relating to the products and services in FY2017.

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, in various business fields such as the railway business, lifestyle service business and Suica business, we comply with all related laws and conduct business in accordance with corporate ethics. In addition, we conduct education for our group companies' employees and also established Compliance Hotlines, both inside and outside the company, and are promoting efforts on compliance.

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

The Policy on Legal and Regulatory Compliance and Corporate Ethics stipulates our approach to regulatory compliance and corporate ethics based on the Group's philosophy and principles. In order to heighten the efficacy of these guidelines, we have notified the entire Group about them by distributing a Compliance Action Plan Handbook that indicates the nature of the actions that we expect everyone employed by the Group to take.

This handbook has been revised for fiscal year 2018 to reflect the recent changes in the laws and regulations so that the actions expected of the employees may be made more concrete.

Furthermore, in conjunction with the development of overseas business, a basic policy for prevention of bribery relating to foreign public officials was formulated and announced.

■ Promotion of Compliance

In order to deepen understanding of the importance of compliance and the intent of "compliance and corporate ethics" by each employee, we have been providing compliance education for all employees every year all employees in the Group. These days the education has taken the format of a study group held at each department under the head of the department using materials prepared by the head office. Taking up familiar cases of violations, the study group leads employees to take another look at "why one has to observe rules" and "what happens if one fails to observe them."

Furthermore, we formulated the basic compliance issues which should be periodically confirmed by each applicable chief of business into the "Confirmation support sheet of basic issues" and we undertake continuous inspections and confirmations using this sheet. For fiscal year 2018 we have made it possible to monitor the use of this sheet in the field through the Intranet to insure more effective utilization of this arrangement. Additionally, in order to thoroughly disseminate the significance of obeying rules, we have selected representative cases of violations for use as teaching materials and for presentation on the Intranet as a showcase of compliance violations.

■ Compliance Hotline

"When an employee wonders how to conduct themselves regarding compliance and corporate ethics" and "when an employee recognizes activity which is against compliance or corporate ethics or which may be against compliance or corporate ethics", in order for the employee to report and consult, we established the "Compliance Hotlines", both inside and outside the company. We accept consults and reports from business partners and retirees and publish how to accept them on our website.

In FY 2017, we received 194 consultations and messages on a wide range of issues such as the handling of laws and regulation, troubles of human relations and harassment, and responded to them properly and respectfully.

■ Risk Management

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

With respect to business risks faced by our Group, we review them periodically in terms of their importance and the impact they may cause when they become apparent. Furthermore, we identify risks inherent in all of our business operations, analyze and evaluate them and take actions to reduce them in accordance with their priority.

■ Ensuring Information Security

In recent years, on the internet, cyber attacks have increased in sophistication worldwide, and even in the public organizations and private companies in Japan, a large scale of information leakage has continuously occurred. Also the threat of cyber terrorism which plunges information systems related with social foundation into dysfunction is increasing. JR East, as a company group which supports the social infrastructure of the railway, 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.

■ Personal Data Protection

Pursuant to applicable laws and regulations including the Act on the Protection of Personal Information, the JR East Group published its Privacy 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 employee 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. For FY 2018 the Regulations for the Management of Personal Information was amended to comply with the amended Act on the Protection of Personal Information.

Improprity at Shinanogawa Power Station

In March, 2009 JR East received an administrative sanction because the company's water intake had exceeded the maximum allowed 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 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 sincerely committed to fostering harmony with the river environment and enhancing co-prosperity with communities. Furthermore we are promoting compliance management to prevent occurrence of similar incidents.

JNR Reform and Full Privatization

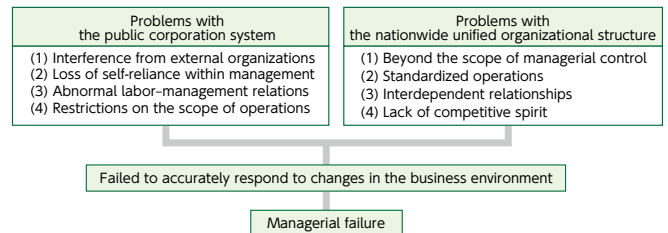
Overview of JNR Reform

■ Failure of JNR's management

As the Japanese economy rapidly grew and motorization drastically progressed, the Japanese transportation infrastructure, mainly run by JNR at the time, changed dramatically. However, JNR failed to respond to this drastic change and to reform its management accordingly. For this reason, the company fell into the red for the first time in FY1965, and continued to record a deficit thereafter. In the first half of the 1980s, it was expected that, if the situation continued, sooner or later the company would encounter problems in terms of financing its operations, and there were concerns that the company might experience major difficulties in the management of its business, including its railway operations.

■ Causes for the failure of JNR's management

The fundamental causes of managerial failure to cope with the rapidly changing transport structure in Japan were JNR's organizational structure as a public corporation and its management system that covered the entire nation.



■ Objectives of JNR Reform (split and privatization of JNR)

Through the JNR Reform, JNR aimed to regenerate the railways by fundamentally reforming its management system itself so that it could fully fulfill its role and responsibility of providing an important means of transportation to meet the daily needs of the people.

■ JNR Reform: Its methods and major contents

Changes in business forms

As shown in the next chart, JNR as a large nationwide unified public corporation was split up and privatized by area and by business type.

Relationship between JNR and new companies (Japan Railway companies, etc.)

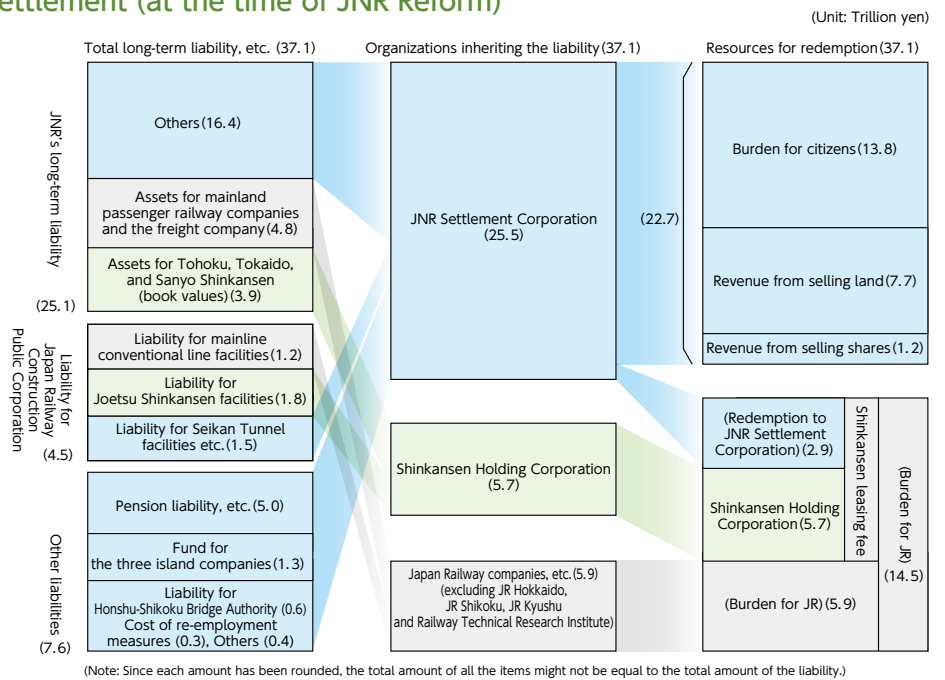
- New companies were established as semi-governmental organizations with 100% capital from JNR and inherited both the designated assets and the liability of JNR. Then, JNR was transformed into the JNR Settlement Corporation (hereinafter called the Settlement Corporation).
- The new companies inherited the minimum assets required for business operations and a limited amount of debt, thereby allowing sustainable business management over the long term. Assets and liabilities, excluding those inherited by the new companies, were transferred to the Settlement Corporation. Assets transferred to the Settlement Corporation were sold one by one to reduce the liability passed to the Settlement Corporation.
- The new companies employed the number of staff required for railway operations plus about 20% extra from the lists prepared by JNR. Those who were not hired by the new companies were temporarily employed by the Settlement Corporation for a limited time of 3 years and then recommended for re-employment at companies other than JR.
- As for the Shinkansen lines operated by JNR, due to differences in factors such as construction periods there were discrepancies between their book value and profitability. To correct the discrepancies, it was decided that the Shinkansen Holding Corporation would own Shinkansen railway facilities and that JR East, JR Central, and JR West would pay usage fees depending on their use of Shinkansen facilities. (In October 1991, JR East, JR Central, and JR West purchased Shinkansen facilities to improve the environment for the smooth and appropriate sale of JR shares.)
- For the unprofitable JR Hokkaido, JR Shikoku and JR Kyushu companies, a fund was established to stabilize their operations and it was decided that the operating losses of these companies would be compensated by investment profits from the fund.
- To ensure that the new companies would be self-reliant, the companies strived to sell all of their shares as early as possible to achieve full privatization. At the same time, supervision and regulation by the national government was gradually eased compared to that experienced by JNR and also by other semi-governmental corporations such as Nippon Telegraph and Telephone Corporation (NTT).



Long-term liability

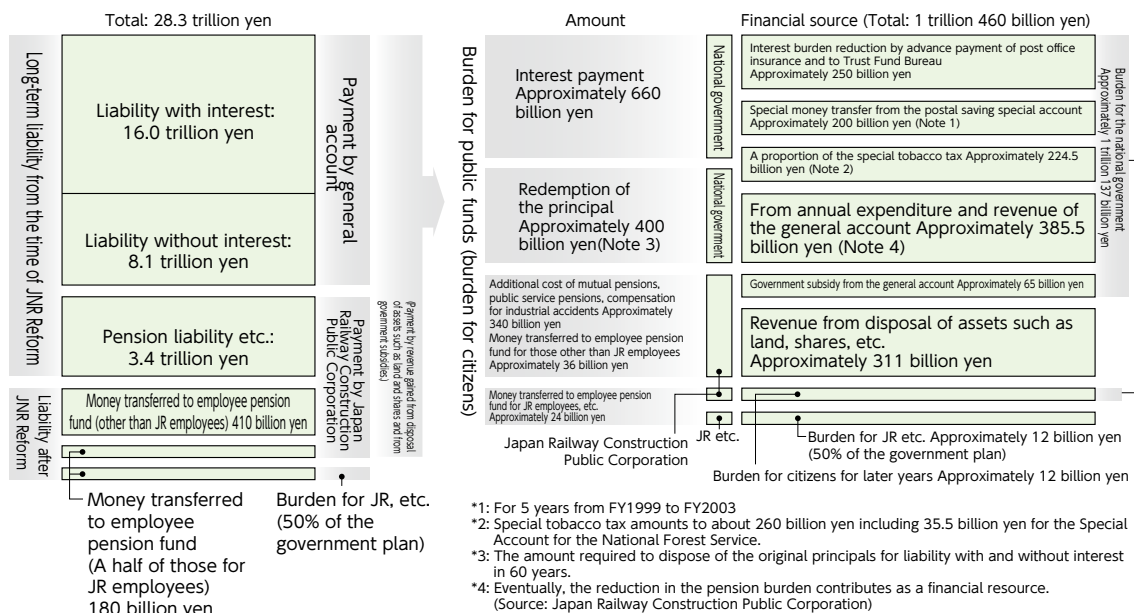
JNR's long-term liability and settlement (at the time of JNR Reform)

It was decided that the new companies would inherit the minimum assets required, such as land, to continue their operations and, with the premise that the companies would run their operations with maximum efficiency, that they would bear long-term liability to the extent that would allow stable operations for the time being and sound and sustainable operations over the long term.



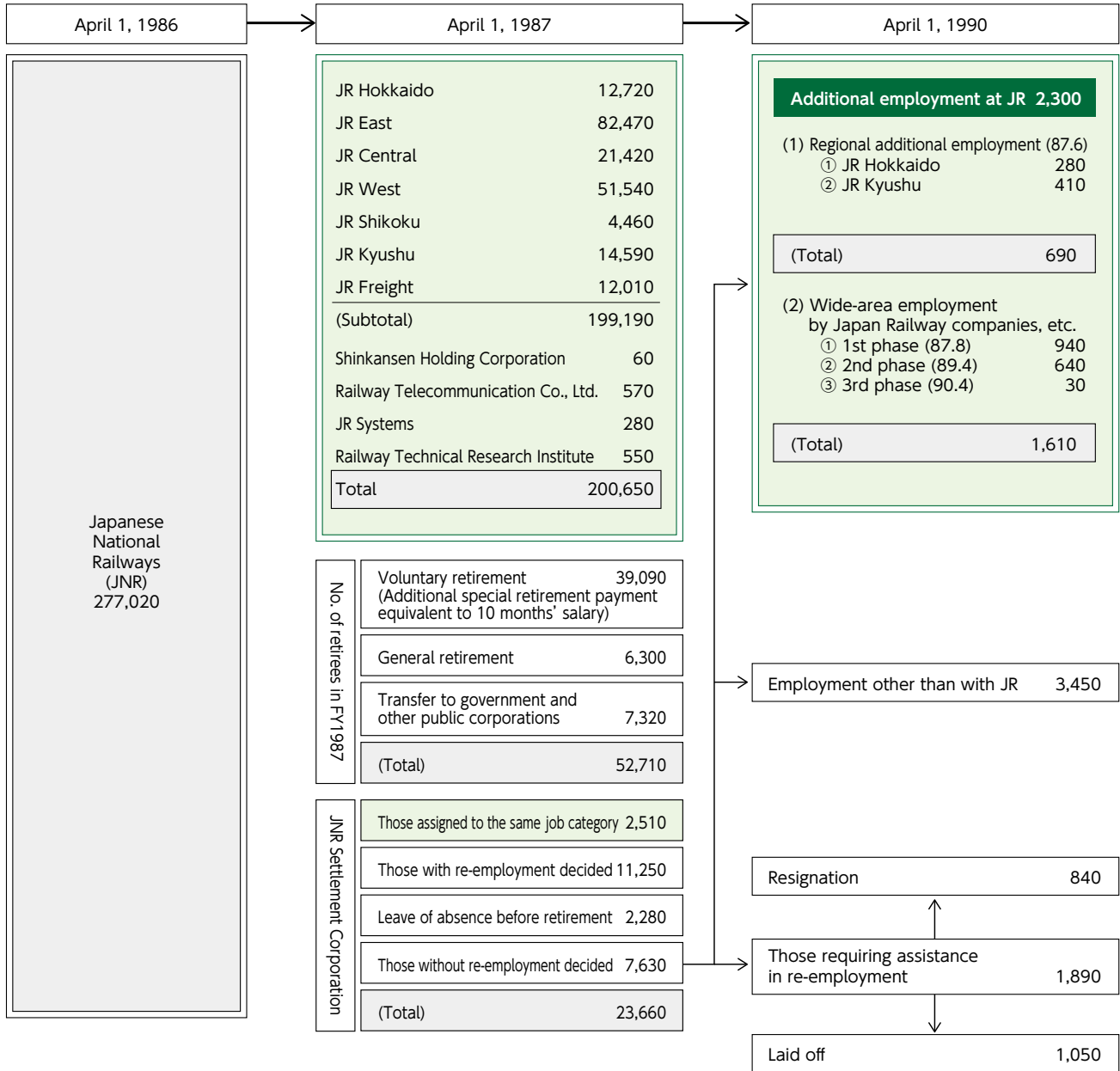
Breakdown of JNR's long-term liability (for JNR Settlement Corporation)

Resources for JNR's long-term liability (for JNR Settlement Corporation (the current Japan Railway Construction, Transport and Technology Agency (JRTT)), JNR Settlement Administration Department) (per year)



Employment issues of JNR employees

(Unit : Person)



Note: Since the numbers have been rounded, the total numbers might not be equal to the totals of each number.

Full privatization

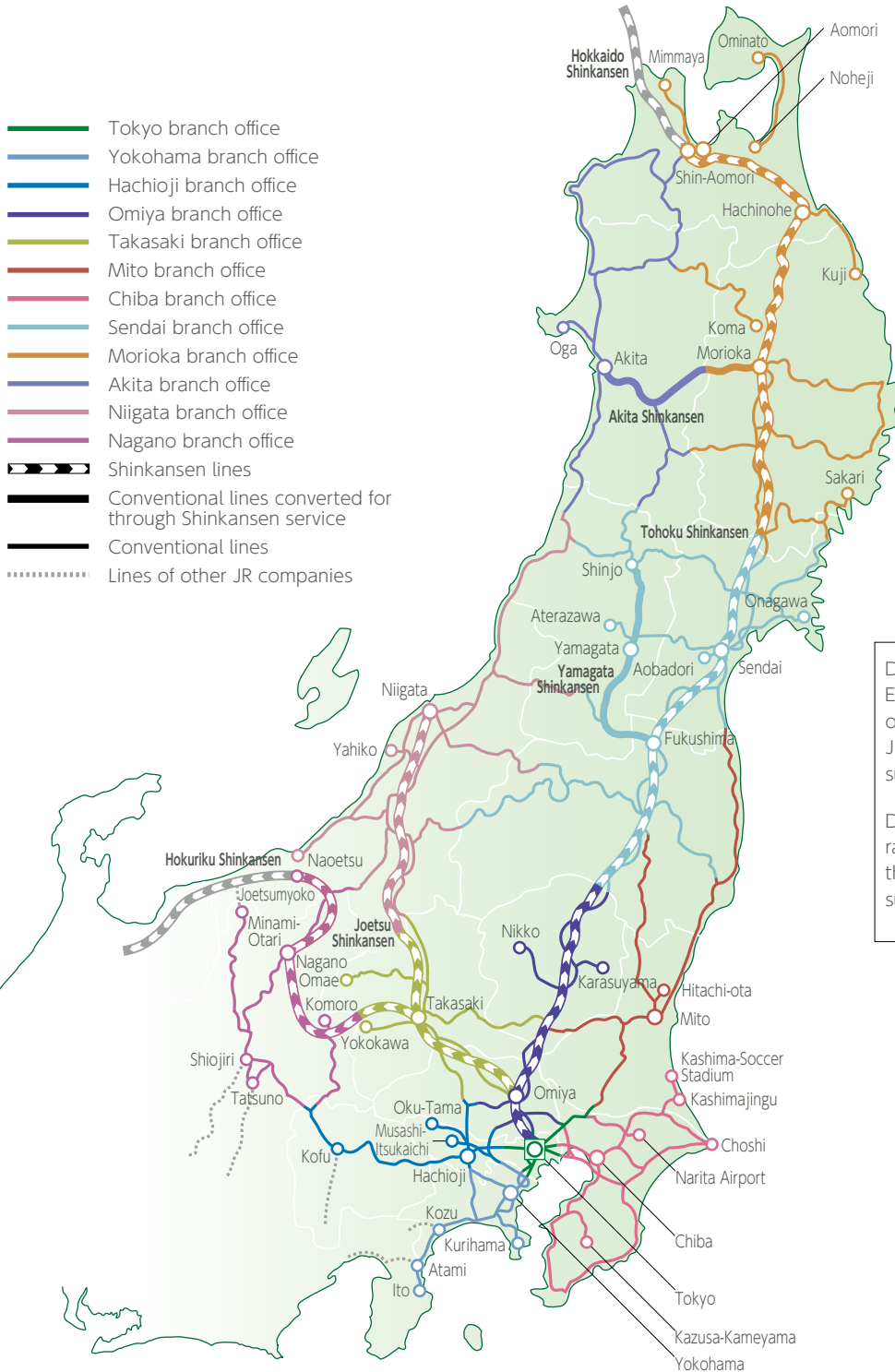
From the initial time of the JNR Reform, for six JR passenger railway companies (JR Hokkaido, JR East, JR Central, JR West, JR Shikoku and JR Kyushu) and JR Freight, according to the Basic Policy for JNR Reform approved by the Cabinet on October 11, 1985, the policy was to gradually dispose of their shares as soon as the conditions to establish their business foundations were prepared and to privatize the companies as soon as possible.

Based on this policy, three JR companies on the mainland (JR East, JR Central, and JR West) were excluded from the provisions of the Law Concerning Passenger Railway Companies and the Japan Freight Railway Company (JR Companies Act) enacted in December 2001.

Following this exclusion, on June 21, 2002, all the shares of JR East were sold and the company was fully privatized.

Corporate Info

Service Area



Due to the effects of the Great East Japan Earthquake, operations of the Yamada and Joban Lines are partially suspended.

Due to damage by torrential rain in July 2011, operations of the Tadami Line are partially suspended.

As of July 2017

Passenger line network	Shinkansen lines: 1,194.2km Conventional lines: 6,263.1km
Number of stations	1,666
Total number of trains in operation per day	12,227 (Timetable revised in March 2017)
Total number of passengers per day	approx. 17.50 million

Businesses Outline of the JR East Group (as of July, 2017)

Our company and our affiliated companies are engaged in transportation business, distribution and services business, real estate and hotel business, and other businesses. In each business our company's position in relation to each of our affiliated companies is described below:

■ Transportation Business

In addition to passenger transportation business centered around railway operation, we provide travel services, cleaning and maintenance services, station operation services, facilities maintenance services and rolling stock manufacturing and maintenance work.

■ Distribution and Services Business

We are providing life services business, such as retail and restaurant business, wholesale business, truck transportation business and advertising agency.

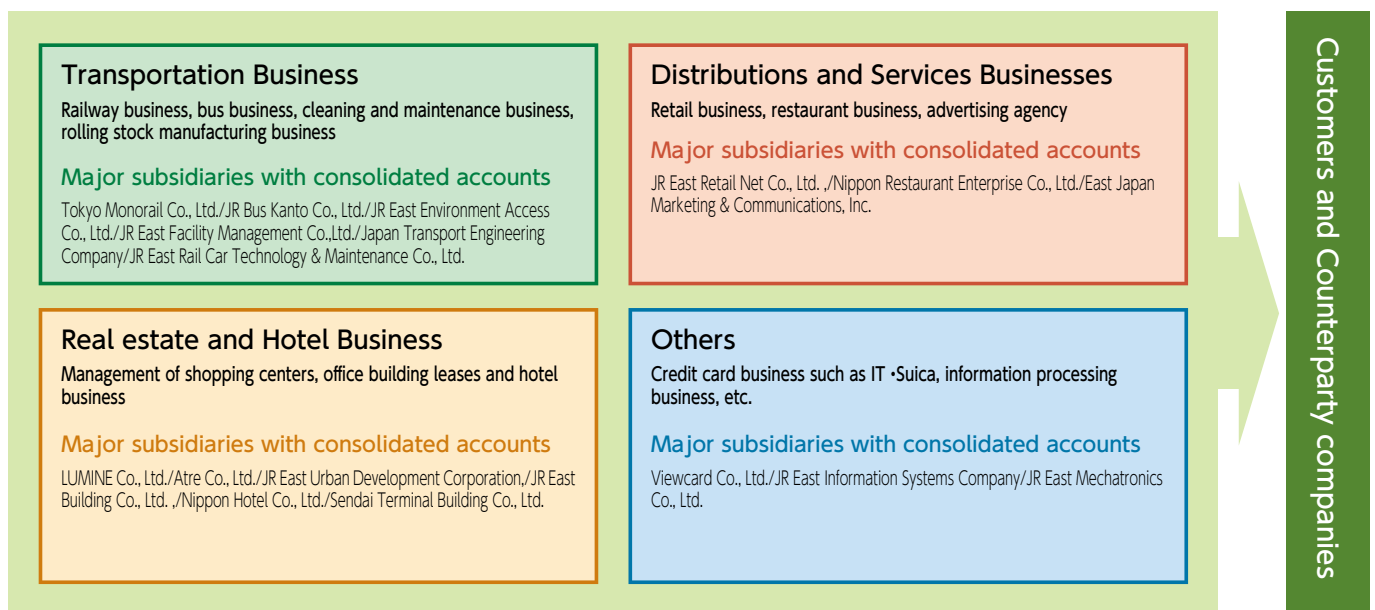
■ Real estate・Hotel Business

We are providing life services business, such as shopping center operations, leases and rentals of office buildings, and hotel operations.

■ Others

In addition, we are providing credit card business such as IT・Suica, and information processing business.

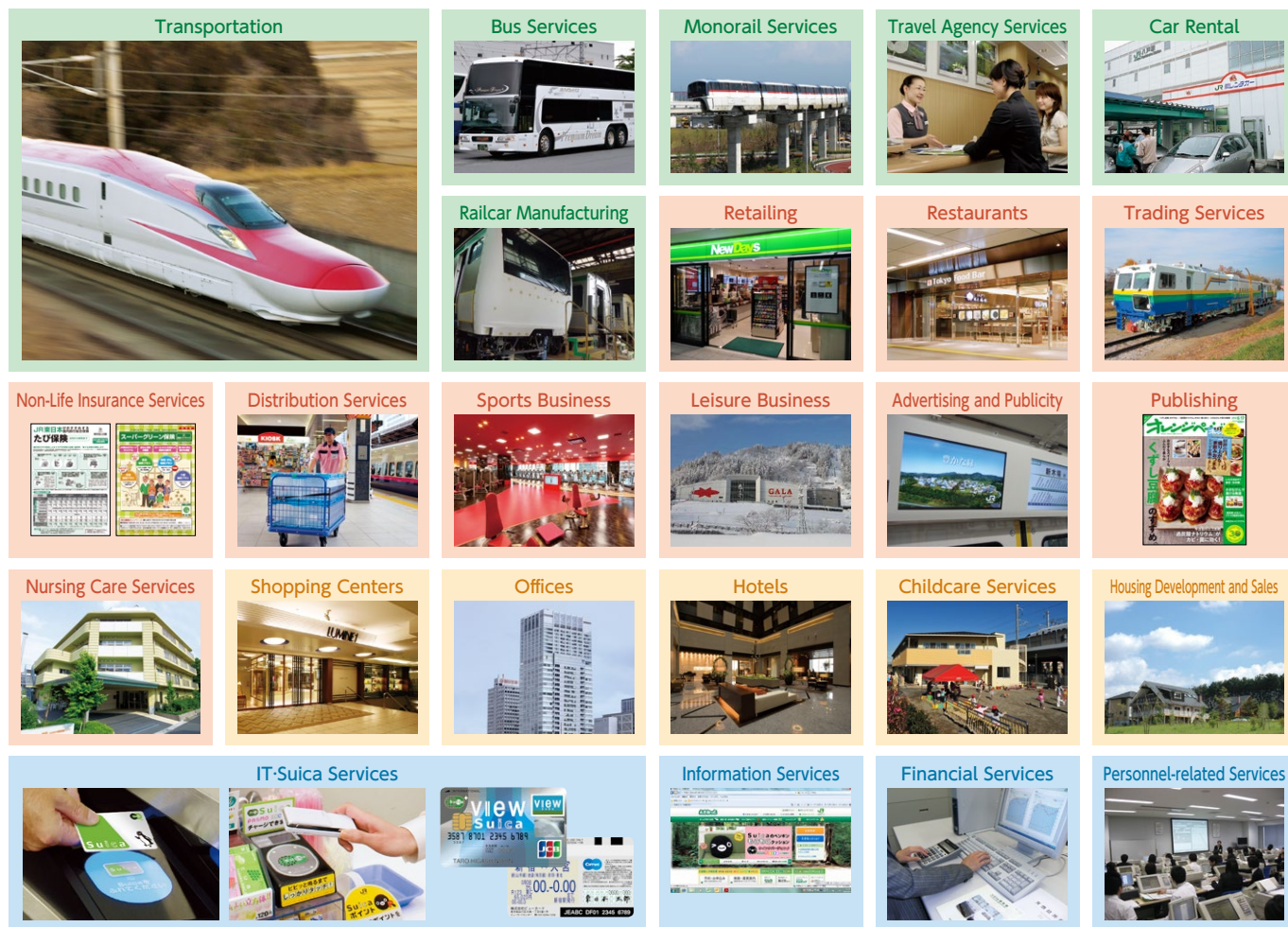
Following is a schematic of JR East businesses



In relation to the supply chain, as the JR East Group operates various businesses with a focus mainly on the railway business, it can be divided into two parts, the railway business and non-railway businesses.

For the railway business, JR East generates electricity at its own power stations or directly purchases electricity from electrical companies. Electricity is provided to trains through substations and overhead contact lines. Additionally, we operate railways and offer transport services to our customers through the provision of continuous comprehensive services, while also maintaining station staff members, conductors and other various facilities.

With regard to non-railway businesses, while pursuing synergetic effects with the railway business itself, each business operates its own specific supply chain, as it provides various services to customers.



Businesses of the JR East Group (as of September 1, 2017)

■ 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 Higashinohon 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. / Japan Railway Track Consultants Co., Ltd.

■ Rolling stock manufacturing and maintenance

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

■ Overseas railway consulting

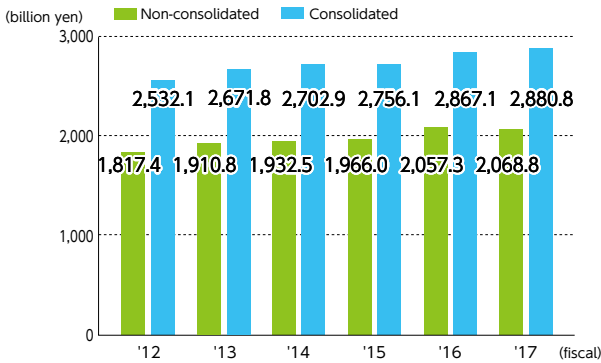
Japan International Consultants for Transportation Co., Ltd.

■ Generation and district heating and cooling

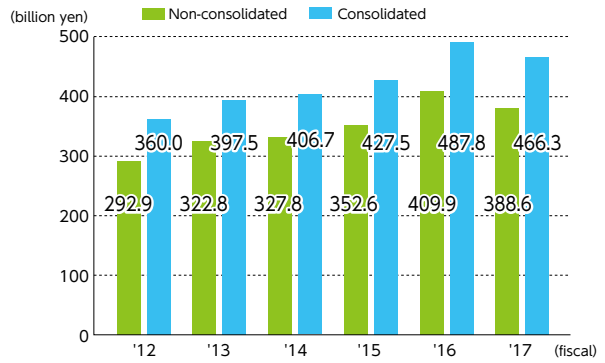
JR East Energy Development Co., Ltd / Shinjuku South Energy Service Co., Ltd.

Management Information

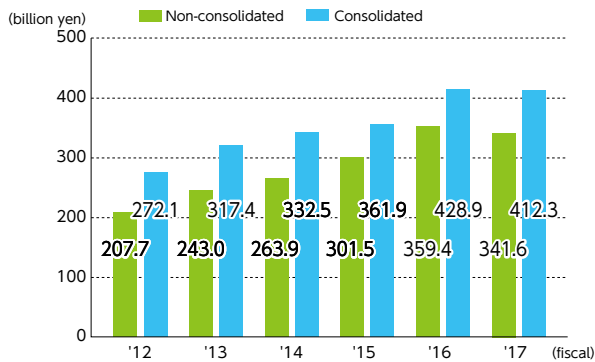
[Operating Revenues]



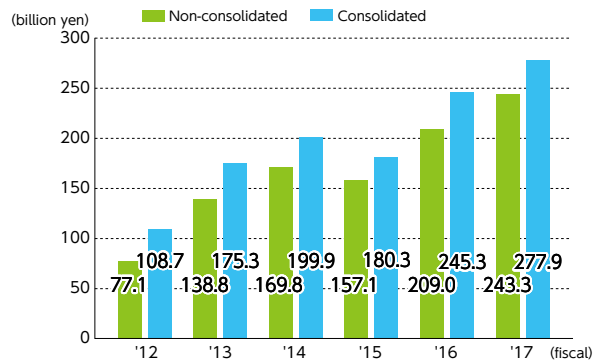
[Operating Income]



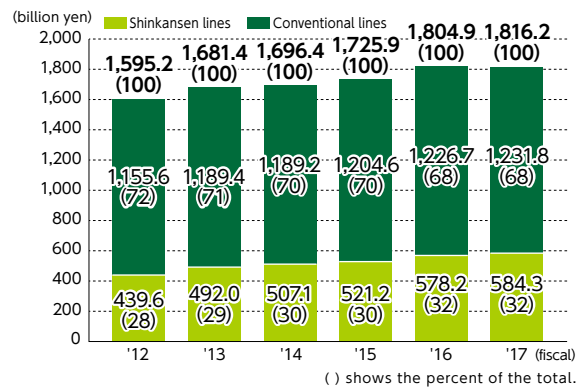
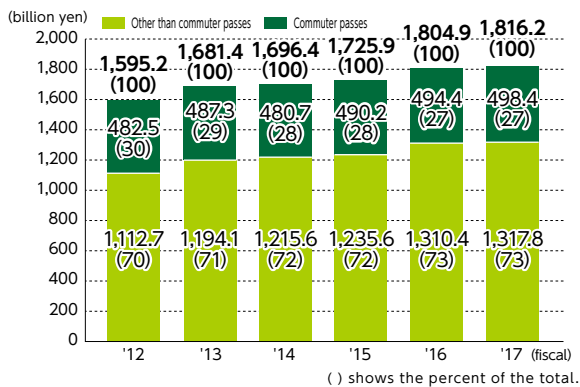
[Ordinary Income]



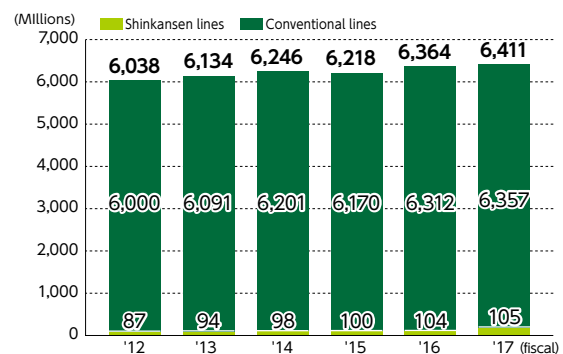
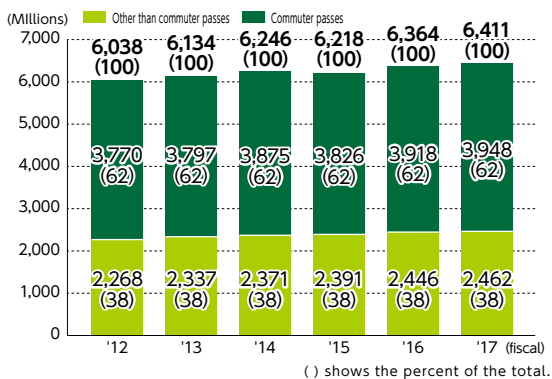
[Net Income (Non-consolidated) and Profit attributable to owners of parent(Consolidated)]



Revenues from Passenger Tickets



Number of Passengers



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 2017

(Year Ended March 31, 2017)

Consolidated Balance Sheets

(Millions of Yen)

	Fiscal 2017		Fiscal 2017
[ASSETS]		[LIABILITIES]	
Current Assets	915,625	Current Liabilities	1,337,390
Cash and time deposits	208,295	Notes and accounts payable-trade	46,834
Notes and accounts receivable-trade	449,434	Short-term loans and current portion of long-term loans	116,830
Fares receivable	39,914	Current portion of bonds	159,899
Short-term loans receivable	5,688	Current portion of long-term liabilities incurred for purchase of railway facilities	4,290
Securities	79,000	Payables	459,147
Real estate for sale	499	Accrued consumption taxes	19,513
Inventories	50,861	Accrued income taxes	55,638
Deferred income taxes	43,025	Fare deposits received with regard to railway connecting services	22,164
Other	40,392	Prepaid railway fares received	99,217
Allowance for doubtful accounts	△ 1,485	Allowance for bonuses to employees	73,155
Fixed Assets	6,995,384	Allowance for earthquake-damage losses	6,767
Property, plant and equipment, net of accumulated depreciation	6,342,759	Other	273,931
Buildings and fixtures (net)	3,260,299	Long-Term Liabilities	3,898,370
Machinery, rolling stock and vehicles (net)	712,003	Bonds	1,680,074
Land	2,013,899	Long-term loans	929,541
Construction in progress	286,275	Long-term liabilities incurred for purchase of railway facilities	336,679
Other (net)	70,282	Long-term deferred tax liabilities	3,189
Intangible assets	119,269	Provision for large-scale renovation of Shinkansen infrastructure	24,000
Investments and other assets	533,354	Allowance for earthquake-damage losses	10,293
Investments in securities	263,322	Allowance for partial transfer costs of railway operation	16,163
Long-term loans receivable	1,693	Net defined benefit liability	641,394
Long-term deferred income taxes	204,593	Other	257,033
Net defined benefit asset	161	Total Liabilities	5,235,761
Other	64,329	[NET ASSETS]	
Allowance for doubtful accounts	△ 745	Shareholders' Equity	2,590,575
Deferred Assets	105	Common stock	200,000
		Capital surplus	96,811
		Retained earnings	2,298,925
		Treasury stock, at cost	△ 5,161
		Accumulated Other Comprehensive Income	62,844
		Net unrealized holding gains (losses) on securities	52,940
		Net deferred gains (losses) on derivatives under hedge accounting	1,846
		Revaluation reserve for land	△ 473
		Remeasurements of defined benefit plans	8,530
		Non-Controlling Interests	21,933
		Total Net Assets	2,675,353
Total Assets	7,911,114	Total Liabilities and Net Assets	7,911,114

Consolidated Statements of Income

(Millions of Yen)

	Fiscal 2017
Operating Revenues	2,880,802
Operating Expenses	2,414,492
Transportation, other services and cost of sales	1,852,221
Selling, general and administrative expenses	562,271
Operating Income	466,309
Non-Operating Income	20,260
Interest income	62
Dividend income	3,880
Gains on sales of equipment	907
Insurance proceeds and dividends	9,225
Equity in net income of affiliated companies	2,056
Other	4,127
Non-Operating Expenses	74,258
Interest expense	70,258
Losses on sales of equipment	198
Other	3,801
Ordinary Income	412,311
Extraordinary Gains	54,735
Gains on sales of fixed assets	11,833
Construction grants received	27,541
Insurance proceeds related to earthquake	13,639
Other	1,721
Extraordinary Losses	62,781
Losses on sales of fixed assets	722
Losses from disposition of fixed assets	4,159
Losses on reduction entry for construction grants	22,759
Impairment losses on fixed assets	6,604
Intensive seismic reinforcement costs	17,391
Environmental conservation costs	6,435
Other	4,707
Income before Income Taxes	404,266
Income Taxes	111,481
Current	13,350
Deferred	124,831
Income before Minority Interests	279,434
Profit Attributable to Non-Controlling Interests	1,509
Profit Attributable to Owners of Parent	277,925

Consolidated Statements of Cash Flows

(Millions of Yen)

	Fiscal 2017
Cash Flows from Operating Activities	652,906
Income before income taxes	404,266
Depreciation	364,129
Impairment losses on fixed assets	6,604
Amortization of long-term prepaid expense	7,923
Net change in provision for large-scale renovation of Shinkansen infrastructure	24,000
Net change in net defined benefit liability	△ 31,254
Interest and dividend income	△ 3,942
Interest expense	70,258
Construction grants received	△ 27,541
Insurance proceeds related to earthquake	△ 13,639
Losses from disposition of fixed assets	△ 44,602
Losses from provision for cost reduction of fixed assets	22,759
Net change in major receivables	△ 11,105
Net change in major payables	11,309
Other	△ 19,606
Sub-total	848,762
Proceeds from interest and dividends	4,499
Payments of interest	△ 70,720
Insurance proceeds related to earthquake	19,064
Payments of earthquake-damage losses	△ 4,353
Payments of partial transfer costs of railway operation	△ 1,296
Payments of income taxes	△ 143,050
Cash Flows from Investing Activities	△ 557,538
Payments for purchases of fixed assets	△ 581,671
Proceeds from sales of fixed assets	14,333
Proceeds from construction grants	54,363
Payments for purchases of investments in securities	△ 35,560
Proceeds from sales of investment in securities	1,052
Other	△ 10,056
Cash Flows from Financing Activities	△ 116,280
Proceeds from long-term loans	△ 137,950
Payments of long-term loans	△ 107,107
Proceeds from issuance of bonds	110,000
Payments for redemption of bonds	△ 80,000
Payments of liabilities incurred for purchase of railway facilities	△ 97,356
Payments for acquisition of treasury stock	△ 30,017
Cash dividends paid	△ 50,781
Other	1,033
Net Change in Cash and Cash Equivalents	△ 20,912
Cash and Cash Equivalents at Beginning of the Year	307,809
Increase in Cash and Cash Equivalents due to Merger	229
Cash and Cash Equivalents at End of the Year	287,125

Numerical values as targets

Under the “JR East Group Management Vision V –Ever Onward” formulated in October 2012” the numerical targets sought by our group are set to be achieved in 3 years. In order to properly reflect changes in business environment the targets are reviewed once every year and new targets are set for the following 3-year period.

[Numerical Targets for the Fiscal Year Ending March 31, 2020]

		Targets for the fiscal year ending March 31, 2020	(Reference)Results for the fiscal year ended March 31, 2017
Consolidated operating revenues		¥3,021 billion	¥2,880.8 billion
Segment	Transportation	¥2,028 billion	¥1,989.8 billion
	Retail & Services	¥542 billion	¥502.4 billion
	Real Estate & Hotels	¥362 billion	¥326.3 billion
	Others	¥89 billion	¥62.2 billion
Consolidated operating income		¥499 billion	¥466.3 billion
Segment	Transportation	¥350 billion	¥334.2 billion
	Retail & Services	¥41 billion	¥36.8 billion
	Real Estate & Hotels	¥89 billion	¥80.3 billion
	Others	¥20 billion	¥16.5 billion
	Adjustment	△ ¥1 billion	△ ¥1.6 billion
Consolidated cash flows from operating activities		¥2,100 billion*	¥652.9 billion
Consolidated ROA		Around 6%	5.9%
Consolidated ROE		Around 10%	10.9%

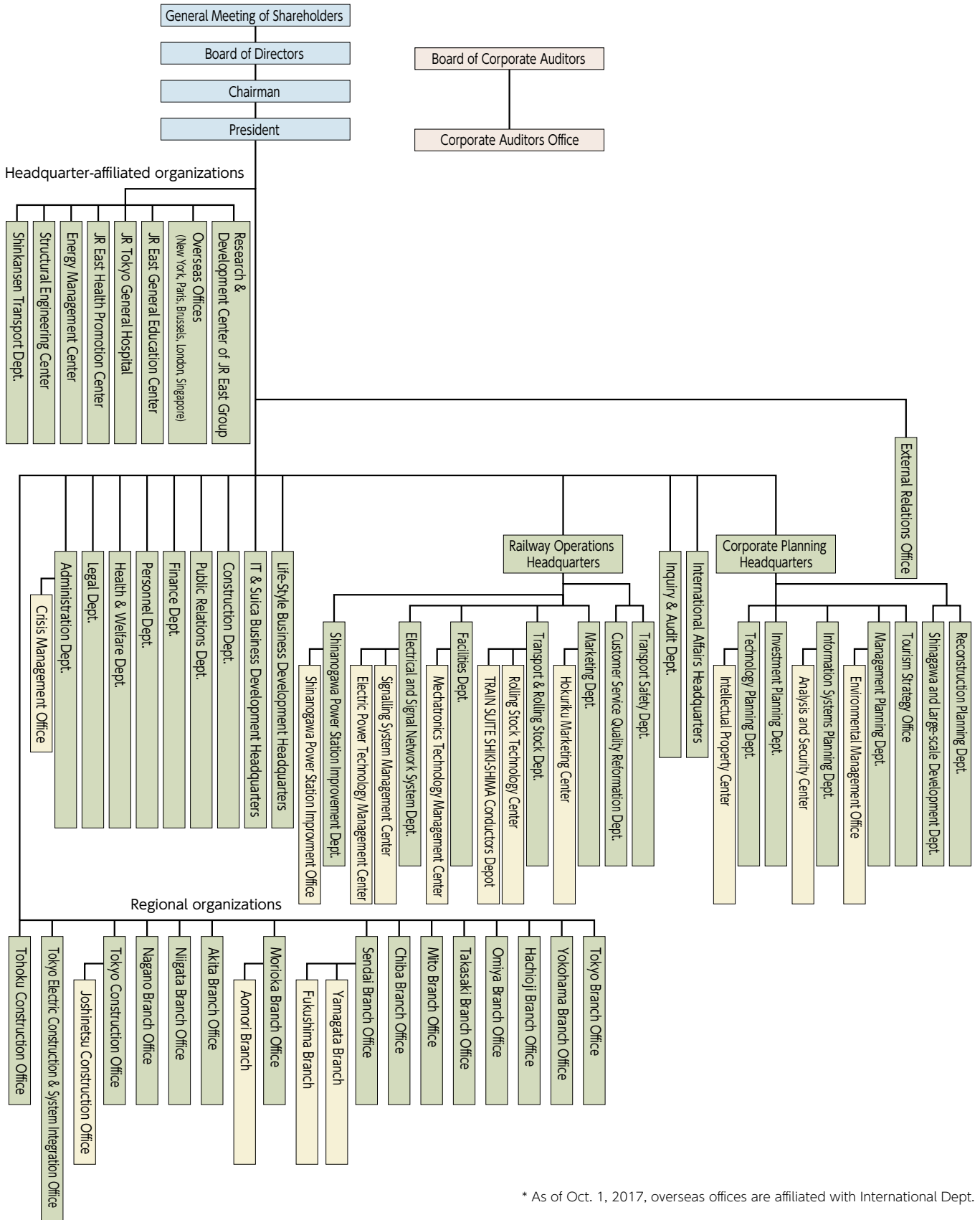
* Total amount covering three years from the fiscal year ending March 31, 2018 to the fiscal year ending March 31, 2020.

[Planned consolidated capital expenditure]

		Total over three years	(Reference)Results for the fiscal year ended March 31, 2017
Capital expenditure	Investments for maintenance and upgrade (of which for safety and reliability of transportation)	¥1,000 billion (¥600 billion)	¥336.7 billion (¥235.7 billion)
	Growth investments	¥700 billion	¥169.9 billion
	Total	¥1,700 billion	¥506.7 billion

Organization

As of June, 23, 2017

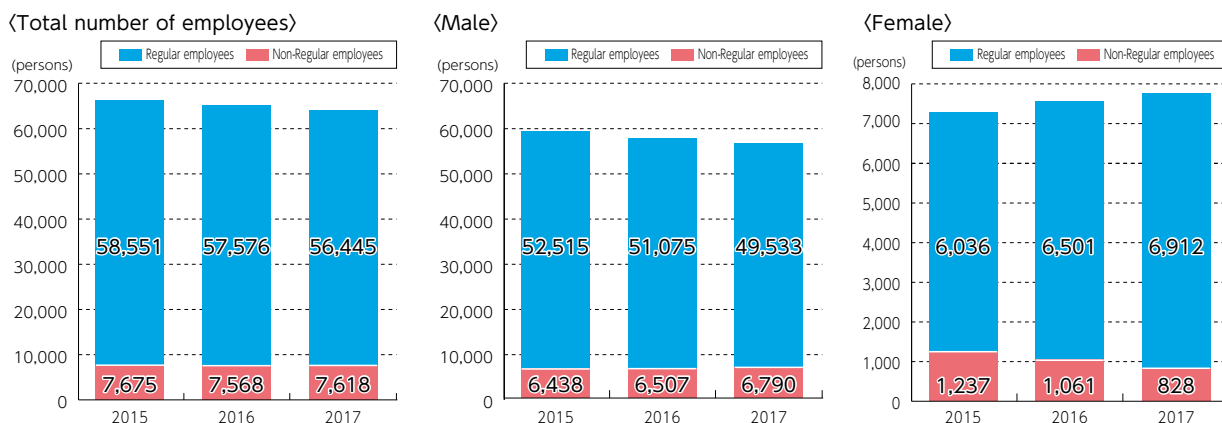


* As of Oct. 1, 2017, overseas offices are affiliated with International Dept.

Personnel-related data

* No. of employees in this report includes those seconded.

[Total number of employees by employment type and gender (as of April 1)]



[Number of employees by area and gender (Regular employees, as of April 1)]

(persons)

	Total			Male			Female		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Tokyo metropolitan area	39,749	36,785	36,506	35,080	34,378	33,679	4,669	5,032	5,360
Tohoku area	12,659	12,121	11,558	11,723	11,116	10,494	936	1,005	1,064
Joshinetsu area	8,821	8,670	8,381	5,712	5,581	5,360	431	464	488

[Number of new employees and resignees (New employees are those employed within the fiscal year (Regular employees only))]

(persons)

	New employees			Resignees		
	FY2015	FY2016	FY2017	FY2015	FY2016	FY2017
Male	1,354	1,325	1,320	2,511	2,759	2,873
Female	564	584	579	110	114	130

(persons)

	New employees			Resignees		
	FY2015	FY2016	FY2017	FY2015	FY2016	FY2017
Under 30 years of age	1,546	1,575	1,498	108	99	79
30 to 50 years of age	368	328	386	118	124	158
51 years of age and over	4	6	15	2,395	2,650	2,766

(persons)

	New employees			Resignees		
	FY2015	FY2016	FY2017	FY2015	FY2016	FY2017
Tokyo metropolitan area	1,426	1,413	1,436	1,656	1,702	1,759
Tohoku area	333	323	318	726	909	906
Joshinetsu area	159	173	145	239	262	338

[Average annual training time per employee]

(Time, person)

	FY2015	FY2016	FY2017
Total annual training hours	2,045,573	2,601,210	2,039,400
Number of employees (as of April 1, 2017)	59,237	58,551	57,576
Average annual training hours per employee	35	44	35

[Ratio of employees eligible for collective bargaining agreements (Regular employees, as of April 1)]

(persons)

	2015	2016	2017
Number of union members	51,493	50,546	49,467
Number of employees	58,551	57,576	56,445
Ratio	87.9%	87.8%	87.6%

Improvement of transportation services

■Metropolitan area commuter transportation

Reinforcing transportation capacity

- Increased number of cars..... Jōban Line(Rapid) (Change to 15-car) [88.3], Sagami Line (Change to 4-car) [91.3], Yamanote Line (Change to 11-car with 6 doors)[91.12], Musashino Line (Change to 8-car) [91.12], Yokohama Line (Change to 8-car with 6 doors)[94.12], Hachikō Line (between Hachiōji and Komagawa) (Change to 4-car)[96.3], Kawagoe Line(Between Kawagoe and Komagawa) (Change to 4-car) [96.3], Tsurumi Line (Ōkawa Branch) [96.3], Itsukaichi Line (Change to 6-car) [96.12]
- Wider cars put in service Sōbu Line(Rapid)·Yokosuka Line[94.12], Chūō·Sōbu Line(Local)[98.12], Utsunomiya Line[00.6], Keihin-Tōhoku Line[01.1], Takasaki Line[01.9], Jōban Line(Rapid)[02.3], Yamanote Line[02.4], Chūō Line (Rapid)·Ōme Line[06.12], Itsukaichi Line·Hachikō Line[07.3], Keihin-Tōhoku·Negishi Line[07.12], Tōkaidō Line[08.3], Keiyō Line[10.7], Saikyō Line[13.6], Yokohama Line[14.2], Nambu Line[14.10]
- New lines to begin service Keiyō Line (Between Shin-Kiba and Nishi-Funabashi·Minami-Funabashi Between Chibaminato and Soga)[88.12], Keiyō Line (Between Tōkyō and Shin-Kiba)[90.3], Saikyō Line (Between Shinjuku and Ebisu)[96.3], (Between Ebisu and Ōsaki)[02.12], Ueno-Tōkyō Line (Between Ueno and Tōkyō)[15.3]
- Electrification Sagami Line[91.3], Hachikō Line(Between Hachiōji and Komagawa)[96.3]
- Freight train tracks use Tōkaidō Freight Line, Tōhoku·Yamanote Freight Line

Express service; Seating service

- Commuter liner Number of scheduled runs[87.4] 16 trains → 37 trains Tōkaidō Line (21 trains), Sōbu Line (5 trains), Chūō Line (7 trains), Ōme Line (4 trains)
- Expanded special express trains available to holders of commuter's pass
..... Jōban Line, Takasaki Line, Sotobō Line, Uchibō Line, Sōbu Line, Chūō Line, Narita Line, Tōkaidō Line
- Shinkansen service to accommodate commuters
- Increased runs Extension into Tōkyō[91.6], Tanigawa (new) [97.10]
- Expanded non-reserved seats .. Nasuno (new) [95.12], Double-decker trains put in service [94.7]
- Rapid trains for commuters ... Tōkaidō Line (3 trains), Utsunomiya Line (11 trains), Takasaki Line (9 trains), Keiyō Line (6 trains), Chūō Line (24 trains), Saikyō Line (58 trains), Sōbu Line(Rapid) (4 trains)
- 1 hour operation within 70 km commuting range in the morning Tōkaidō Line(Commuter Liner), Sotobō Line, Uchibō Line(Commuter Rapid)
- Double-decker trains put in service
- Double-decker green cars Tōkaidō Line [89.3], Sōbu Line(Rapid)·Yokosuka Line [90.3], Shōnan-Shinjuku Line[04.10], Utsunomiya Line[04.10], Takasaki Line[04.10], Jōban Line[07.3]
- All Double-decker trains Tōkaidō Line[92.4], Tōhoku·Jōetsu Shinkansen[94.7]
- All Double-decker cars(16-car) .. Tōhoku Shinkansen[97.12], Jōetsu Shinkansen[01.5]

Through service

- Extension into Ikebukuro Utsunomiya Line, Takasaki Line[88.3]
- Extension into Shinjuku Tōkaidō Line(Shōnan Liner)[88.7], Utsunomiya Line, Takasaki Line [95.12 for evening commuting hours] [97.11 for morning commuting hours]
- Extension into Tōkyō..... Musashino Line[90.3], Hachikō Line[96.3]
- Extension into Kaihimmakuhari · Musashino Line[00.12]
- Extension into Ōmiya Musashino Line[10.12]
- Shōnan-Shinjuku Line (Through service from Yokohama via Shinjuku to Ōmiya)
..... Tōkaidō, Yokosuka, Utsunomiya, and Takasaki Lines [01.12 for day time] [02.12 for evening and night hours]
- Ueno-Tōkyō Line (Through service between Shinagawa via Tōkyō to Ueno)
..... Tōkaidō·Utsunomiya·Takasaki·Jōban Line[15.3]
- Extension into Fujikyū Railway · Chūō Line [90.3 for morning and evening commuting hours]
- Extension into Rinkai Line Saikyō Line[02.12]

■ Inter-city transportation

Earlier arrival time

○Shinkansen

- Operate at 275 km/hr Jōetsu Shinkansen[90.3] Tōhoku Shinkansen[97.3]
- Operate at 300 km/hr Tōhoku Shinkansen[11.3] Akita Shinkansen[13.3]
- Operate at 320 km/hr Tōhoku Shinkansen[13.3] Akita Shinkansen[14.3]
- Tōkyō opened [91.6]•Yamagata Shinkansen opened [92.7]•Akita Shinkansen opened [97.3]•Nagano Shinkansen(Hokuriku Shinkansen) opened [97.10]•Yamagata Shinkansen extended to Shinjō [99.12]•Tōhoku Shinkansen extended to Hachinohe [02.12]•E2 Series introduced to Tōhoku Shinkansen Morioka Yamabiko (E4 Series for 2 round trips) [04.3]•E2 Series for all Tōhoku Shinkansen Morioka Yamabiko[05.12]•Tōhoku Shinkansen extended to Shin-Aomori (All sections opened)[10.12]•E5 Series introduced to Tōhoku Shinkansen Hayabusa[11.3]•Speed increase for some of Yamagata Shinkansen Tsubasa (9 round trips for total of 16)[12.3]•Speed increase for all Yamagata Shinkansen Tsubasa[12.9]•E6 Series introduced to Akita Shinkansen Super Komachi[13.3]•Speed increase to 320km/h for E5 Series Hayabusa and E6 Series Komachi for Tōhoku Shinkansen[14.3]•E7 Series introduced to Nagano Shinkansen (Hokuriku Shinkansen)[14.3]•Hokuriku Shinkansen opened between Nagano and Kanazawa[15.3]•Hokkaidō Shinkansen opened between Shin-Aomori and Shin-Hakodate Hokuto[16.3]

○Conventional lines

- Operate at 130 km/hr Jōban Line(HITACHI,TOKIWA), Sōbu·Narita Line(N'EX), Ōu Line(Tsubasa), Chūō Line(Super Azusa,Azusa,Kaiji), Tazawako Line(Komachi)

■ Regional urban area transportation

Introduction of new type of rolling stock (Not including diversions)

- New type of diesel railcars Kamaishi Line, Yamada Line, Ōfunato Line, Kitakami Line, Rikū-East Line, Ban-etsu-East Line, Ban-etsu-West Line, Suigun Line, Koumi Line, Uetsu Line, Hachikō Line, Aterazawa Line, Ōminato Line, Iiyama Line, Rikū-West Line, Yonesaka Line, Kururi Line, Senseki-Tōhoku Line, Ishinomaki Line
- New type of AC motor railcars · Tōhoku Line, Senzan Line, Ōu Line, Uetsu Line, Tsugaru Line, Tazawako Line, Jōban Line, Oga Line
- New type of DC motor railcars · Shin-etsu Line, Uetsu Line, Hakushin Line, Echigo Line, Ōito Line, Shinonoi Line, Yahiko Line, Jōetsu Line, Karasuyama Line

Rapid train service operation

- Shinonoi Line, Ōito Line, Senzan Line, Senseki Line, Kitakami Line, Kamaishi Line, Yamada Line, Ōminato Line, Ban-etsu-West Line, Ōu Line, Uetsu Line, Hakushin Line, Rikū-West Line, Shin-etsu Line, Others

Through service

- Through service with Hokuetsu Express Jōetsu Line, Shin-etsu Line[97.3]
- Through service with Shinano Railway Shin-etsu Line[97.10], Iiyama Line[15.3]
- Through service with Echigo TOKImeki Railway · Shin-etsu Line[15.3]
- Through service with Iwate Galaxy Railway ···· Tōhoku Line, Hanawa Line[02.12]
- Through service with AOIMORI RAILWAY ····· Hachinohe Line[02.12]
- Through service with Sendai Airport Transit ···· Tōhoku Line[07.3]

Others

- Inauguration of new line Senseki Line(Between Sendai and Aobadori Avenue)[00.3]
- Through service Senseki-Tōhoku Line(Between Sendai via Ishinomaki to Onagawa)[16.8]

Customer patronage by line

■ Average Number of Passenger Kilometers per Day on Each Line

Shinkansen

	Lines	Sections	Passenger line network (km)	Average Number of Passenger Kilometers per Day					
				FY1988	FY2013	FY2014	FY2015	FY2016	FY2017
1	Tōhoku Shinkansen	Between Tōkyō and Shin-Aomori	713.7	45,885	56,628	58,863	57,551	59,477	61,105
2	Jōetsu Shinkansen	Between Ōmiya and Niigata	303.6	28,876	41,255	42,469	42,857	44,219	44,588
3	Hokuriku Shinkansen	Between Takasaki and Jōetsumiyōkō	176.9	—	18,565	19,210	21,247	37,050	35,899

Conventional lines

	Lines	Sections	Passenger line network (km)	Average Number of Passenger Kilometers per Day					
				FY1988	FY2013	FY2014	FY2015	FY2016	FY2017
1	Yamanote Line	Between Shinagawa and Tabata(Via Shinjuku)	20.6	813,877	1,081,099	1,080,888	1,077,568	1,097,093	1,111,243
2	Saikyo Line	Between Ikebukuro and Akabane	5.5	459,961	712,013	730,718	724,382	732,145	738,295
3	Tōkaidō Main Line	Between Tōkyō and Atami(Via Kawasaki and Yokohama) Between Shinagawa and Tsurumi(Via Shin-Kawasaki) etc.	169.2	264,013	341,234	347,760	346,358	355,144	359,208
4	Yokohama Line	Between Higashi-Kanagawa and Hachiōji	42.6	122,328	222,694	226,308	224,687	229,481	230,126
5	Sōbu Main Line	Between Tōkyō and Chōshi(Via Asahi) Between Kinshichō and Ochanomizu etc.	145.4	161,793	200,413	203,631	200,308	203,349	204,296
6	Negishi Line	Between Yokohama and Ōfuna	22.1	172,028	176,932	177,960	174,783	177,117	177,125
7	Keiyō Line	Between Tōkyō and Soga Between Ichikawashiohama and Minami-Funabashi(Via Nishi-Funabashi)	54.3	26,246	161,603	167,766	167,951	172,076	174,163
8	Nambu Line	Between Kawasaki and Tachikawa Between Shitte and Hama-Kawasaki Between Shitte and Tsurumi	45.0	92,591	150,583	155,678	156,754	159,992	161,660
9	Chūō Line	Between Kanda and Yoyogi Between Shinjuku and Shiojiri(Via Midoriko, Via Tatsuno)	247.8	127,698	151,454	155,059	153,788	157,094	157,888
10	Takasaki Line	Between Ōmiya and Takasaki(Via Miyahara)	74.7	110,958	116,550	117,912	114,691	116,920	116,370
11	Musashino Line	Between Tsurumi and Nishi-Funabashi(Via Higashi-Urawa) etc.	105.5	47,090	105,537	108,339	108,086	111,377	112,543
12	Tōhoku Main Line	Between Tōkyō and Morioka(Via Ōji and Sendai, Via Oku) Between Akabane and Ōmiya(Via Musashi-Urawa) etc.	572.0	53,625	78,867	80,401	79,492	81,516	82,275
13	Jōban Line	Between Nippori and Iwanuma(Via Tsuchiura) etc.	351.0	71,288	76,375 ※1・2	77,135 ※1・2	75,865 ※1・2	75,702 ※1・2	74,371 ※1・2
14	Ōme Line	Between Tachikawa and Oku-Tama	37.2	49,011	63,717	64,751	63,427	64,068	63,730
15	Yokosuka Line	Between Ōfuna and Kurihama	23.9	60,158	63,174	63,574	62,173	63,171	62,997
16	Kawagoe Line	Between Ōmiya and Komagawa	30.6	30,295	53,659	54,764	54,160	55,523	55,729
17	Sotobō Line	Between Chiba and Awa-Kamogawa	93.3	28,456	35,633	36,065	35,188	35,460	35,132
18	Sagami Line	Between Chigasaki and Hashimoto	33.3	9,268	25,956	26,976	26,911	28,176	28,903
19	Itsukaichi Line	Between Haijima and Musashi-Itsukaichi	11.1	21,795	26,990	27,322	26,658	26,115	25,641
20	Uchibō Line	Between Soga and Awa-Kamogawa(Via Kisarazu)	119.4	25,097	20,667	20,892	20,500	20,566	20,447
21	Senseki Line	Between Aobadori Avenue and Ishinomaki	49.0	21,879	16,211	16,893	16,829	18,879	19,871
22	Itō Line	Between Atami and Itō	16.9	26,291	16,843	16,940	16,816	16,903	16,749
23	Hakushin Line	Between Shibata and Niigata	27.3	13,288	16,592	17,145	16,464	16,485	16,214
24	Narita Line	Between Sakura and Matsugishi Between Narita and Abiko Between Narita and Narita Airport Terminal 1	119.1	12,904	14,194	14,464	14,083	14,516	14,700
25	Tsurumi Line	Between Tsurumi and Ōgimachi Between Asano and Umi-Shibaura Between Musashi-Shiraishi and Ōkawa	9.7	14,907	14,150	14,108	13,942	14,194	14,180
26	Shinonoi Line	Between Shiojiri and Shinonoi	66.7	15,413	11,570	11,885	11,468	12,367	12,293
27	Ryōmō Line	Between Oyama and Shim-Maebashi	84.4	12,056	10,887	11,291	11,089	11,238	11,287
28	Shin-etsu Main Line	Between Takasaki and Yokokawa Between Shinonoi and Nagano Between Naoetsu and Niigata etc.	175.3	16,493	8,199	8,380	7,895	9,501	9,410
29	Senzan Line	Between Sendai and Uzen-Chitose	58.0	6,645	8,807	9,124	8,951	9,082	9,067
30	Hachikō Line	Between Hachiōji and Kuragano	92.0	6,268	8,361	8,610	8,680	8,941	8,892

	Lines	Sections	Passenger line network (km)	Average Number of Passenger Kilometers per Day					
				FY1988	FY2013	FY2014	FY2015	FY2016	FY2017
31	Tōgane Line	Between Ōami and Narutō	13.8	12,132	8,742	8,736	8,458	8,628	8,374
32	Mito Line	Between Oyama and Tomobe	50.2	9,976	7,044	7,176	7,031	7,088	7,059
33	Tazawako Line	Between Morioka and Ōmagari	75.6	4,109	6,665	6,915	6,830	6,945	6,957
34	Echigo Line	Between Kashiwazaki and Niigata	83.8	6,548	6,240	6,441	6,185	6,313	6,280
35	Nikkō Line	Between Utsunomiya and Nikkō	40.5	5,688	5,196	5,350	5,278	5,579	5,541
36	Jōetsu Line	Between Takasaki and Miyauchi(Via Minakami) Between Echigo-Yuzawa and GALA Yuzawa	164.4	6,623	6,464	6,709	6,225	5,512	5,412
37	Ōu Main Line	Between Fukushima and Aomori(Via Akita)	484.5	9,265	5,204	5,349	5,121	5,139	5,009
38	Aterazawa Line	Between Kita-Yamagata and Aterazawa	24.3	4,195	3,591	3,681	3,327	3,394	3,384
39	Ōito Line	Between Matsumoto and Minami-Otari	70.1	5,779	3,329	3,404	3,213	3,239	3,179
40	Yahiko Line	Between Yahiko and Higashi-Sanjō	17.4	5,076	2,662	2,662	2,485	2,515	2,474
41	Agatsuma Line	Between Shibukawa and Ōmae	55.3	3,304	2,438	2,406	2,374	2,416	2,391
42	Uetsu Main Line	Between Niitsu and Akita	271.7	5,862	2,790	2,843	2,557	2,378	2,293
43	Oga Line	Between Oiwake and Oga	26.6	4,610	2,319	2,282	2,080	2,106	2,055
44	Ban-etsu-West Line	Between Kōriyama and Niitsu	175.6	3,803	1,910	1,973	1,834	1,877	1,810
45	Suigun Line	Between Mito and Asakanagamori Between Kami-Sugaya and Hitachi-Ōta	147.0	2,762	1,803	1,838	1,743	1,739	1,720
46	Karasuyama Line	Between Hōshakuji and Karasuyama	20.4	2,559	1,453	1,486	1,445	1,462	1,488
47	Ban-etsu-East Line	Between Iwaki and Kōriyama	85.6	2,314	1,622	1,615	1,522	1,530	1,472
48	Ishinomaki Line	Between Kogota and Onagawa	44.7	3,247	1,199	1,229	1,187	1,267	1,264
49	Kururi Line	Between Kisarazu and Kazusa-Kameyama	32.2	3,126	1,450	1,430	1,262	1,233	1,190
50	Koumi Line	Between Kobuchizawa and Komoro	78.9	1,898	1,195	1,211	1,176	1,198	1,182
51	Kashima Line	Between Katori and Kashima-Soccer Stadium	17.4	2,549	1,204	1,305	1,275	1,228	1,171
52	Hachinohe Line	Between Hachinohe and Kuji	64.9	2,513	998	1,043	1,079	1,041	971
53	Rikū-East Line	Between Kogota and Shinjō	94.1	2,411	988	1,032	980	969	944
54	Ōfunato Line	Between Ichinoseki and Sakari	105.7	1,547	※2	—	—	—	—
55	Kamaishi Line	Between Hanamaki and Kamaishi	90.2	1,917	901	874	870	843	798
56	Gonō Line	Between Higashi-Noshiro and Kawabe	147.2	1,402	608	612	629	659	678
57	Iiyama Line	Between Toyono and Echigo-Kawaguchi	96.7	1,636	755	770	704	676	646
58	Ōminato Line	Between Noheji and Ōminato	58.4	965	588	612	598	598	590
59	Tsugaru Line	Between Aomori and Mimmaya	55.8	2,131	2,765	2,739	2,575	2,419	480
60	Yonesaka Line	Between Yonezawa and Sakamachi	90.7	1,214	424	413	388	405	405
61	Rikū-West Line	Between Shinjō and Amarume	43.0	2,185	403	403	409	391	389
62	Hanawa Line	Between Kōma and Ōdate	106.9	1,545	454	439	403	400	377
63	Kitakami Line	Between Kitakami and Yokote	61.1	1,147	397	379	335	323	315
64	Tadami Line	Between Aizu-Wakamatsu and Koide	135.2	644	305 ※1	317	304	321	304
65	Kesennuma Line	Between Maeyachi and Kesennuma	72.8	1,357	※2	—	—	—	—
66	Yamada Line	Between Morioka and Kamaishi	157.5	1,119	257 ※3	274 ※3	279 ※3	248 ※3	186 ※3
-	Iwaizumi Line*	Between Moichi and Iwaizumi	38.4	180	19	23	—	—	—

【Remarks】

- ※ FY2015 data for Hokuriku Shinkansen Takasaki ~ Jōetsumyōkō section do not include data for Nagano ~ Jōetsumyōkō section.
- ※1 The lines and sections not operating during the reported period, and the lines and sections where buses were substituted show data for information only
- ※2 No data are shown for the section where most of the operation is now suspended. (Iwaki~Haranomachi section of Joban line)
Also, no data are shown for the line where BRT transportation is partly in effect. (Showing [—])
- ※3 Only customers using commuter passes and coupon tickets are counted in the sections where buses are substituted
(On Yamada line Kamiyonai~Kawauchi and Miyako~Kamaishi).
- * Iwaizumi line was abolished on April 1, 2014.

GRI Content Index (General Standard Disclosures)

The G4 Sustainability Reporting Guidelines of GRI is a guideline for sustainability reporting. In accordance with the guidelines considered as a global standard, many companies prepare their sustainability reports.

JR East Group CSR Report 2017 has been written in accordance with the Core option of GRI's G4 Sustainability Reporting Guidelines.

※GRI: Global Reporting Initiative is a cooperation organization (NGO) authorized by the United Nations Environment Programme (UNEP) aiming to establish guidelines for sustainability reporting.

The response status to the general standard of disclosure items for this report is as follows.

	Indicator	Relevant Pages in Reports
		Website Version
Strategy and Analysis		
G4-1	Provide a 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.	P4,5 (Top Message)
Organizational Profile		
G4-3	Report the name of the organization.	P2 (Corporate Profile)
G4-4	Report the primary brands, products, and services.	P133,134(Business Outline of the JR East Group)
G4-5	Report the location of the organization's headquarters.	P2 (Corporate Profile)
G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	P85 (Developing Our Business around the World)
G4-7	Report the nature of ownership and legal form.	P2 (Corporate Profile)
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	P132 (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 organizations) •Quantity of products or services provided	P2 (Corporate Profile) P133,134(Business Outline of the JR East Group) P135 (Management Information) P136 (Consolidated Financial Statements for Fiscal 2017)
G4-10	•Report the total number of employees by employment contract and gender. •Report the total number of permanent employees by employment type and gender. •Report the total workforce by employees and supervised workers and by gender. •Report the total workforce by region and gender. •Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. •Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	P139 (Personnel-related data)
G4-11	Report the percentage of total employees covered by collective bargaining agreements.	P139 (Personnel-related data)
G4-12	Describe the organization's supply chain.	P133 (Business Outline of the JR East Group)
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain.	Not applicable
Commitments to external initiatives		
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	P21 (General principles of Safety) P34,35,37 (Preparedness against natural disaster)
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	P20 (CONTENTS)
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.	P88 (Global Contribution through International Institutions)
Identified Material Aspects and Boundaries		
G4-17	•List all entities included in the organization's consolidated financial statements or equivalent documents. •Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	P2 (Boundary of reporting) P134 (Businesses of the JR East Group)
G4-18	•Explain the process for defining the report content and the Aspect Boundaries. •Explain how the organization has implemented the Reporting Principles for Defining Report Content.	P146 (Materiality (material aspects) and Key CSR Activities of the JR East Group)
G4-19	List all the material Aspects identified in the process for defining report content.	P147 (Materiality (material aspects) and Key CSR Activities of the JR East Group)

General Standard Disclosures

General Standard Disclosures	G4-20	For each material Aspect, report the Aspect Boundary within the organization, as follows: • Report whether the Aspect is material within the organization • If the Aspect is not material for all entities within the organization (as described in G4-17), select one of the following two approaches and report either: —The list of entities or groups of entities included in G4-17 for which the Aspect is not material or —The list of entities or groups of entities included in G4-17 for which the Aspects is material • Report any specific limitation regarding the Aspect Boundary within the organization	P147 (Materiality (material aspects) and Key CSR Activities of the JR East Group)
	G4-21	For each material Aspect, report the Aspect Boundary outside the organization, as follows: • Report whether the Aspect is material outside of the organization • If the Aspect is material outside of the organization, identify the entities, groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified • Report any specific limitation regarding the Aspect Boundary outside the organization	P147 (Materiality (material aspects) and Key CSR Activities of the JR East Group)
	G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	Not applicable
	G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	Not applicable
	Stakeholder Engagement		
	G4-24	Provide a list of stakeholder groups engaged by the organization.	P149 (JR East Stakeholders)
	G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	P149 (JR East Stakeholders)
	G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	P149 (JR East Stakeholders)
	G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	P149 (JR East Stakeholders)
	Report Profile		
	G4-28	Reporting period (such as fiscal or calendar year) for information provided.	P2 (Reporting period)
	G4-29	Date of most recent previous report (if any).	(Back cover)
	G4-30	Reporting cycle (such as annual, biennial).	(Back cover)
	G4-31	Provide the contact point for questions regarding the report or its contents.	(Back cover)
	GRI CONTENT INDEX		
	G4-32	• Report the 'in accordance' option the organization has chosen. • Report the GRI Content Index for the chosen option. • Report the reference to the External Assurance Report, if the report has been externally assured.	P2 (Editorial Policy) P150 (Independent Assurance Report) P144,145,148 (GRI Content Index)
	ASSURANCE		
	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.	P150 (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.	P28 (Railway Safety Promotion Committee) P99 (Environmental Management) P126 (Corporate Governance)
	Ethics and Integrity		
	G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	P2 (Group Philosophy/Basic Principles) P127 (Compliance)

Materiality (material aspects) and Key CSR Activities of the JR East Group

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.

Based on the basic concept of "Thriving with communities, growing globally," which defines the overall direction of our group, and on the expectations of various stakeholders, we established our core management pillars by specifying six key business issues and identified the key matters which the JR East Group should address (material aspects).

The present document will report on the material aspects and where impacts occur for them (boundaries). These aspects and boundaries are identified based on the steps below.

<p>Step 1</p> <p>Identification of relevant topics and boundaries</p>	<ul style="list-style-type: none"> • We broadly selected topics in light of their relevance to the economic, environmental, and social factors indicated in the G4 guidelines and to the JR East Group's business (business areas, business flow) as well as their relevance to the management vision. • In order to identify the boundaries of the relevant topics, we considered their relevance to our business flow and relationship with stakeholders and the extent of their impact on both inside and outside the organization. • In identifying topics, with the future in mind, we have also taken the sustainability context into account, including social and environmental trends in our business territories, in Japan, and overseas.
<p>Step 2</p> <p>Prioritization of relevant topics</p>	<ul style="list-style-type: none"> • We identified high-priority topics (material aspects) by considering various factors, such as key stakeholders' concerns, matters and information essential to decision-making, the extent of the impact on society and the environment, and topics and targets (KPIs) that are a focus of the management vision and business of JR East. • The management vision takes into account not just improving safety and services, which are fundamental to the railway business, but also issues such as disaster recovery and revitalization of the regional economy in eastern Japan—the area where we conduct our business—and addressing climate change and other environmental problems. In addition, with regard to overseas business expansion, it includes involvement in projects in view of the future development of regions where railways are deemed necessary from an economic, social, and environmental perspective, and takes into account the sustainability context, both domestically and internationally.
<p>Step 3</p> <p>Defining and verifying validity</p>	<ul style="list-style-type: none"> • We double-checked the validity of the identified material aspects in terms of their scope (scope of aspects covered in the report), aspect boundaries (the description of where impacts occur for each material aspect), and time (the completeness of selected information with respect to the reporting period). At this stage, we considered not only stakeholders' expectations and needs but also looked at the future needs of society, the impact on society, and the company's social responsibilities as well as a wide range of business areas, and we also took into account the completeness of material aspects by verifying that no matters had been overlooked. • At the same time as this step in the process, the identified material aspects were discussed with and approved by the Committee on Ecology Promotion (one of the internal committees that makes management-related decisions as stipulated by company regulations).
<p>Step 4</p> <p>Review</p>	<ul style="list-style-type: none"> • In order to prepare the report for the next fiscal year, we will evaluate the validity of this report's content, taking into account feedback obtained from stakeholders in the meantime and the sustainability environment (based on social trends, etc.), and this evaluation result will be reflected in the identification of material aspects as necessary.

※For FY 2016 materiality and boundaries were specified by above steps.

※For FY 2017 as a result of review of feedback from stakeholders obtained after the issue of the last report as well as the social trend, no change is made in materiality and boundaries specified for FY 2016.

Identified Materiality (Material Aspects)

JR East Group Management Vision V		Material Aspects	GRI Indicators		JR East's KPI	
Eternal Mission	KIWAMERU (Excel)	Pursuing "Extreme Safety Levels"	Customer Health and Safety	G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	Measures for improving safety in various aspects, etc.
			Occupational Health and Safety	G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.	Total number of injury accidents, fatal accidents.
				G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.	Total number of occupational accidents, fatal accidents, and lost-time injuries and leave frequency rate.
	MIGAKU (Improve)	Service Quality Reforms	Product and Service Labeling	G4-PR5	Results of surveys measuring customer satisfaction.	Results of surveys measuring customer satisfaction.
	TOMO NI IKIRU (Together)	Strengthening collaboration with local communities	Employment	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region.	Total number of hires and employee turnover by region.
Local Communities			G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	Summary of business contributing to community revitalization and tourism promotion and summary of business contributing to strengthening networks and urban development.	
Pursuing Unlimited Potential	HIRAKU (Pioneer)	Technological innovation	Energy	G4-EN3	Energy consumption within the organization.	Consumption by energy type, purchased/self-generated power amount.
				G4-EN5	Energy intensity.	Electricity used for railway operations per unit of transport volume.
						Energy consumption per unit of floor area at branch offices, etc.
				G4-EN6	Reduction of energy consumption.	Reduction Rate of Energy Consumption Intensity Established by Each JR East Group Company.
			G4-EN7	Reductions in energy requirements of products and services.	Changes in amount of energy consumed over time.	
			Emissions	G4-EN15	Direct greenhouse gas (GHG) emissions. (Scope 1)	Energy consumption efficiency of rolling stock manufactured by JR East.
				G4-EN16	Energy indirect greenhouse gas (GHG) emissions. (Scope 2)	Greenhouse Gas (GHG) Emissions. (Scope 1)
	Effluents and Waste	G4-EN23	Total weight of waste by type and disposal method.	Greenhouse gas (GHG) emissions. (Scope 2)		
		G4-EN24	Total number and volume of significant spills.	Amount of waste generated by source (station/train waste, general rolling stock centers, facility construction, group companies) and recycling rate. (main disposal method)		
	NOBIRU (Grow)	Tackling New Business Areas	Local Communities	G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	Number of such cases occurred.
	HABATAKU (Empower)	Developing Employees and Creating Corporate Culture That Maximizes Human Potential	Training and Education	G4-LA9	Average hours of training per year per employee by gender, and by employee category.	Active participation in international railway business projects.
Diversity and Equal Opportunity			G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	Average hours of training per year per employee by gender, and by employee category. Number of technical academy participants.	
Others		Human Rights Grievance Mechanisms	G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms.	Number of female executives (ratio) and number of female managers. (ratio)	
			G4-EN31	Total environmental protection expenditures and investments by type.	Number of inquiries to Compliance Hotlines Implementation status of barrier-free facilities. (vertical transportation, accessible washrooms)	
		compliance	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Environmental accounting.	
			G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	Status of non-compliance, administrative guidance, etc.	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	Status of non-compliance, administrative guidance, etc.				

*The extent of impact (boundaries) of the materiality (material aspects) identified above is all within the JR East Group.

GRI Content Index (Specific Standard Disclosures)

Materiality (material aspects) of JR East has been identified based on the procedure of Step 1 to Step 4. The response status to the identified standard disclosure items of this report is as follows.

	Indicator	Relevant Pages in Reports Website Version
Environment		
Energy DMA※ P6,98~103		
G4-EN3	Energy consumption within the organization	P106 (Energy conservation and CO ₂ reduction)
G4-EN5	Energy intensity	P101 (State of progress toward FY 2021 goals)
G4-EN6	Reduction of energy consumption	P112 (Saving energy at stations)
G4-EN7	Reductions in energy requirements of products and services	P112 (Saving energy at stations)
Emissions DMA P6,98~103		
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	P102 (JR East Group's environmental impact) P107 (Trends in CO ₂ Emissions of JR East)
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	P102 (JR East Group's environmental impact) P107 (Trends in CO ₂ Emissions of JR East)
Effluents and Waste DMA P98~103		
G4-EN23	Total weight of waste by type and disposal method	P102 (JR East Group's environmental impact) P116 (Recycling waste collected from stations and trains) P117 (Recycling at General Rolling Stock Centers) P118 (Reducing construction waste)
G4-EN24	Total number and volume of significant spills	P99 (Compliance with environmental laws and regulations)
Compliance DMA P98,99,103		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations	P99 (Compliance with environmental laws and regulations)
Overall DMA P98,99,105		
G4-EN31	Total environmental protection expenditures and investments by type	P105 (Environmental Accounting and Environmental Management Indicators)
Social		
Sub-Category: Labor Practices And Decent Work		
Employment DMA P6,119,149		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	P139 (Personnel-related data)
Occupational Health and Safety DMA P6,7,21,22		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	P53 (Current state of employee accidents)
Training and Education DMA P6,7,90		
G4-LA9	Average hours of training per year per employee by gender, and by employee category	P139 (Personnel-related data)
Diversity and Equal Opportunity DMA P3,6,7,92		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	P93 (Promoting Involvement of Female Employees)
Sub-Category: Human Rights		
Human Rights Grievance Mechanisms DMA P96,127		
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	P127 (Compliance hotline)
Sub-Category: Society		
Local Communities DMA P6,7,74		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	The JR East Group upholds strengthening of collaboration with communities in our Group Management Vision V, and the item is mainly applicable to railway business. P74,75 (Strengthening Collaboration with Communities) P78 (Rediscover the Region Project)
Compliance DMA P127,128		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations	P126 (Internal Audits, Audits by Corporate Auditors and Status of Accounting Audits)
Sub-Category: Product Responsibility		
Customer Health and Safety DMA P6,7,21~29		
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	The JR East Group upholds "pursuing of extreme safety levels" in our Group Management Vision V, and the item is mainly applicable to railway business. P30~33 (Efforts to further improve safety levels)
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	P51,52 (Current safety record of JR East)
Product and Service Labeling DMA P6,7,55,56,64,65		
G4-PR5	Results of surveys measuring customer satisfaction	P56 (Relationship with Passengers)
Compliance DMA P127,128		
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	P126 (Internal Audits, Audits by Corporate Auditors and Status of Accounting Audits)

※DMA (Disclosure on Management Approach): A company's management method for economy, environment and society concerning material issues.

JR East Stakeholders



① Customers

Because our railway and non-railway businesses are continued with fees and compensations from our customers, we have defined our customers as stakeholders.

Stations provide specific venues for customers who use them to interact with the JR East Group, and they also serve as key contact points for the company to provide customers with a wide range of services and information. Furthermore, the trains on which customers travel and non-railway service provision locations both inside and outside stations also serve as key contact points which complement each other.

② Regions/communities

As a group whose main focus is the railway business, JR East has a close relationship to regions and communities. Indeed, without local communities, our business could not exist. Accordingly, we have defined them as stakeholders.

We are connected to regions and communities every day through our railway lines and especially our stations. We also maintain contact with these stakeholders by providing information via various media.

③ Shareholders and investors

Needless to say, as a stock company, our shareholders play an essential role, and investors are also key stakeholders for the purpose of maintaining our business.

We communicate with all our shareholders and investors via IR activities conducted both in Japan and overseas, such as our general shareholder meeting held once a year, and provide shareholders with financial information and so forth on our website.

④ Employees

In the railway business, which is considered a labor-intensive industry, employees play an indispensable role in running the business, and they are defined as stakeholders.

We are able to interact with employees in various ways, including daily communication in the workplace and various types of on-the-job and off-the-job education and training, based on contractual relationships aligned with labor regulations and other rules.

- We work on the improvement of service quality through the widespread gathering of customers' opinions through our front-line employees and call centers and understanding the needs of the community and society.
- Through our general shareholders meeting and other IR activities, we listen to the diverse opinions and requests of our various stakeholders and do what we can as a company to address them, and when it comes to matters relating to safe, convenient transportation in particular, we promote concrete measures such as making proactive investments in order to pursue extreme safety levels.

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, 2016 to March 31, 2017 (the “Indicators”) included in its CSR Report 2017 website version (the “Report”) for the fiscal year ended March 31, 2017 and the Company’s self-declaration that the Report is prepared in accordance with the Global Reporting Initiative’s G4 Sustainability Reporting Guidelines (the “G4 Guidelines”) at a core level.

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 G4 Guidelines and Environmental Reporting Guidelines of Japan’s Ministry of the Environment, and for self-declaring that the Report is prepared in accordance with the criteria stipulated in the G4 Guidelines 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 the Japanese Association of Assurance Organizations for Sustainability Information. 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 to one of the Company’s domestic business sites selected on the basis of a risk analysis.
- Evaluating the Company’s self-declaration that the Report is prepared in accordance with the G4 Guidelines at a core level against the criteria stipulated in the G4 Guidelines.
- 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 the Company’s self-declaration that the Report is prepared in accordance with the G4 Guidelines at a core level does not conform to the criteria stipulated in the G4 Guidelines.

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 20, 2017

Closing

Thank you for taking the time to read JR East Group's CSR Report 2017.

JR East Group is celebrating its 30th anniversary since its foundation this year. Thirty years ago, the company was founded in an extremely challenging environment that required regaining the trust of our customers and achieving profitability. In such circumstances, we committed to rehabilitating and revitalizing our railway services and have been continuing in our efforts to do so at each one of our workplaces ever since. Now, after 30 years, JR East is steadily growing. However, we would never have been able to achieve this growth without the cooperation, understanding and support of our customers, the people in local communities, and all our stakeholders.

This CSR Report 2017 was prepared to offer an overview of JR East Group's current business activities to all stakeholders. This Report includes quantitative data on activities relating to safety, society and the environment that are undertaken by our group. All the data are presented in an easy-to-understand manner through the use of photographs and diagrams. Additionally, to highlight the major events that have occurred since CSR Report 2016, a list of Special Topics is provided in the first part of the Report. Also, in the main part of this year's Report, we have included numerous articles to introduce the specific efforts made by some of our employees. We hope that this CSR Report will be of assistance to all stakeholders in further deepening understanding of JR East Group.

We will continue to fulfill our Eternal Mission as expected by our customers and people in local communities, and to pursue the Unlimited Potential of the JR East Group, never becoming complacent with the current situation. By humbly continuing to address our daily challenges, we will strive to realize the sustainable growth of JR East Group and the development of the eastern part of Japan.

While closely keeping an eye on business trends both at home and overseas, we will continue in our efforts as a corporate group to respond to the expectations of society and satisfy the trust that all our stakeholders have placed in us. We sincerely ask for your continued understanding in regard to JR East Group's business operations, and your honest opinions are always welcome. Thank you.



Yoichi Kise

Executive Officer & General
Manager of Management
Planning Department
Corporate Planning
Headquarters
East Japan Railway Company



Photos on the front and back covers:

- Front: (Clockwise from the upper right)
Information display during transport disruptions
JR Akita Shimohama Wind Power Station
Yamanote Line platform door
Childcare support facilities
TRAIN SUITE SHIKI-SHIMA
Visit by High Speed Rail Corporation of India
- Back cover
(Upper left) Shinshu DC HIGH RAIL 1375, departure ceremony
(Middle left) nonowa Kunitachi
(Middle right) Naruko Hometown Forestation Program
(Bottom) JR East's Shinkansen trains



FTSE4Good

FTSE International Ltd. allows the use of the FTSE4Good mark for companies that satisfy certain standards.



FTSE Blossom Japan

MSCI 2017 Constituent MSCI ESG Leaders Indexes

MSCI 2017 Constituent MSCI ジャパンESG セレクト・リーダーズ指数

**JR East Group
CSR Report 2017**

Published in October 2017
(Last published in October 2016 /
Next publication planned
for September 2018)
East Japan Railway Company
Committee on Ecology
2-2 Yoyogi 2-chome,
Shibuya-ku, Tokyo
151-8578, Japan
E-mail: eco@jreast.co.jp
<http://www.jreast.co.jp/e/environment/>

