

## 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

### ○ Campaign to prevent dashing onto a departing train

26 railway companies are jointly implementing a campaign to prevent dashing onto a departing train to raise awareness among passengers that it is dangerous, and asking them to push an emergency train stop button when they notice danger.



Campaign to prevent dashing onto a departing train

### ○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 and showing TV and radio commercials.



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

## Level crossing safety lecture

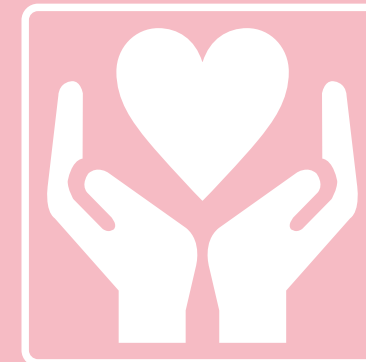
Assistant Manager, Suigun Line Operations Office, Mito Branch Office

To prevent level crossing accidents involving children, since 2016 we have been visiting elementary schools near level crossings and offering level crossing safety lectures.

At a level crossing safety lecture, to show the children how to push an emergency train stop button in an emergency, we have them push an emergency button of a replica of a level crossing. Additionally, we teach them not to cross a level crossing when an

alarm is activated and not to play near railway tracks, so that they will use level crossings safely.

We will continue our visits to elementary schools, kindergartens, and nursing homes near level crossings so that we can prevent level crossing accidents in coalition with local communities.



## Society

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## Relationship with Passengers

### Medium-term Vision for Service Quality Reforms 2020

Since designating 2011 as the baseline year for service quality reforms, we have been working to improve our service quality by implementing a variety of measures, and in FY2019, we announced our new "Medium-term Vision for Service Quality Reforms 2020." This document outlines our vision for accelerating and further developing the initiatives we have implemented to date, with the aim of being number one for passenger satisfaction in the Japanese railway industry.

#### •Preventing transport disruption

We will resolutely strive to prevent transport disruptions from every aspect.

#### •Minimizing effects of disruptions on passengers

We will respond flexibly through actions such as turning trains back and promptly resuming train operations.

#### •Provision of information during emergencies

In order to help passengers decide on their next step, we will communicate information without delay during emergencies.

#### •Realizing railway services passengers can use comfortably

We will provide stations, railcars, and services that live up to passenger expectations of JR East.

#### •Providing impressive passenger service

We will offer services that inspire passengers to use our group again.

### Confirm grasp 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



Safety



Society



Environment



Safety

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## Provide reliable transportation services

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, in order to minimize the impact on passengers.

### ■Preventing transport disruptions

By paying careful attention to the causes of disruptions that occurred in the past, we strive to prevent similar types of disruption occurring again. Specifically, we are moving forward with initiatives to upgrade facilities, install more durable facilities, and reduce the variety of facilities while continuing to implement measures such as the introduction of railcars with increased reliability through the duplication of major equipment, expanded installation of track switches with next-generation designs to make equipment failure less likely, and simplification and integration of electric facilities.

### ■Prompt resumption of train operations after transport disruptions and minimization of the effects of disruptions to other sections

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 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 a disrupted section or operate on 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.



Rescue drill

## 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 at an early point when operations are suspended, and giving subsequent updates depending on the situation.

In addition, as tools for providing transport information, we have installed "service disruption information displays" which are installed at 304 stations as of the end of March 2018. We also provide information through various media, such as onboard liquid crystal displays and directly to passengers' cellphones.

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.



Information display during transport disruptions

### ■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, other companies, including private railway companies. In addition to the above services, we launched "JR-EAST Train Info," an English version of the JR EAST APP which is 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 APP



JR-EAST Train Info

## Providing services tailored to passengers' situations

### ■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 revisions to incorporate changes to improve our passenger service since then.

In March 2016, we replaced the former six important passenger service terms with "hospitality terms" to further determine the needs of each passenger.



Cover and contents example of Green Handbook



A poster of words for expressing hospitality

### ■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 campaign by asking not only our own employees but also employees of other group companies and even passengers using our services to greet others.

We are currently aiming to expand the campaign by working with other railway business operators and developing activities in collaboration with the Tokyo Chamber of Commerce and Industry.



"Assistance Campaign and Support" poster

### ■Acquisition of Service Assistance 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.

## Assistance Campaign and Support Initiative

Assistant Manager the Tokyo Station City Operation PT, Planning Office, General Affairs Division, Tokyo Branch Office

As part of the Tokyo Station City Operation Committee, I work with other employees of Group companies who are working at stations to create a comfortable environment in Tokyo Station. In 2015, the committee began an initiative to increase the number of personnel with Care-Fitter certification. To date, 64 people have obtained the certification and are using their new skills to assist passengers.

In addition, following on from the seminars and passenger awareness activities that we implemented as part of our Assistance and Support Enhancement Campaign last year, this year we held an Assistance and Support Seminar:

Understanding and Putting into Practice through Experience, which helped employees—including myself—to increase their level of knowledge.

Going forward, I will keep striving along with my colleagues to think of new mechanisms that enable us to provide passengers with support in a more confident manner and create an environment that ensures they feel comfortable every time they visit Tokyo Station.



Safety



Society



Environment



Realizing railway services that passengers can use confidently and comfortably

### ■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 2018 we had completed the installation of elevators in 544 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, on 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 free space in all railcars that can be used more safely by wheelchair users and baby stroller users, earling there was 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 railcars (E259 series and after) and new Shinkansen train railcars (E5 series and after).



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

### ■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 49 stations as of the end of March 2018.



Baby stroller sign

### ■Crime and terrorism countermeasures

In preparation for the Tokyo 2020 Olympic and Paralympic Games, improvement of railway security is a major issue of our Company to ensure that passengers feel safe and confident when using our services. As one of the measures, we are installing security cameras in key facilities, including stations (ticket gate areas, escalators, stairs, platforms, etc.) and onboard trains (in cars and deck areas). As for the trains, we expect that installation of security cameras will have been completed for all Shinkansen trains and conventional lines in the Tokyo metropolitan area, with the exception of certain railcars scheduled for retirement. Furthermore, we will endeavor to ensure a rapid response to any event through centralized management of information necessary for security, including footage of security cameras installed in railway facilities, and in close collaboration with police and other related parties. In addition, SOS buttons that passengers can use to alert train crews when they sense danger are installed in cars as a measure against violence on trains. We will also newly install protective items including shields on Shinkansen trains and providings more first aid kits. In addition, we are implementing scenario-based training with the help of the police and other parties to deal with suspicious individuals in order to improve response capabilities of train crews.

We are also implementing drills on such as measures against terrorists, explosive ordnance disposals, helping injured persons (triage, etc.) on an ongoing basis in cooperation with police, fire services, etc.

### ■Measures against Female Molestation

In addition to adding women-only cars during certain hours in various railway sections in the Tokyo metropolitan area, and with the aim of enabling female passengers to travel stress-free, we have been continuously installing SOS buttons on all railcars 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.

### ■Measures to reduce congestion in the morning commuter rush hours

For reducing congestion during the morning commuter rush hour, we have taken measures such as increasing train services and adopting railcars with widened passenger space. In conjunction with this, we are also working on measures aimed at dispersing passengers to different trains and promoting the shift of commuting to outside of peak hours. As congestion is a major cause of delayed trains during the morning commuter rush hour, we will continue seeking to reduce congestion by informing passengers about which trains become crowded in certain sections of

the line and which railcars tend to become especially congested, using posters at stations and the JR East app.

### ■Real-time visualization of the status of conventional railway lines

We have developed a system that visualizes overall train conditions, including congestion, by indicating data for each train pertaining to its location, delays and number of passengers and overlaying the data on the map of regional railway lines. It was introduced in April 2017. This would lead to achieving higher quality in transportation services, as passengers can plan more accurately by being as they will be able to consider the impact of congestion in trains and delays.

As an additional function for this system, we are currently researching the visualization of congestion conditions within stations.



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

### ■Improvement of onboard service

As part of improvement of onboard service, 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 new railcars for limited express trains and Shinkansen lines are showing newscasts as well as destinations and other transport information.

In addition, on Narita Express, Hitachi and Tokiwa trains, passengers can connect to the Internet using WiMAX and Wi-Fi. We have also launched free public wireless LAN services for passengers onboard the Shinkansen, and sequentially expanding target trains for the service. We will begin introducing the service on Super Azusa limited express trains on the Chuo Line in order to better meet the needs of overseas visitors to Japan on a continuing basis.

Furthermore, we are proceeding with the installation of power outlets on Shinkansen and conventional line limited express trains.



E235 series digital signage



Safety



Society



Environment

## ■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 changings 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 2018, we renovated the toilets in 22 more stations, as a way to increase passenger comfort and satisfaction.



Toilet in Hachioji Station

## ■System to respond to inquiries

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.

## ■System for handling lost property

JR East collects more than 2.2 million lost items annually, and the number is growing every year. With the aim of promptly returning lost property to the original owner, we are striving to facilitate

searching for and providing information about missing items by managing this information using a centralized, searchable database and setting up a dedicated lost and found customer support center.

## ■Development of rolling stock manufacturing business

In October 1994, the 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 Japan's first stainless steel railcar, joined our company. Furthermore, in April 2014, Japan Transport Engineering Company succeeded to the business of Niitsu Rolling Stock Plant.

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, Hokuriku Shinkansen E7-series, TRAIN SUITE SHIKI-SHIMA and other railcars.

Among those railcars, we have been focusing on the stainless-steel "sustina" cars which are the company's main product making the use of strength of stainless-steel. "Sustina" aims to reduce the manufacturing cost by mass production on a common platform (specifications of car body structure and equipment systems made common and consolidated) as well as reducing lifecycle costs by leveraging the JR East Group's expertise to lower maintenance costs.



"sustina" stainless-steel railcars

## 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 various other tools. Such passenger comments amount to approximately 400,000 cases annually and all of these comments are quickly shared and analyzed via a companywide basis database system, New Green Information System, and form the core of our improvements. We believe that each and every individual passenger comment contributes to the core of improved passenger satisfaction.

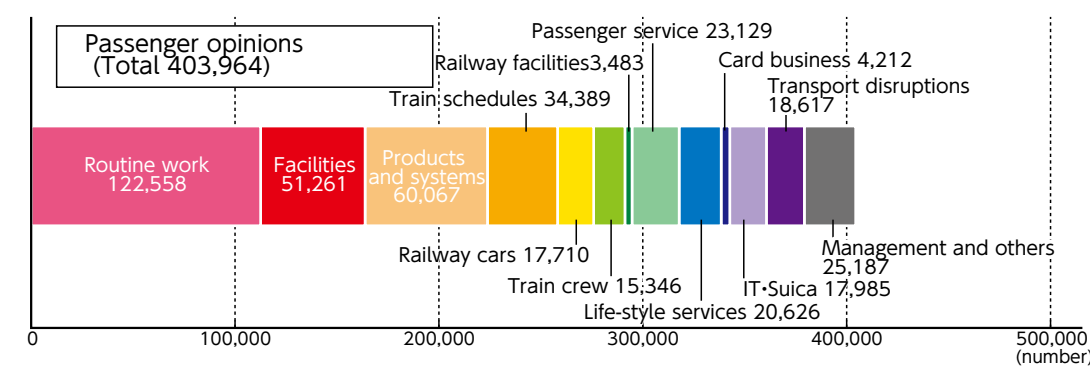
Passenger comments are considered at various levels within the company. While actions of improvement are taken as much as possible for the passenger comments received, if action is difficult to take at that level, then the comments are passed on to

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.

### [Case of improvement based on passenger comments]

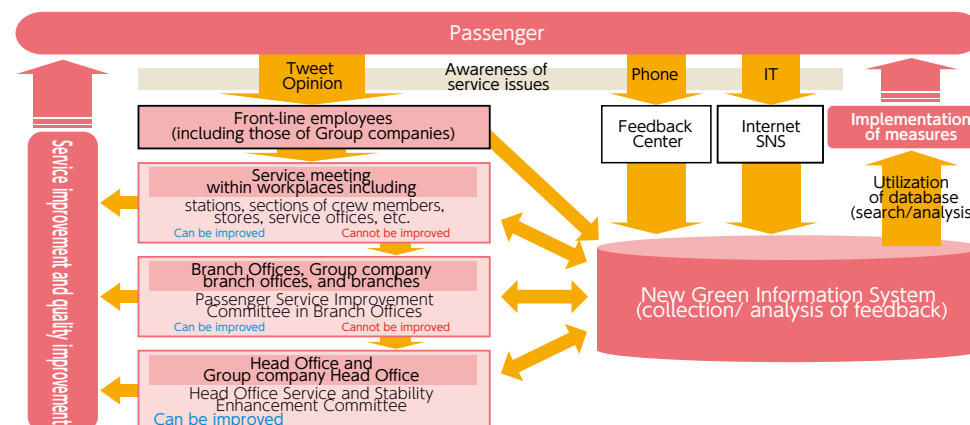


### [Itemized breakdown of the Passenger comments in FY2018]



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

### [Systematic improvements based on passenger comments]



## Developing Sustina and Expanding Sales Channels

Group Leader of Train Body Design Group, Technology Department, Technology Division, Japan Transport Engineering Company

Since developing and manufacturing the E235 series in 2015, the Japan Transport Engineering Company has provided a lineup of "sustina series" products that incorporate the essence of the E235 into the train body or equipment configuration.

We have now expanded our sales channels to include various public and private railway operators besides JR East, and in FY2018, we have sequentially delivered sustina cars for major public and private rail companies in the Tokyo metropolitan area, with mass production anticipated in the near future.

Going forward, we intend to further develop sustina cars using the new design method that incorporates a common platform concept and enables us to flexibly accommodate operators' different needs with regard to the number of doors, car length, and so forth, and we will strive to provide rolling stock that is both more comfortable for the passengers who ride it and highly cost-efficient from the perspective of the railway companies who introduced it.





## ■Utilization of various channels

In order to ascertain our passengers' needs, JR East considers it necessary not simply to receive feedback directly from 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.



JR EAST Official Facebook



JR East Official Twitter account



Projects for Improving Service Quality (Crew Members Version)



Poster of example cases of improvement at each workplace

Through the JR East Official Facebook page launched in May 2012 and JR East Official Twitter account launched in April 2015, we proactively provide information to the public, including details about various measures we have implemented and publicity campaign-related notifications, with the aim of engaging in two-way communication with passengers.

Furthermore, in 2013, we began Projects for Improving Service Quality, which provides information about initiatives, policies, and solutions designed to improve our service quality.

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.

## 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 as 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

### ■Suica as an IC ticket

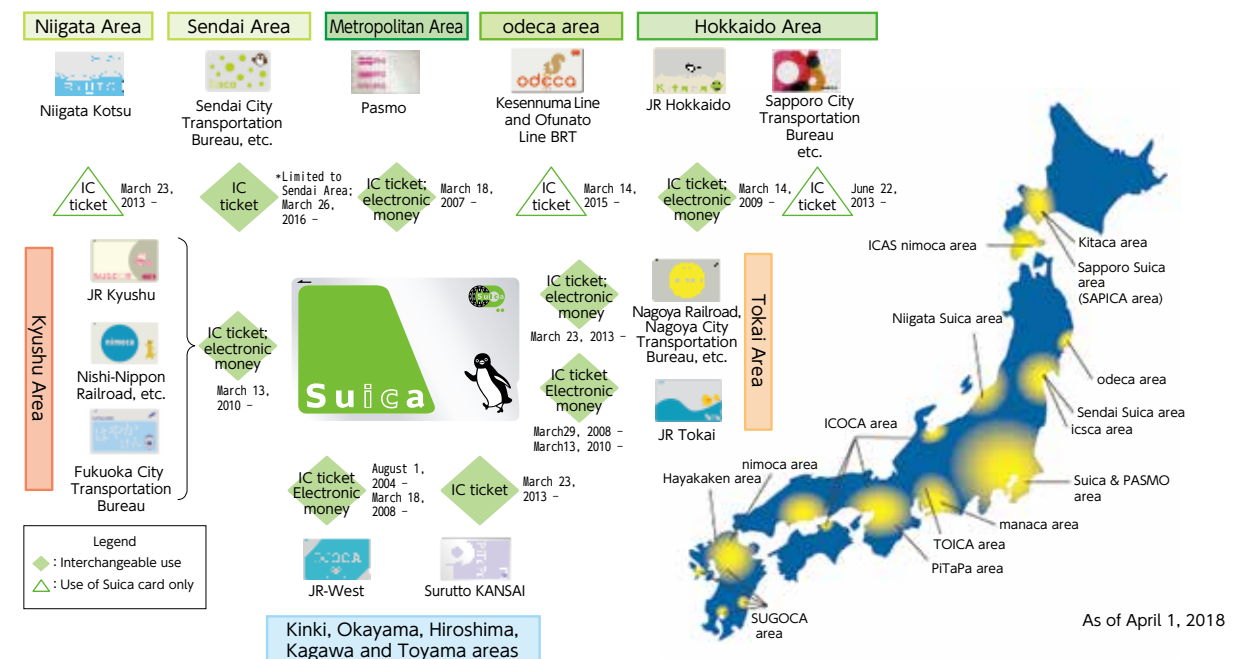
The Suica service was launched at 424 stations in the Tokyo metropolitan area in November 2001. In March 2013, ten public transportation IC cards used throughout the country, including Suica, were made interchangeable. Usage of Suica was expanded further in March 2016, when it was made interchangeable in the Sendai region with the "icsca" IC card issued by the Sendai City Transportation Bureau. A new service, Touch and Go Shinkansen, was launched in April 2018 that makes it possible to use Suica and other public transport IC cards

for certain standard non-reserved Shinkansen seats within the JR East network. This provides passengers with rapid, ticketless access to Shinkansen trains.

The number of stations where Suica can be used, including stations of railway companies accepting interchangeable use, is approximately 4,900 across the nation as of April 1, 2018.

**[Number of Suica cards issued]** Approx. 69.42 million  
**[Number of Mobile Suica users]** Approx. 5.54 million  
**[Number of uses in March 2018]** Approx. 172.88 million  
**[Number of uses per day (record-high)]** (recorded on August 3, 2018) Approx. 7.838 million  
**[Number of shops accepting Suica]** Approx. 476,300  
**[Number of locations accepting Suica (number of terminals)]** Approx. 894,990  
 (As of the end of March 2018 unless otherwise specified)

### [Interchangeable Use of IC Cards Area]



### ■Suica as Electronic Money

The electronic money service enabling Suica to be used for shopping was launched in March 2004. Thanks to the speed of the payment process and the convenience of not requiring small change, it has been adopted by many passengers, and 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. It may be used in major convenience stores, major supermarkets, restaurant chains, and drugstores. In 2017, Suica electronic money was introduced at large-scale chains such as McDonald's, Mos Burger, and Uniqlo.

We are also working on initiatives that will lead to enhanced passenger service, such as using information obtained from Suica and View cards to improve the convenience of our railway and life-style businesses.



Example of Suica for Apple Pay advertisement



Example of Suica for Google Pay advertisement



Mizuho Suica

### ■Mobile Device Usage/Information Usage

The Mobile Suica service was launched in January 2006, and with the subsequent launch of services such as Suica for Apple Pay in October 2016, Suica for Google Pay in May 2018 and Mizuho Suica in August 2018, the number of users is growing steadily.

## Improvement Activities Inspired by Passenger Comments

Nagano Station Staff, Nagano Branch Office



Through my work as gate attendant at Nagano Station, I sometimes receive comments from passengers on what they felt when they are using the station or trains.

In collaboration with other group companies, our station established the Nagano Station SQ Network aimed at improving service quality, and we seek to make improvements based on passenger comments by making use of the Projects for Improving Service Quality, etc.

As an example of a recent improvement, based on passenger comments indicating that they don't want to put their bags directly on the floor when making fare adjustments, we added a space for baggage at the fare adjustment counter. In addition,

to encourage more passengers to make use of enhanced services, we provided information by creating and displaying Posters for Improving Service Quality that introduce examples of improvements.

There's no more rewarding feeling than receiving praise from passengers regarding the improvement activities that we have carried out.

Going forward, we will continue to prioritize passenger comments to ensure that passengers can use our services comfortably and take the lead in working on improvement activities.



## ■JRE POINT / JRE CARD

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 centering on station building points.

Suica points were integrated in December 2017, followed by View-thanks points in June 2018, and it is now possible to collect points from purchases made with View card credit as well as purchases at station buildings and stores within stations. Furthermore, in July 2018, we issued the new JRE CARD credit card, making shopping at JRE MALL and premium member stores more convenient and making it easier than ever to collect points.



## ■JRE MALL

JRE MALL is a shopping website whose purpose is to create closer connections with passengers centering on our JR East Group-wide point program, JRE POINT.

This site offers a selection of merchandise including railway-related goods, regional specialty products, and goods featuring the Suica penguin. Users can either buy these with JRE POINTs or earn points on purchases they make.

It is also possible to make advance purchases at eCute stores and the like online, then pick them up in person. We intend to further promote an omnichannel approach across the Group.

<https://www.jreastmall.com>

Product Category	Key Products
Railway-related products	Railway goods, items used in railways, etc.
Regional specialty products/souvenirs	Famous sweets and local specialties from various regions, Tokyo souvenirs, etc.
Other	Suica penguin goods

## Service improvement for foreign visitors

We have been actively working on measures such as proposing attractive products and carrying out promotional activities in collaboration with local communities with the aim of expanding demand from overseas visitors to Japan, whose numbers are rapidly growing in recent years, and vitalizing communities by transporting passengers to regional areas. Furthermore, we are working to reinforce our capability to accept overseas visitors so that they can use the railway network safely and comfortably.

### ○Improved environment where foreign visitors can purchase products free of worry

We have established JR EAST Travel Service Centers at locations which are frequently used by passengers from overseas, including Narita International Airport Terminal 1 and Terminal 2 buildings, Haneda Airport International Terminal Station on the Tokyo Monorail Line, and major terminals such as Tokyo Station and Shinjuku Station. Following the opening of new locations at Shibuya Station in December 2017, Ueno Station in February 2018 and Hamamatsucho Station in July, we are aiming to further reinforce the system. 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

JR EAST Travel Service Center at Sendai Station

### ○Products that Appeal to Overseas Visitors

In order to encourage overseas visitors to take enjoyable trips using railways, we offer convenient, reasonable products that they can choose from according to their travel plans. In January 2018, we introduced the JR Tohoku-South Hokkaido Rail Pass, which may be used for unlimited travel at a reasonable price within both the South Hokkaido and Tohoku areas, enabling passengers to travel around a wide area.

Going forward, we will continue working in close collaboration with local communities to promote sightseeing routes covering a wide area so that more overseas visitors can enjoy their travels.

## [ Key Products ]

JR EAST PASS	Pass providing unlimited travel within the applicable area (two products available: Tohoku area, Nagano/Niigata area)
JR TOKYO Wide Pass	Pass providing unlimited travel within the Kanto area
N'EX TOKYO Round Trip Ticket	Ticket providing access to the Tokyo area from Narita Airport
JR East-South Hokkaido Rail Pass	Pass providing traveling on the Hokkaido Shinkansen
Tokyo-Osaka Hokuriku Arch Pass	Pass providing traveling on the Hokuriku Shinkansen

### ○Seat reservation system allowing reservations from overseas

We offer "JR-EAST Train Reservation," which is a seat reservation website 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, 2018, we have installed free public wireless LAN service at 91 stations (mainly on the Yamanote Line, which is used by many overseas visitors), at JR EAST Travel Service Centers, and on board Narita Express trains.

Starting in FY2019, we are planning to steadily expand provision of the service on Tohoku, Joetsu, Hokuriku, Yamagata, and Akita Shinkansen trains as well as Chuo Line E353-series limited express trains.

(This service is provided in four languages: English, Chinese, Korean and Japanese.)



JR-EAST FREE Wi-Fi

### ○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.

### ○Establishment of currency exchange centers/ dedicated cash machines for foreign-issued cards

To enhance the convenience of station buildings for overseas visitors to Japan, in February 2015, we established currency exchange centers in Shinagawa Station and elsewhere. Such centers are currently operating in seven locations. In September 2016, we also introduced dedicated cash machines for foreign-issued cards at Shinjuku Station and other locations. Ten of these machines are currently operational.



Currency exchange center/ dedicated cash machine for foreign-issued cards (Ikebukuro Station)

## Technical renovation

As stated in our Medium- to Long-term Vision for Technical Renovation established in November 2016, we will leverage IoT, big data, AI, and other technologies to thoroughly review the services provided by the JR East Group from the viewpoint of passengers, with the aim of going beyond conventional thinking to achieve a "mobility revolution."

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.



"Mobility Revolution" by the four fields

\*Industrial cooperation among corporations to promote innovations



Safety



Society

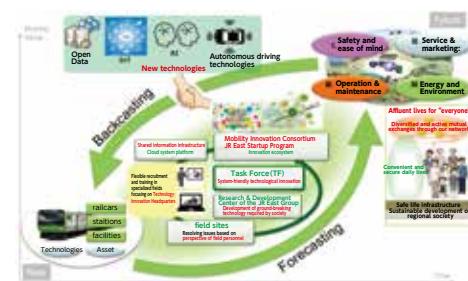


Environment



## ■Establishing task forces to promote the Medium- to Long-term Vision for Technical Renovation

We have established task forces to strongly promote the Medium- to Long-term Vision for Technical Renovation in order to carry out missions by formulating road maps and developing internal and external promotion systems while clarifying achievement targets for in-house cross-organizational measures. To date, we have established seven task forces and we will achieve innovation in the railway operation business by actively incorporating new technologies into our society, such as AI, IoT, and big data, while aiming to provide new value for passengers and enhance the safety and stability of transportation services.



Establishment of task forces to promote the Medium- to Long-term Vision

The details of the seven task forces are: (1) smart maintenance (collect and analyze huge amounts of data concerning the status of facilities and consider optimum timing and methods of maintenance [please see page 61]), (2) driverless operation (expansion of one-man train operation and consider matters related to the introduction of automation technology for driving and controlling trains), (3) next-generation Shinkansen (production of test trains for realizing next-generation Shinkansen and implementation of test drives [please see page 13]), (4) measures against natural disasters (predict natural disasters by using screen sensors and other technologies as well as prediction technology and consider introduction of finely detailed operational restrictions [please see page 32]), (5) operation control using AI (consider automated train operation control using AI, etc. and introduction of flexible transportation planning methods that meet passengers' demands), (6) next-generation ticketing (consider matters related to achieving seamless ways to board trains without standing in line at the station counter or vending machines) and (7) JRE-BIM (Building Information Modeling; consider introduction of construction and production systems that utilize AI and IoT). We will set up new task forces as needed.

**Task force (driverless operation)**  
Build an advanced monitoring system against intruders from areas around tracks and obstacles on tracks by using high-speed and highly accurate image-recognition technology, camera sensing technology that goes beyond far places and other technologies, and consider ways to achieve driverless operation.



## Task force (next-generation ticketing)

Consider mechanisms that enable stress-free train riding with one IC or other media by making ticketing unnecessary for riding Shinkansen and conventional lines with the utilization of "e-ticket."

## ■Launch of Mobility Revolution Consortium

In September 2017, we launched the Mobility Revolution Consortium as a venue for creating and strengthening "links" between our Group companies, external companies, universities, research institutions, etc. and driving innovation in the field of public transportation. There were 111 members as of April 2018.

The purpose of this Consortium is to work on resolving social issues that are challenging for a single company to tackle alone by collaborating and combining the respective strengths of various transportation operators (including JR East), domestic and international manufacturers, universities, research institutions, and other stakeholders with the aim of developing an innovation ecosystem.

[Image of Mobility Revolution Consortium's Structure]

## General Meeting

## Steering Committee/Secretariat

**Door to Door Promotion Working Group**  
Enabling seamless transport from starting point to destination

**Smart City Working Group**  
Considering the ideal form of next-generation cities and the role of public transportation in supporting them

**Robot Application Working Group**  
Application of robot technology in public transportation

Note: Various subjects relating to next-generation public transportation are considered

Ideathon<sup>1</sup> / Hackathon<sup>2</sup> / study sessions

<sup>1</sup>Neologism formed from "idea" and "marathon." An ideathon is an event where ideas for resolving a specific issue are intensively brainstormed and collected during a set period of time.

<sup>2</sup>Neologism formed from "hack" and "marathon." A hackathon is an event where programs and apps for resolving a specific issue are intensively developed during a set period of time.

## ■Research and development of service robots

For the purpose of supporting passengers who are not accustomed to railways and passengers with physical disabilities as well as performing tasks for which labor shortages are becoming an issue (cleaning, security, baggage transportation, etc.), we are considering expanding the usage of service robots in station premises to expand. Accordingly, we are pursuing research and development of a cloud system that will monitor station conditions (congestion, etc.) in real time and autonomous mobile robots that can operate in pedestrian areas via a link to this system.

In addition, in order to accelerate the development and introduction of service robots, we established JRE Robotics Station, a limited liability partnership (LLP) centering on the JR East Group, in July 2017. In FY2019, it is identifying needs and issues, recruiting technical and development partners, and beginning to consider the introduction of robots to handle tasks such as providing information (including information for overseas visitors) and assisting the transfer of passengers.



Information robot (an image)



Transfer-assisting robot (under joint development)

## ■Realization of smart maintenance

By loading devices for monitoring not only equipment on railcars but also tracks and power facilities from trains while they are running, at normal operating speed it becomes possible to observe 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. At present, we have established a method for data analysis and evaluation and introduced it in railway sections

in the Tokyo metropolitan area including the Keihin Tohoku Line, Chuo Line and Yamanote Line. We will continue to introduce it in a sequential manner.

[ Examples of CBM ]

**Railcar** — Currently, the condition of major equipment is being monitored from both devices on board and devices on the ground, and we plan to utilize the system for detecting 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).

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

\*CBM: Condition Based Maintenance



## TICKET TO TOMORROW Contributing to Railway Service Improvement with CBM

Senior Staff, Track Facility Monitoring Center,  
Japan Railway Track Technology Consultants Co., Ltd.

My workplace is involved in tasks ranging from management and operation of track facility monitoring to processing and analyzing data.

I am involved in processing and analyzing data, and there is an extremely large volume of data, since we perform measurement using equipment installed on railcars in actual operation. Even when limited to the Yamanote Line, data for twenty times the 34.5-km circuit of the Yamanote Line, which is equivalent to the distance between Tokyo and Okayama are processed every day. I am looking for ways of processing and analyzing this huge quantity of information so that it can be used to optimize track maintenance.

Going forward, as a member of the JR East Group, I will continue working to support optimal track maintenance using CBM and contribute to the development of tracks that passengers can use more comfortably and confidently.



## TICKET TO TOMORROW The Infinite Possibilities of Monitoring Data

Assistant Manager, Track Maintenance Section, Facilities Division,  
Niigata Branch Office

Until June 2018, I was assigned to the Japan Railway Track Technology Consultants Co., Ltd.'s Track Facility Monitoring Center, where I provided integrated management of a series of tasks, ranging from processing of track facility monitoring data to equipment inspection.

At the Center, I worked on establishing monitoring data processing and analysis from the outset, but I have now returned to my position at JR East, where I am engaged every day in track maintenance and management on the side of those who use the processed and analyzed data.

I believe that monitoring, which enables information on the status of facilities to be obtained very frequently, has infinite applications in fields other than track maintenance. By actively developing the knowledge and expertise acquired at the Center, we will continue promoting the practical application of data using CBM to not only achieve optimal track maintenance but also to Plan actual tasks that contribute to further improve passenger services.



Safety



Society



Environment



## Topics Promoting Open Innovation : Collaborating with Venture Companies

In order to swiftly create new businesses and services as passengers' needs and the management environment change rapidly, JR East requires expertise in unknown technologies and business fields where we lack experience. Therefore, in addition to leveraging our internal resources, we are also collaborating with venture companies, universities, and other research organizations and will be proactively adopting their technologies and expertise. As part of these efforts, in February 2018, we established JR East Startup Co., Ltd. for the purpose of speeding up the promotion of open innovation. By creating new businesses and services through the provision of funding for venture companies and promotion of collaboration, we will contribute to further vitalize local communities and improve the standard of living.

### ■JR East Startup Program

In FY2018, we launched the JR East Startup Program to solicit, refine, and implement proposals for businesses and services making use of stations,

railways, and the Group businesses's management and information resources from venture companies and individuals with various ideas. In FY2018, the program received 237 proposals, from which 19 were selected for development. Of these, 11 have been implemented on a trial basis, including an unstaffed store at Omiya Station and baggage check service at Tokyo Station. Collaboration with a view to commercialization is currently under way for several other proposals. For the second edition of the program in FY2019, there will be expanding themes to include new areas such as partnerships with communities (local governments, etc.) and collaboration with foreign venture companies.



JR East Startup Program logo



Unstaffed store at Omiya Station



Baggage check service at Tokyo Station

## ■Creation of new stations to develop the 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 2018, we opened a new station, Ashikaga Flower Park Station, on the Ryomo Line.



Ashikaga Flower Park Station, Ryomo Line



## Opening New Station in Collaboration with the Local Community

Ashikaga Station Staff, Takasaki Branch Office

On April 1, 2018, Ashikaga Flower Park Station opened on the Ryomo Line. With the cherry blossoms in full bloom, the opening ceremony, attended by around 800 people, was a magnificent occasion.

The station is located next to Ashikaga Flower Park, which is famous for its wisteria arbors. Normally, the station is unstaffed, but during the Great Wisteria Festival in Golden Week, which is the best time for viewing the wisteria, it was used by a large number of passengers, so staff from the Takasaki Branch Office, including personnel from Ashikaga Station, were present to assist passengers.

Ashikaga Flower Park is very popular even among passengers from other countries as well, so in addition to providing information using multilingual signs created by Ashikaga Station employees, I tried to make P.A. announcements in English and Chinese that would be easy for visitors to understand. Going forward, I will strive to provide information that enables passengers to use our facilities confidently and contribute to vitalize local communities.



## Relationship with Society

### Strengthening Collaboration with Communities

The very existence of the JR East Group depends on the health of the communities 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. We are actively implementing 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 railway stations.

### ■Development of large-scale terminal station

In the Shinagawa area, we are 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 their interactions, and the 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 part of the Tokyo

Toyoko Line to underground tracks as the turning point, we are proceeding with renewal and reorganization of the functions 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 further urban redevelopment, we are proceeding with reconstruction of West Entrance Building under theme of enhancing attractiveness of the station and town, strengthening disaster-prevention strength, addressing environmental issues, reinforcing it as a place for pedestrians, etc., in cooperation with the local government.



Shibuya Station development



(provisional name) Development of Yokohama Station West Entrance Building

## Topics

## Opening of Tokyo Station Marunouchi Station Square

JR East has been working with the Tokyo Metropolitan Government to develop an urban space in the district around Tokyo Station commensurate with its status as the gateway to the capital city of Tokyo. Following the completion in October 2012 of preservation and restoration work at the Tokyo Station Marunouchi Building (designated as an important cultural property) development of the plaza in front of the Marunouchi exit was completed in December 2017, marking the end of work on the Marunouchi side covering a period of around 10 years.

Tokyo Station is a landmark building that is a terminal used by the Emperor and Empress of Japan and other VIPs, while also being the starting point for some of Japan's main railway lines. The recently completed

work has created a new, upscale, bustling urban landscape befitting the gateway to the capital city of Tokyo that is integrated with the surrounding district, including Gyoko-dori Street.

To celebrate the work's completion and express our gratitude to the many people involved, we held a ceremony to commemorate the completion of Tokyo Station Marunouchi Station Square on December 7, 2017, and the public was able to use the entire space beginning on that date. At this ceremony marking the start of a new chapter in the station's history, we were honored by the presence of the Emperor and Empress, and guests, including Prime Minister Shinzo Abe.



2012: South Dome following restoration



2012: Station building following preservation and restoration



2017: View from hotel



2017: Following completion of Station Square



Safety



Society



Environment