

# Safety

## Priority commitment goals



## Related goals



## 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 improving tangible countermeasures and also to ensure that each one of its employees takes all possible intangible measures. Our quest to ensure safety is never over. The JR East Group will continue to work together to take on the constant challenge of improving safety.

## General principles of safety

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

- I. Safety is the most important mission in transportation.
- II. Ensuring safety is based on exact observance of rules and procedures, and is achieved through constant practice.
- III. Enforcement of confirmation and complete contact is most important for ensuring safety.
- IV. For ensuring safety, we should cooperate together and go beyond our official responsibility.
- V. 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.

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## Group Safety Plan 2023

Since our establishment, JR East has been implementing a series of 5-year safety plans. In November 2018, we formulated Group Safety Plan 2023, which is our 7th safety plan. Together with JR East Group companies, partner companies, and affiliated companies, JR East as a whole group will aim for "Ultimate Safety Levels" starting with the "Safety Actions" of each person.

JR East "Group Safety Plan 2023" consists of two building blocks: "Evolution" and "Move Up", which are based on 3 Pillars: 1 Evolution and moving up of each person's "safety actions", 2 Evolution and moving up of "safety management", and 3 Maintenance of safety equipment by actively utilizing new technologies.

In consideration of rapid environmental changes both within and outside the Group, we will take specific measures to properly respond to these changes.

## Further evolution of our safety culture

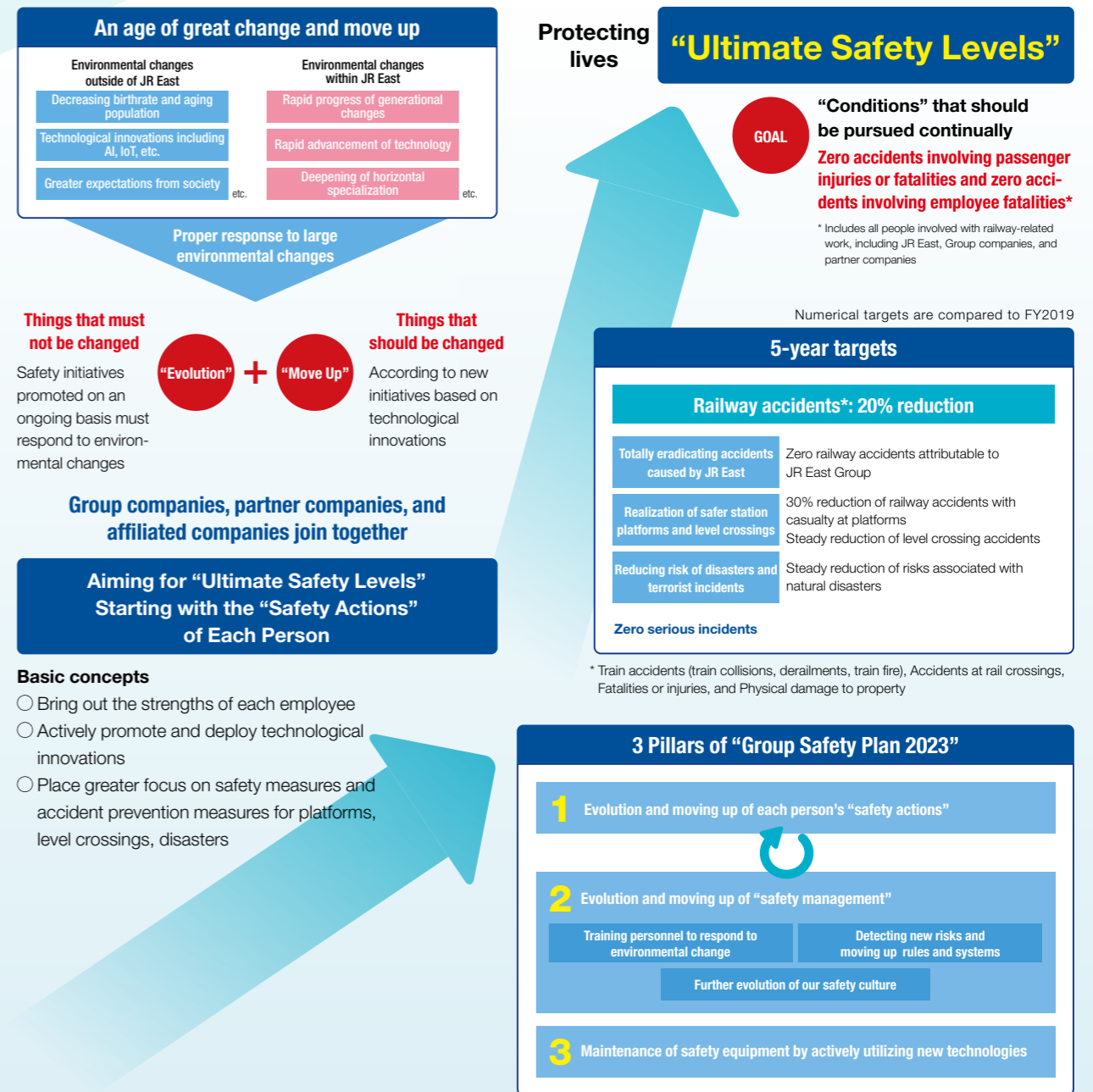
The safety culture, which JR East Group has continually placed great value on, including the "5 Cultures," the "CS (Challenge Safety) Activity," and the "Three Actualities Principle," is the foundation of various safety initiatives.

### Stop the train if we feel something is dangerous

Safe and stable transport is important for our railways. Safety means protecting lives, while stability means ensuring the on-time operation of our trains. However, although 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 firm code of conduct to "Stop the train if we feel something is dangerous."

## Overview of "Group Safety Plan 2023"



For more information, please see: [https://www.jreast.co.jp/e/data/pdf/group\\_safety\\_plan.pdf](https://www.jreast.co.jp/e/data/pdf/group_safety_plan.pdf)

## Further ingraining the 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 confrontation and debate** 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 that 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.

Our Fundamental Concept of Safety

**CS (Challenge Safety) Activity**

We encourage all employees to be autonomous (take the initiative) in taking charge of safety, and we promote initiatives to share in safety-related deliberation in the workplace.

Through our CS Activity, we aim to change our emphasis from “reactive safety” to “proactive safety”, such that each employee thinks about safety and acts autonomously. We cultivate a culture of ongoing efforts to enhance safety, where individual employees are aware of safety, and where field sites, branch offices and the head office, are united in the process of discussing safety and formulating safety measures.

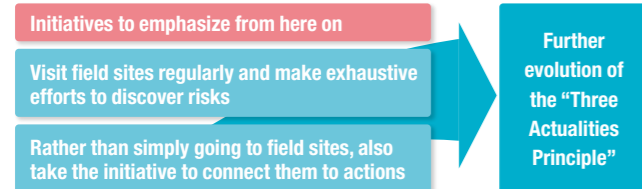
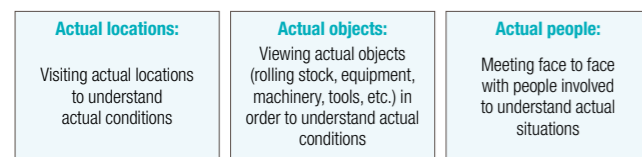
To share information useful to these activities, we periodically publish a safety newsletter, “Challenge Safety Aoshingo.”

**The “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*.

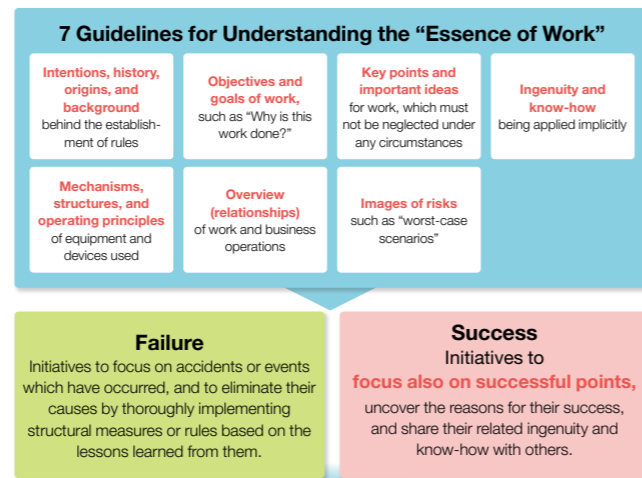
JR East Group continues to search for answers which cannot be found on paper, using on the “Three Actualities Principle” as its standard for action: actual locations, actual objects, and actual people.

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



**Facilitate understanding of the “Essence of Work”**

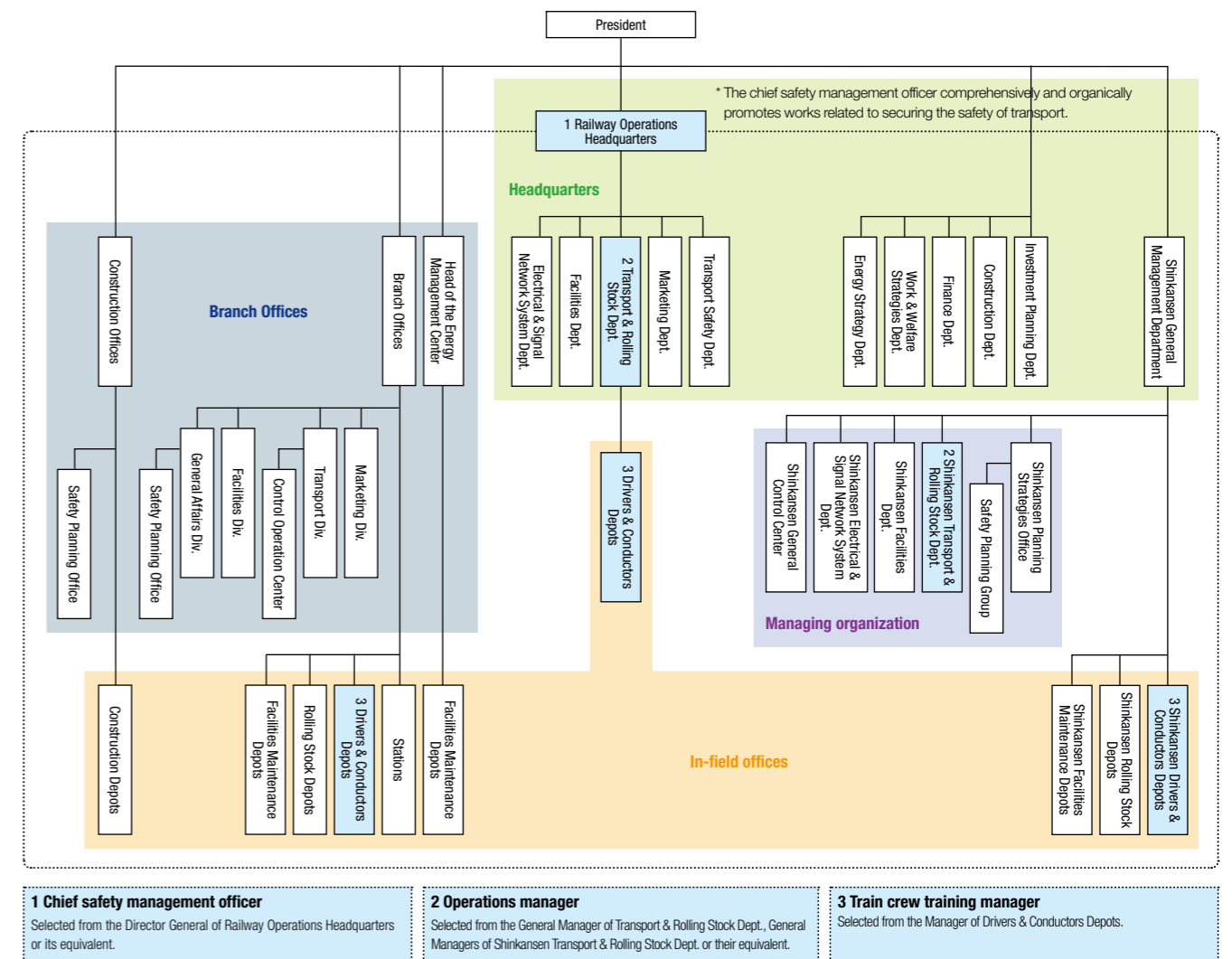
To properly respond to large environmental changes, rather than merely learning the procedures and methods of work, we must be conscious of the “7 Guidelines” which include the purposes of work, the origins of rules, and the operating principles of equipment, to deepen our understanding of the “Essence of Work.”



Complementary effects of both sides  
**Promote initiatives to not only learn from failures, but also focus on successful points**

JR East’s Safety Management Organization

Management structure for transport 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 October 2006. These stipulate various safety management-related matters such as the responsibilities of top management executives in ensuring the safety of operations and on organizational matters and the selection of chief safety management officers, operation managers, and train crew training managers. To ensure transportation safety, we have built a system to promote operations centered on safety management officers and involving executives responsible for safety through to front-line staff.

In April 2019, we established the Shinkansen General Management Department to integrate and specialize in managing Shinkansen-related operations.

**Structures to Promote Safety Measures**

In 1987, we established the Railway Safety Promotion Committee, chaired by the director general of The Railway Operations Headquarters, at Head Office. This committee aims to enhance railway safety and prevent accidents by elucidating the causes of major accidents, formulating measures to prevent recurrence, and determining and promoting measures for safety-related equipment and rolling stock.

We also have Regional Safety Promotion Committees, which are chaired by the heads of the Shinkansen General Management Department, branch offices, and construction offices. These committees enhance railway safety at branch offices and seek to prevent accidents. They also liaise with the Railway Safety Promotion Committee to conduct specific measures.

**Rules for reporting accidents and incidents**

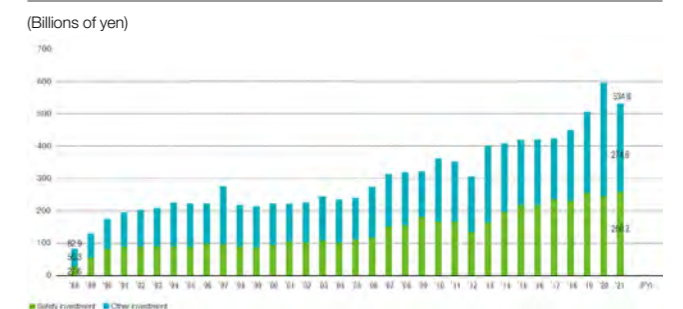
We endeavor to accurately understand accidents and incidents, analyze their causes, and implement measures to prevent them from occurring and recurring. To this end, we work to further enhance safety through accident reporting and by establishing rules pertaining to classes of accidents.



**Investment in safety facilities**

JR East has invested more than ¥4.7 trillion in safety since its establishment. In its Group Safety Plan 2023, JR East plans to invest approximately ¥1.2 trillion in safety measures during the five years from fiscal 2020 to fiscal 2024. We will continue to focus on putting safety facilities in place. At the same time, we will more actively embrace new technologies and respond to new risks.

**Trends in safety investment**



## Efforts to Further Improve Safety Levels

### 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 through on-the-job training in each workplace.

The JR East General Education Center offers group training for personnel development and the improvement of knowledge and skills, fostering the development of new train crews and also providing the necessary training for job transfers.



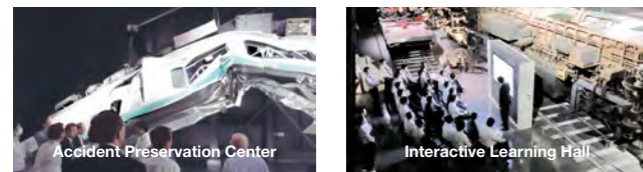
JR East General Education Center



Practical drills on training tracks

#### Accident History Exhibition Hall

In November 2002, we established the Accident History Exhibition Hall within the JR East General Education Center. This facility provides opportunities for all employees to learn about and reflect on the tragedies of past accidents and the major social responsibility railways bear. In October 2018, we expanded the Accident History Exhibition Hall and placed on exhibit the rolling stock involved in a 2014 accident involving a derailed Keihin-Tohoku Line train at Kawasaki Station, as well as a road-rail vehicle. We also opened the Interactive Learning Hall to encourage consideration from various perspectives of the train derailment accidents.



Accident History Exhibition Hall

#### Promoting the use of educational and training facilities

As one aspect of its efforts toward training personnel to respond to environmental change, JR East is promoting the establishment of educational and training facilities that facilitate an understanding of the “essence of work.”

By the end of fiscal 2020, we had installed crew training simulators at all transportation-related workplaces. We also opened the Shinkansen Education and Training Center with the aim of teaching staff about the specific rules and mechanisms of the Shinkansen through the use of related equipment.

In addition, at each branch office we have educational facilities for learning about major incidents and accidents that occurred within that branch office’s jurisdiction, looking at preceding events and countermeasures. We are promoting better safety awareness among all employees of JR East, Group companies, and partner companies to achieve “ultimate safety levels”.



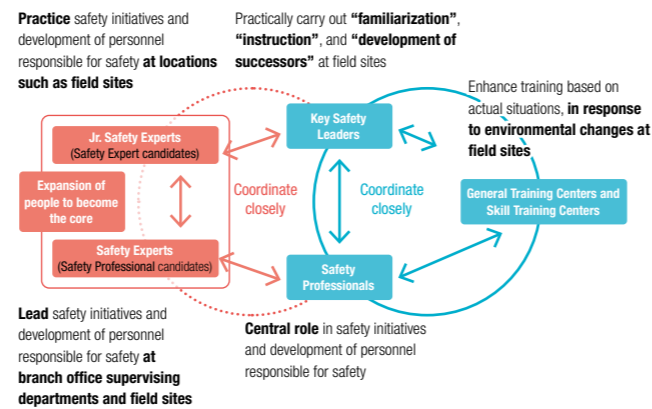
Crew member simulator bringing the training experience to life using actual video



Takasaki Branch Office, Safety Learning Center—Kokku Benrei Sha

#### Development of personnel responsible for safety

We are responding to the rapid transition to the next generation of employees by moving forward on a variety of initiatives that emphasizes cultivating employees that put safety at the core.



#### Safety Storytellers (Narrators of Oral History)

To educate employees who can share and pass on safety-related knowledge, leadership, and technological capabilities within the Company, we have appointed highly experienced and technologically capable personnel in various specialized fields as Safety Storytellers (Narrators of Oral History).



Safety Storyteller swearing-in ceremony

#### The Railway Safety Symposium

To further enhance rail safety, each year we hold the Railway Safety Symposium. We strive to gain knowledge through discussion among local experts and share examples of good practice at workplaces.



Railway Safety Symposium

### Safety Activities at JR East and Group companies

The division of work continues between JR East and Group companies. In order to improve safety, however, we must have the same sense of values. We built JES-Net (JR East Safety Network), and 39 companies have now joined it. JES-Net carries out checks that safety works have been carried out correctly, facilitates the exchange of opinions, and works to solve problems and improve safety levels across JES-Net.



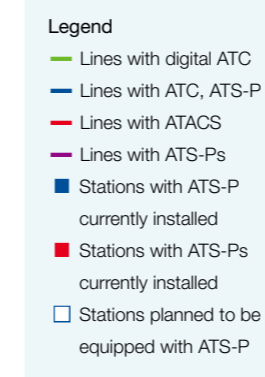
Confirmation of the work by JES-Net

### Safety measures for train operation and maintenance work

#### Measures to prevent train collisions

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 throughout its railway network.



(As of the end of March 2021)



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

	Areas for planned installation	Installation status as of the end of FY2021
ATS-P system	Mainly for railway sections with frequent train operations in the Tokyo metropolitan area	Completed installation in 16 major stations and railway sections for 2,484.7 km (service km)
ATS-Ps system	Provincial city areas and major railway sections excluding the Tokyo metropolitan area	Completed installation in 71 major stations and railway sections for 210.8 km

### Safety Initiative: JR Morioka Railway Service Co., Ltd

At another workplace, a problem occurred when, due to an oversight, a filth extraction hose was not put away before a train began to move. Realizing that this problem could happen in our workplace too, we developed a device that uses sound and light to alert personnel if a hose has not been put away correctly. The device is solar powered, and was developed in collaboration with a number of employees.



The filth extraction hose connecting with the train and the device we developed

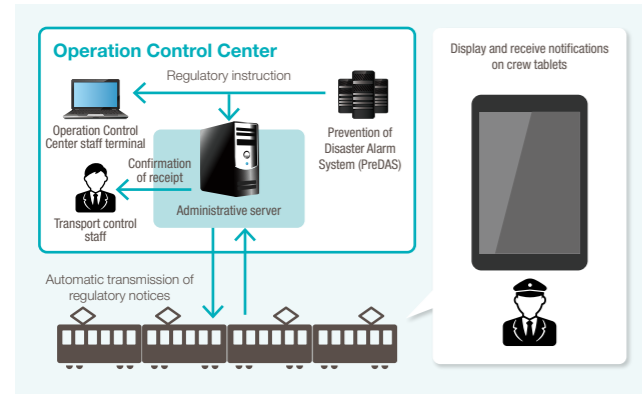
JR Morioka Railway Service Co., Ltd. Hachinohe Office

Efforts to Further Improve Safety Levels

**Driving restriction notification system**

If observed values exceed specified limits at times of heavy rain or strong winds, train speeds are restricted to ensure safety. In the past, the dispatcher transmitted the restrictions to the driver by wireless, but in September 2019, we introduced an automated notification system, thereby helping prevent human error.

**Image diagram**

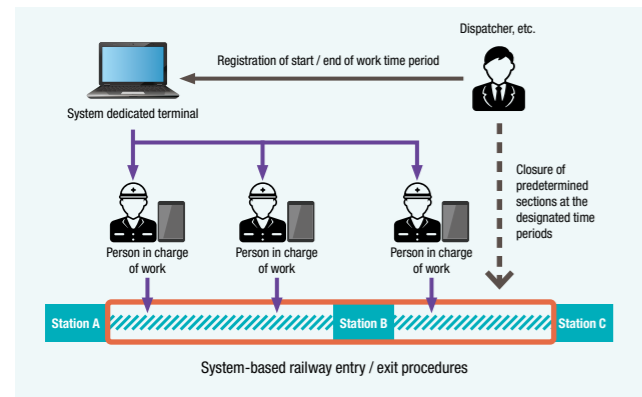


**Improving the safety of maintenance work**

During track maintenance work, we ensure the safety of workers by using a track closure procedure, which prevents trains from entering the area during the work.

This involves meetings between the person in charge of the works and the person in charge of managing train operations. Recognizing the possibility of human error in communication between people, from December 2020 we introduced a system that closes the track in advance in a predetermined section for a particular period of time. Staff working on the track enter and leave using the system. This eliminates the need for meetings on the day of work, reduces human error during communications, and eliminates complicated procedures to improve safety.

**Image diagram**



**Shinkansen safety measures**

In April 2019, we established the Shinkansen General Management Department as a new department for the centralized and dedicated control of Shinkansen-related measures. Through this department, we aim to strengthen our response to and management of unknown risks, training of Shinkansen specialists, maintenance and enhancement of unique technologies, and rapid decision-making.

In terms of Shinkansen-related safety measures, we are steadily implementing seismic retrofitting of viaduct columns and piers, and installing equipment to prevent rails from overturning. We have installed a trolley snow melting system at Okama Station on the Tazawako Line to reduce the amount of snow brought in on high-speed sections of the Komachi service. We have also built a full-scale simulator facility in preparation for large-scale renovation of the Shinkansen. In the future, we will promote technological progress in areas such as the development of repair materials and the mechanization of work.

Furthermore, we are conducting various types of test runs using the ALFA-X test railcar, which is under development with a view to realizing the next-generation Shinkansen.



Full-scale training simulator



The ALFA-X, a type E956 Shinkansen test railcar

**Introduction of Shinkansen operating regulations in response to abnormal weather**

Our Shinkansen network has a structure that is relatively resistant to rainfall, with a high proportion of bridges, viaducts and tunnels. However, in response to the unusually heavy rainfall observed in recent years, in order to ensure safe transportation, we have introduced new rules that require the Shinkansen to stop temporarily when it is raining heavily, until confirmation is received that it is safe to continue. With this system, instead of installing additional rain gauges along the railway tracks, we have adopted "analytical rainfall", which is calculated by correcting the observed data from weather radar owned by the Japan Meteorological Agency (JMA) and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) with rain gauge data from all over Japan. The amount of rainfall in 1 km-square areas along the railway line can be confirmed precisely, making it possible to identify the places where it is raining heavily.

Sections to inspect can be defined in detail, which we expect to reduce the time required for inspections. We will continue to review these rules while monitoring the status of rainfall and equipment.



Shinkansen General Management Department

**Preparedness against natural disaster**

**Our measures against earthquakes**

**Seismic reinforcement measures**  
Since 1993, we have been enacting measures to prevent bridge collapses and to seismically reinforce elevated railway track pillars and bridge piers. Since fiscal 2013, following the Great East Japan Earthquake, we have proceeded with measures on sections identified as high priority. Based on knowledge gained from leading-edge earthquake research, in fiscal 2018 we expanded the countermeasure area and began new reinforcement measures targeting Shinkansen girder seams. The Fukushima Prefecture Offshore earthquake on February 13, 2021, caused damage to utility poles in particular, and we have been working to review countermeasure priorities and improve reinforcement methods. In addition, we are implementing new measures for facilities that would severely impact transportation in the event of a disaster.



Seismic reinforcement of elevated railway tracks



Structural reinforcement of utility poles

**Emergency train stopping measures**

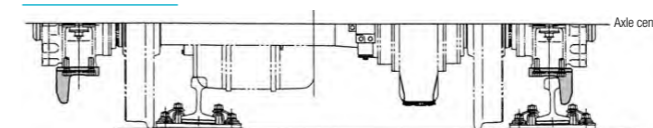
We are constructing systems to ensure that high-speed trains can stop as quickly as possible in the event of an earthquake. For the Shinkansen, we have installed seismographs along our railway lines, in coastal areas and inland, to provide early warnings of even minor movements. In addition, we employ earthquake early warnings from the Japan Meteorological Agency and underwater seismograph information from the National Research Institute for Earth Science and Disaster Resilience in our Shinkansen early-stage earthquake warning system.

Using the seismic information provided by this Shinkansen system, we have also installed an early earthquake warning system on conventional lines to provide emergency stop notification if large-scale earthquakes are observed.

**Measures to prevent derailment on Shinkansen lines**

We have measures in place to prevent Shinkansen trains from departing from their path of travel even in the event of derailment due to an earthquake.

**L-shaped car guide**



L-shaped car guide



L-shaped car guide

**Preventing breaks at glued insulated joints**



**Rail rollover prevention devices**



**General emergency drills**

Every year, we conduct a comprehensive disaster-preparedness drill, assuming an earthquake has struck. These drills are timed around disaster prevention week, which includes September 1. Training includes countermeasure headquarters operational drills, rescue/lifesaving training, and training on evacuation guidance. We conduct such training in cooperation with local government agencies.



Drills to operate an on-site disaster countermeasure headquarters



Drill to rescue passengers with firefighters

**Preparing rescue kits and first aid kits**

In the case of an earthquake with an epicenter directly beneath the Tokyo metropolitan area, many passengers could be injured and we might need to save the lives of passengers with the help of a limited number of our employees. For a major earthquake, JR East has prepared first aid kits and is also conducting drills to give personnel the necessary first aid skills.



JR East Japan rescue/lifesaving course



Rescue kits

**Measures against tsunami**

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 alight from 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



Drill to guide passengers to alight from a train for evacuation

Efforts to Further Improve Safety Levels

**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**  
Learning from the tsunami evacuation at the time of the Great East Japan Earthquake, we have developed and introduced tools to help crew on operating trains to guide passenger evacuations in unfamiliar locations.

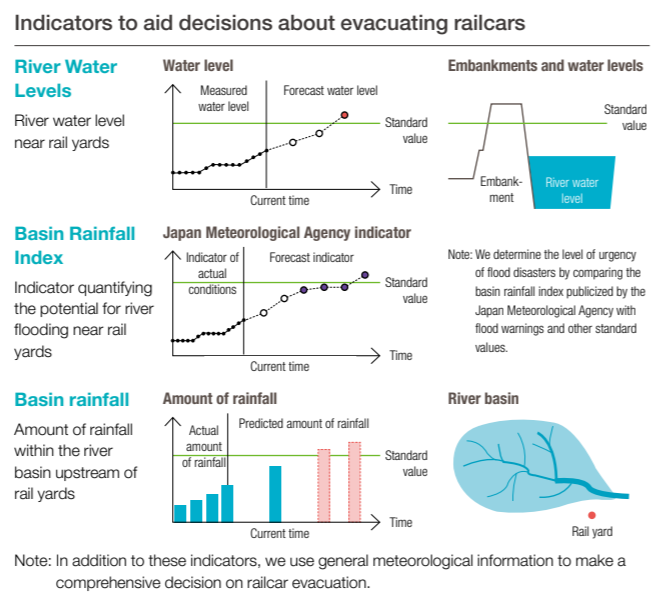
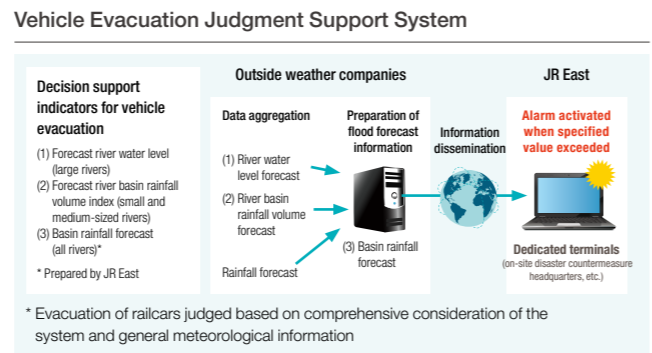


**Measures for rainfall**  
To prevent landslides due to rainfall, JR East takes disaster prevention measures for wayside embankments in all railway sections in accordance with its plans. Especially in the Tokyo metropolitan area and for all Shinkansen routes, we take thorough measures to secure safe and stable transport.



**Initiatives to address flooding**  
We have been working to enhance flood-response measures, having suffered significant damage from Typhoon No. 19 (Hagibis) in October 2019, when overflowing rivers caused damage to railcars on the Hokuriku Shinkansen.

For railway facilities, we have been setting priorities for each facility and implementing hardware measures. In addition, utilizing hazard maps, we have introduced a “Vehicle Evacuation Judgment Support System” at rail yards where there is a risk of flooding, to promptly evacuate vehicles in the event of a disaster. With this system, we have developed indicators to support decisions on vehicle evacuation, and when each indicator reaches the set value, an alarm sounds to notify the people concerned.



**Protecting against strong winds and gusts**  
Since a train accident on the Uetsu Main Line in December 2005, we have introduced the major wind-related initiatives described below.

**Increased number of anemometers (wind meters)**  
We typically install multiple anemometers on sections where wind-based operating restrictions are in effect. We have also increased the number of anemometers in locations where windbreaks have been installed. To ensure accuracy, we are also moving toward the installation of dual anemometers.

**Installation of windbreak fences**  
We install windbreaks to protect railcars from the wind.

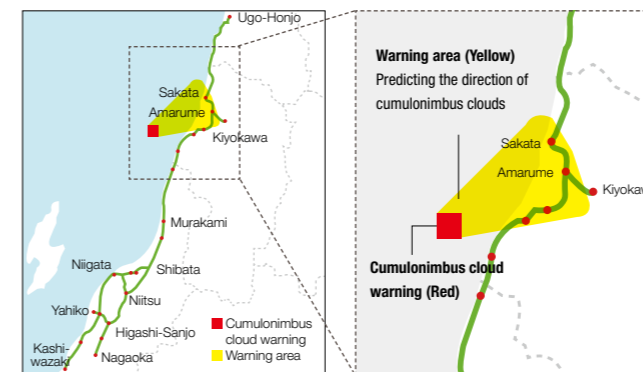


Uetsu Main Line, between Sagoshi and Kita-Amarume

**Expanded introduction of the gale warning system**  
With this system, operations are halted if the values measured by anemometers exceed regulation levels. Wind speed regulations also call for the halting of operations if the maximum predicted wind speed a short time in the future is expected to exceed regulation levels, based on measured values on a time axis. We have installed this system on all sections of conventional lines where wind restrictions are in place.

**Utilizing meteorological information for operation control**  
We have developed a method to restrict operations using meteorological information, such as rain intensity measured by the Japan Meteorological Agency’s weather radar and the agency’s “nowcasts” on the likelihood of tornadoes, to predict gusts of wind that could be generated by cumulonimbus clouds. We are currently using this system along sections on the Sea of Japan during winter.

**Display of operation control area using meteorological information (image)**

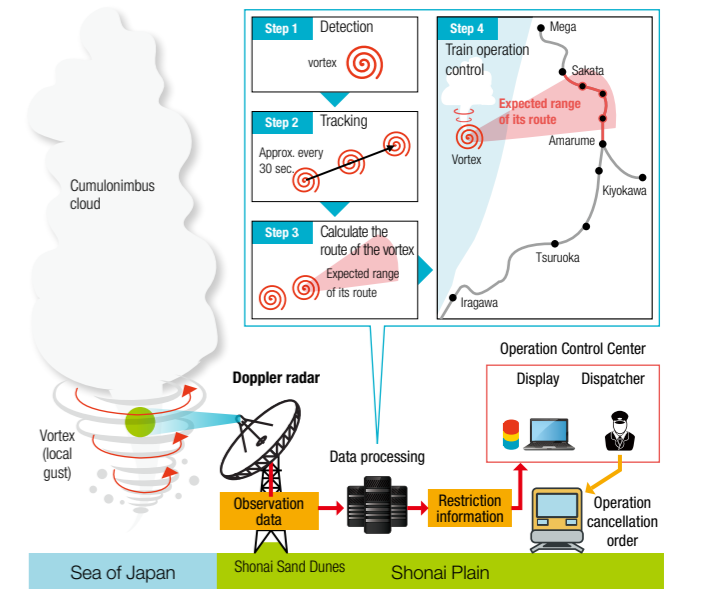


**Operation control method against wind gusts using Doppler radar**  
We have collaborated with the Meteorological Research Institute (MRI) of the Japan Meteorological Agency on a system that detects vortices by using Doppler radar to measure the movement of raindrops in the air, and sounds an alarm if these vortices come near train lines. We have put in place operating restrictions using this system in winter on the Uetsu Main Line and sections of the Rikuu West Line. Since the start of operations in 2017, we have conducted further joint research with the MRI to expand the range of observations used to regulate operations and to commercialize AI-based methods for detecting gusts of wind.



Doppler radar installed at Kuromori, Sakata

**Operation control method against wind gusts using Doppler radar**



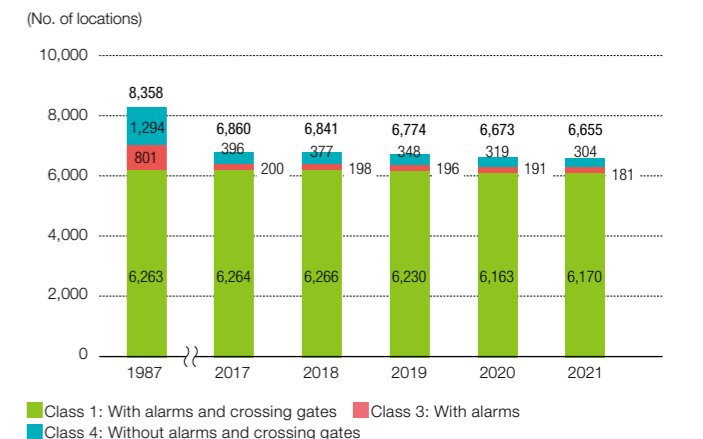
**Safety measures at level crossings**

We are working to reduce accidents on roads that cross railways. Our efforts to eliminate level crossings  
Our principal measure for preventing accidents at level crossings is to eliminate such crossings. We are working with people in local communities to elevate, consolidate, and eliminate tracks. Where eliminating level crossings is difficult, such as for Class 3 and Class 4 crossings, we are converting them to Class 1 crossings.

**No. of level crossings eliminated over past five years (including those transferred to third-sector operators)**

FY	2017	2018	2019	2020	2021
Reduction	42	19	67	101	18

**Changes to the number of level crossings (as of April 1)**



Efforts to Further Improve Safety Levels

Installing obstacle detectors

To prevent train derailment due to collisions with automobiles (including large ones), we are installing equipment to detect automobiles stuck at level crossings where trains will be passing through.

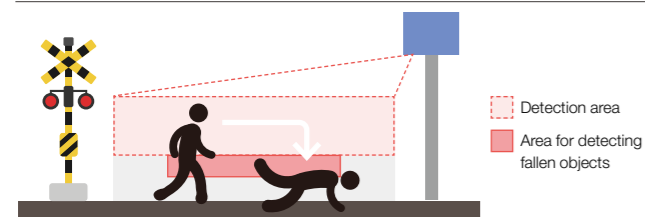


3D laser radar obstacle detector

Our obstacle detectors use

3D laser radar to detect the overall level crossing areas. Going beyond conventional functionality, the new devices feature technologies to detect people who have fallen. We began installing these devices in fiscal 2020 and are steadily increasing their number.

Increasing the Level of Sophistication of Obstacle Detectors with 3D Laser Radar



Function for detecting fallen objects

In the past, devices did not detect objects in certain areas to avoid over-sensitivity, such as detecting small animals. We overcame this shortcoming by adding a function that broadens the detection area around the object in question.

Noise removal function

We added a function to reduce false positives for floating objects such as snowfall.

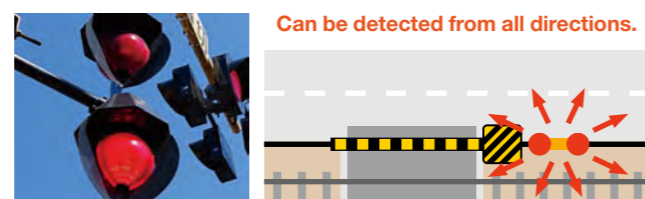
Installing omnidirectional warning lights

Regarding level crossing warning lights to notify the approaching of a train, we are replacing conventional warning lights with omnidirectional warning lights so that they can be easily detected by elderly people with lower sight lines and automobile drivers who enter level crossings from roads.

Conventional warning light



Omnidirectional warning light



Level crossing for easier passage

Based on the Act on Promotion of Level Crossings, we are elevating and widening roads at level crossings designated for improvement. In addition, where necessary we are using colored pavements or adopting other approaches for roads that cross railways such as building pedestrian overpasses, and making improvements as dictated by local conditions.



In cooperation with road administrators, we are increasing the width of level crossings and separating crossings for pedestrians from those for automobiles by changing the colors of the roads and walkways.

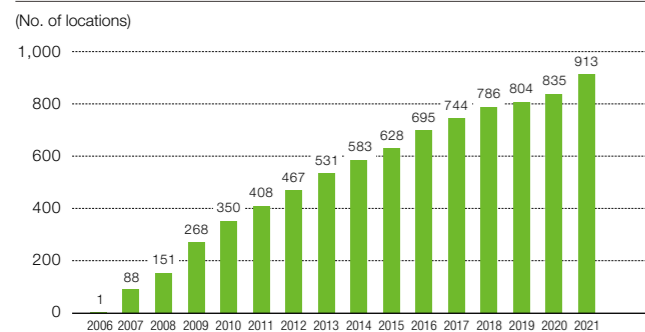
Initiatives involving Class 4 level crossings

Class 4 level crossings are not equipped with alarms or crossing gates. We are working with local communities to eliminate such crossings or upgrade them to Class 1 level crossings. In addition, as another measure to prevent accidents at level crossings we are erecting signs calling for caution and erecting whistle boards to warn people at crossings of approaching trains.



Class 4 level crossing

No. of locations of 3D laser radar obstacle detectors (as of March 31)



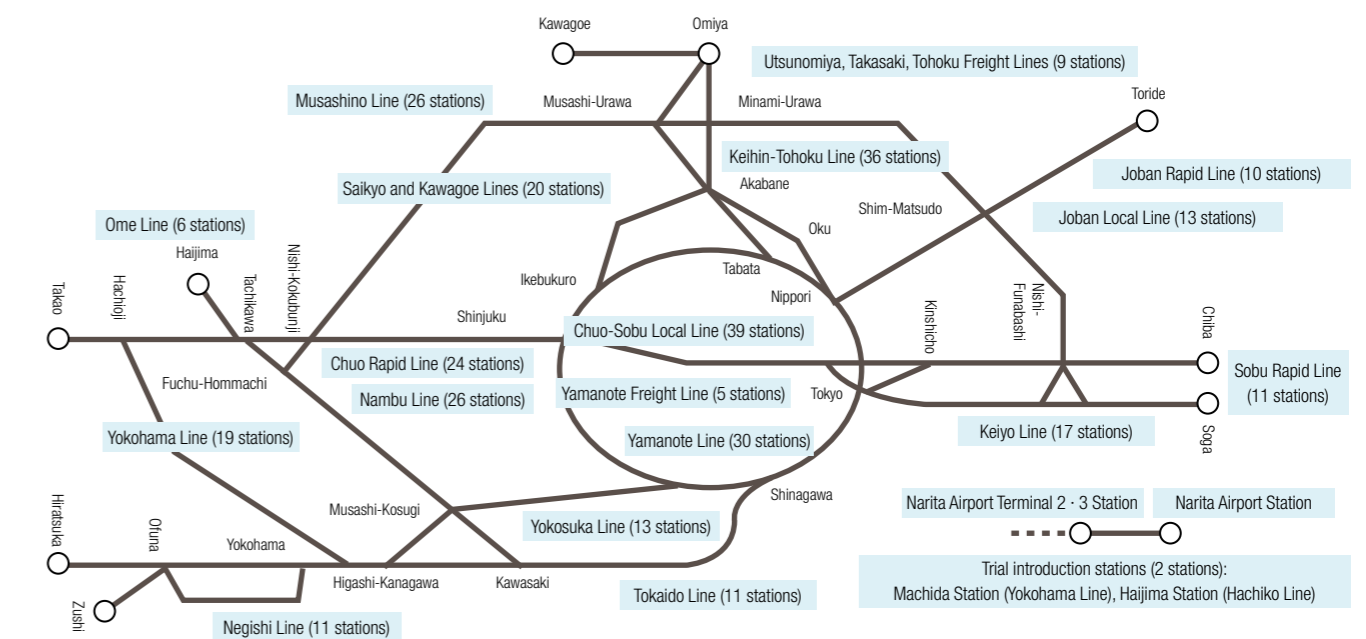
Safety measures at platforms

To prevent accidents involving customers falling from platforms or coming into contact with trains, we are installing platform doors. By the end of fiscal 2021, we completed the installation of platform doors at 61 stations (a total of 72 stations\* by line) mainly on the Yamanote, Keihin-Tohoku, and Negishi lines.

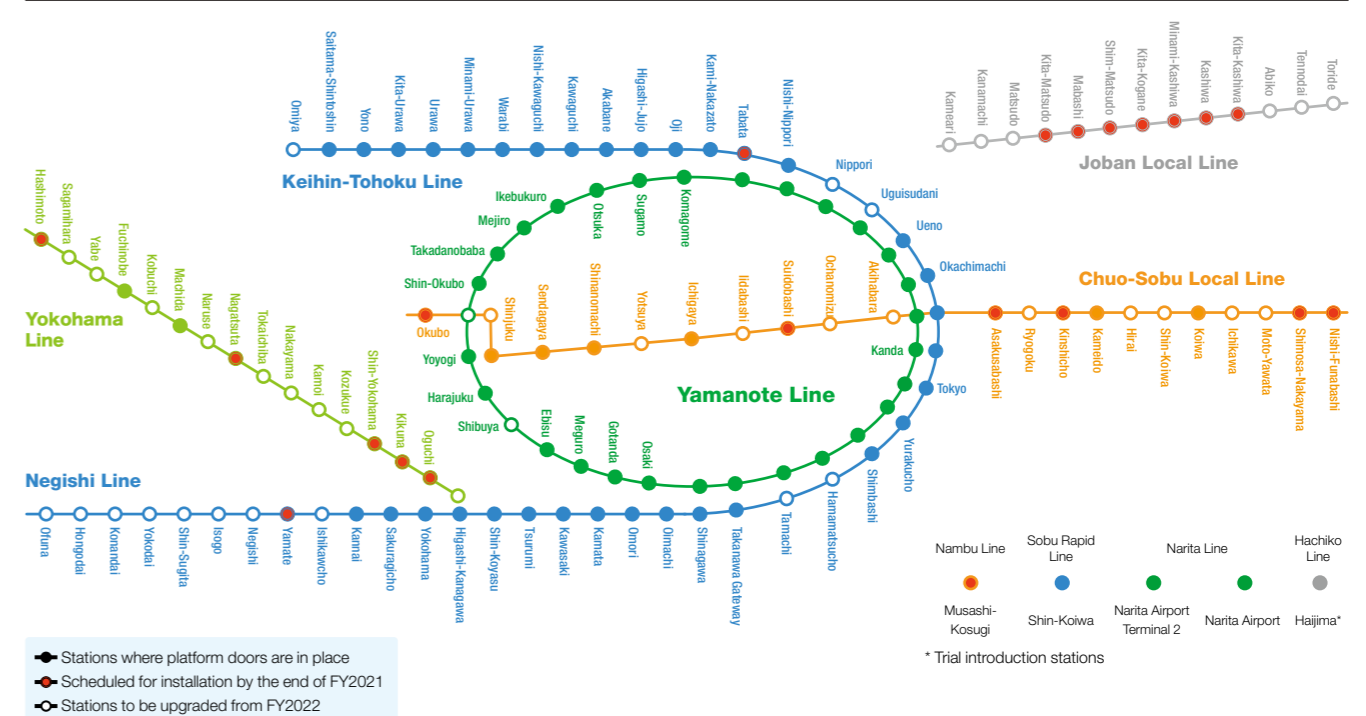
Going forward, we plan to proactively deploy newly developed Smart Platform Doors. As a result, by around the end of fiscal 2023 we plan to have installed platform doors at all stations on the major conventional lines in the Tokyo metropolitan area (330 stations by line, including the 243 stations where we have completed the installation to date).

\* No. of stations is counted by line, e.g., Yurakucho Station is counted as two stations, one for the Yamanote Line and one for the Keihin Tohoku Line.

Railway lines where platform doors are scheduled for installation by the end of FY2033 (as of March 2018)



Stations where platform doors are installed or scheduled for installation in FY2022 (as of April 2021)



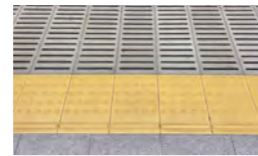
Efforts to Further Improve Safety Levels

CP (color psychology) lines



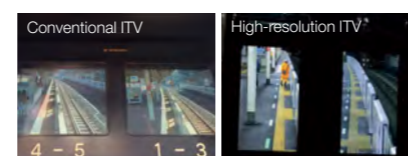
Lines use colors that people associate with danger to encourage a visual and psychological connection between danger and the edges of platforms.

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



We have designed linear protrusions on the insides of platforms and put in place blocks that make it easy to distinguish platforms' insides from their outsides.

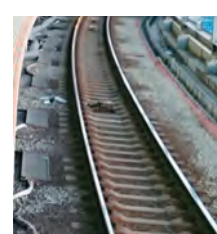
Installation of high-resolution ITVs



We have installed high-resolution monitors for station employees and customers to check.



Fall detection mat



A mat placed on the tracks along the platform detects whether a person has fallen onto the tracks and notifies incoming trains to stop.

Emergency stop buttons on platforms



On platform pillars, we have installed emergency stop buttons so people on platforms can notify drivers, conductors, and station staff of danger.

Platform doors

We are installing platform doors to prevent people from coming into contact with trains or falling onto tracks.



Safety efforts with customers and people in local communities

Rather than conducting initiatives on our own as a railway operator, we engage with the people who use our services and elicit their cooperation in our efforts to enhance the safety of station platforms and level crossings. We also collaborate with related institutions in conducting awareness-raising activities for schools. Every year we carry out joint campaigns with other railway companies, broadcasting awareness videos and radio commercials in East Japan.



Current Safety Record of JR East

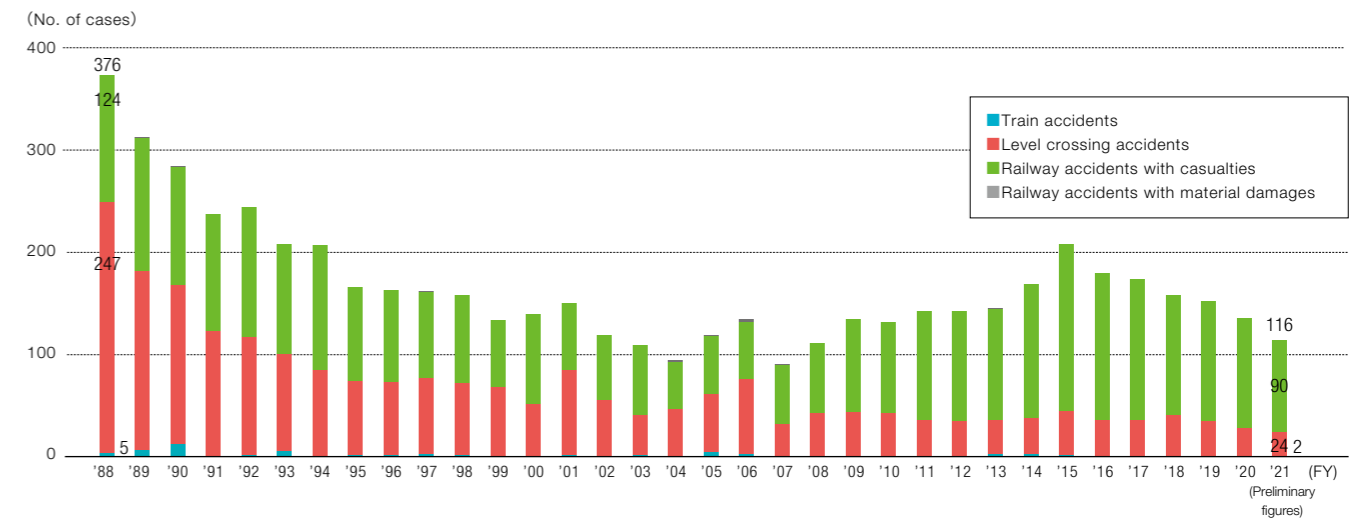
Railway accidents

In fiscal 2021, JR East recorded 116 railway accidents, down significantly from the level at the Company's foundation. "Railway accident with casualty" account for approximately 80 percent of the total number of "railway accidents." Regarding train accidents, in the year under review there was a train derailment on the Sotobo Line between Awa-Kamogawa and Awa-Amatsu stations due to a train riding up on ballast on the rails at a level crossing, and a train derailment on the Joban Line between Tsuchiura and Kandatsu due to a collision with a passenger car entered train trucks.

Train accidents	Train collisions, derailments, and train fires
Level crossing accidents	People or automobiles being hit by trains
Railway accidents with casualties	People killed or injured by train operation excluding suicide
Railway accidents with material damages	Accidents causing more than ¥5 million damage to property by train operation

\* From the third quarter of FY2014, incidents which could not be determined as suicides are classified as level crossing accidents or railway accidents with casualties.

Occurrences of railway accidents

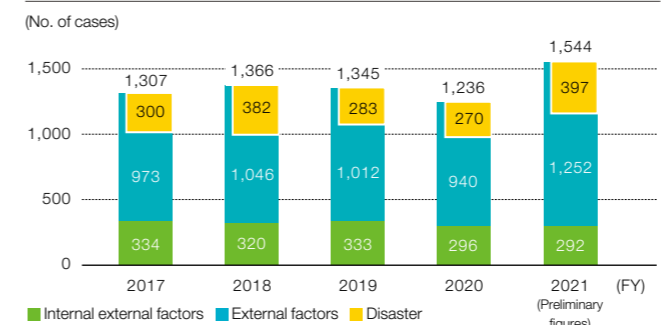


Transport disruptions

JR East recorded 1,544 cases of transport disruption in fiscal 2021. Compared with the previous fiscal year, there was a particular increase in the number of accidents involving collisions with animals and disaster.

Transport disorders	Except railway accidents, there are transport disruption, which encompass train service cancellations due to failures of trains or facilities, mishandling by employees, or disasters, or delays to passenger trains by over 30 minutes or other trains by 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 staff, trains, or facilities

No. of transport disruptions



Incidents

JR East recorded one incident (equipment failure) in fiscal 2021.

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.
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Employee accident

In fiscal 2021, there were a total of four fatal accidents and 178 accidents that required time off from work (including those involving employees of JES-Net and other partner and affiliated companies).

