



JR East and its Experience in HSR

Satoshi SEINO

**President and CEO
East Japan Railway Company**

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1. Outline of JR East

2. Features of Shinkansen (HSR)

3. Economic Effects

4. Conclusion

Outline of JR East

***JR EAST, a passenger railroad company,
is the largest railroad company in JAPAN***

Network: 7,512.6 km

No. of Passengers: 17 million /day

No. of Trains: 12,732 /day

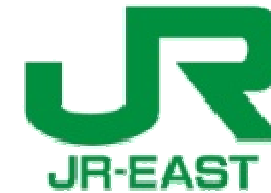
Operating Revenue: \$30.5 billion /year

Net Income: \$1 billion /year

No. of Employees: 71,749

Total Stock Market Value: \$22 billion

- No government subsidies

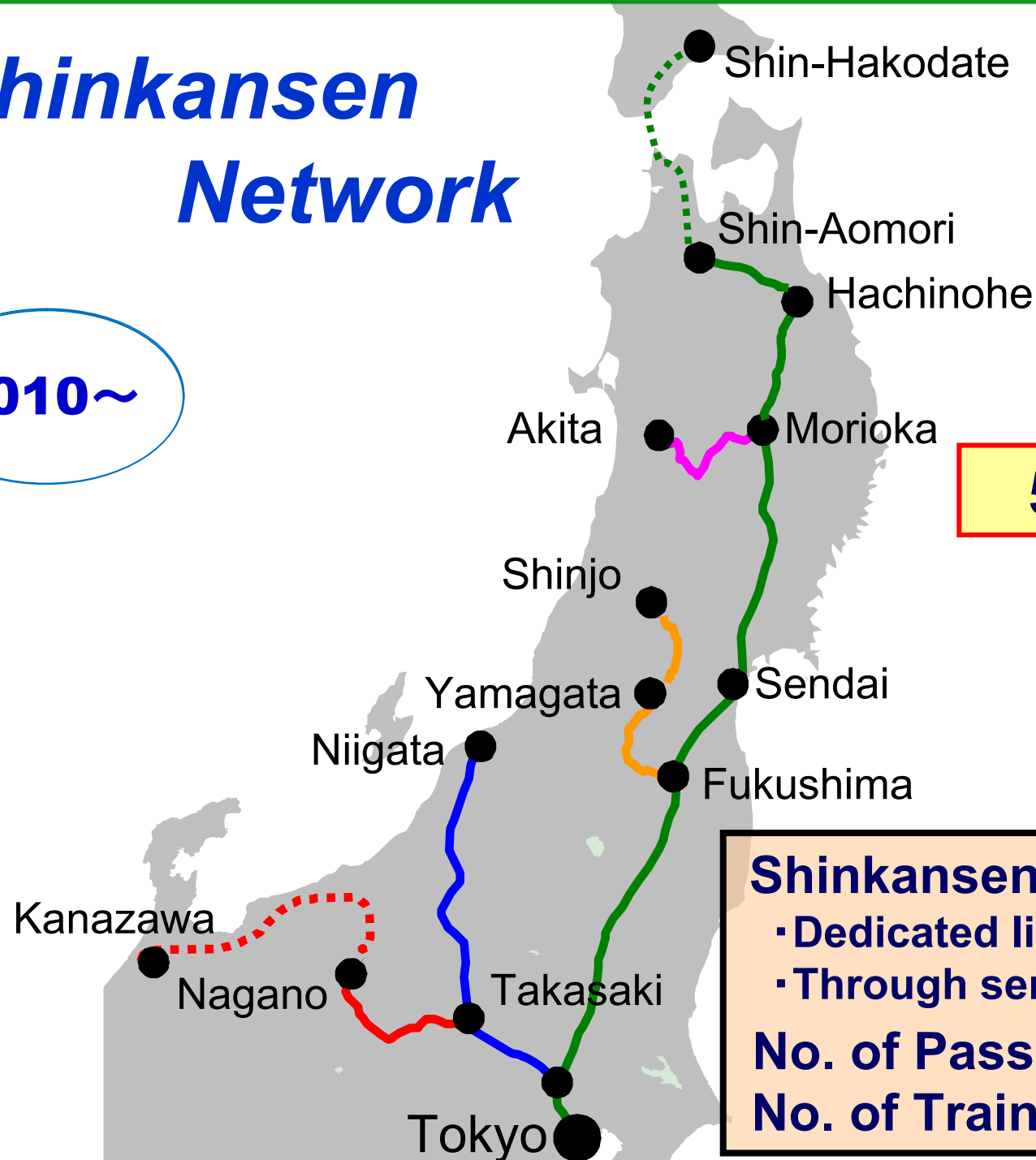


Greater Tokyo area

*Numbers are as of FY ended March 31 , 2011

Shinkansen Network

2010~



5 directions

Shinkansen Network: 1,411km

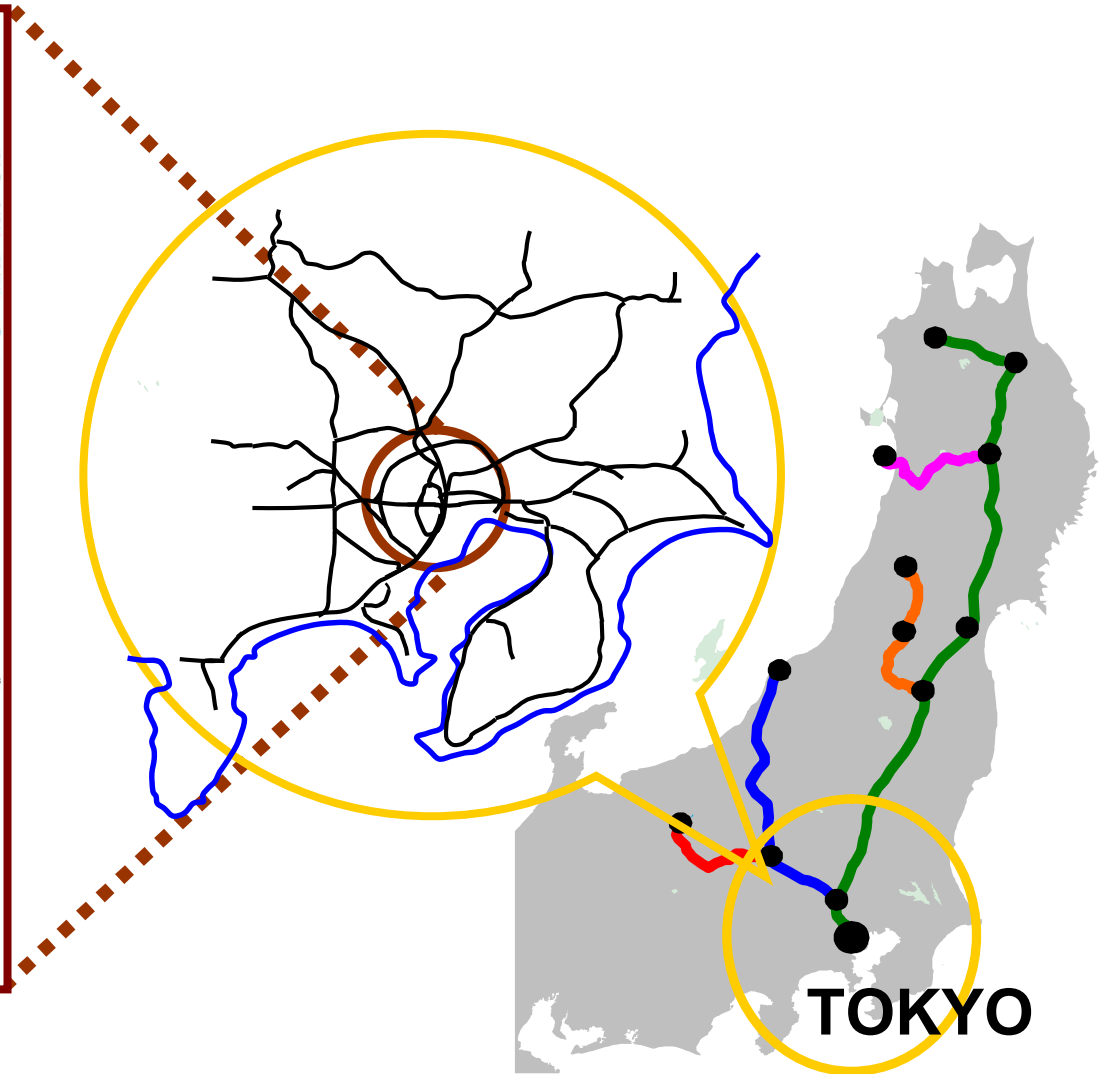
·Dedicated lines: 1,134km

·Through service: 277km

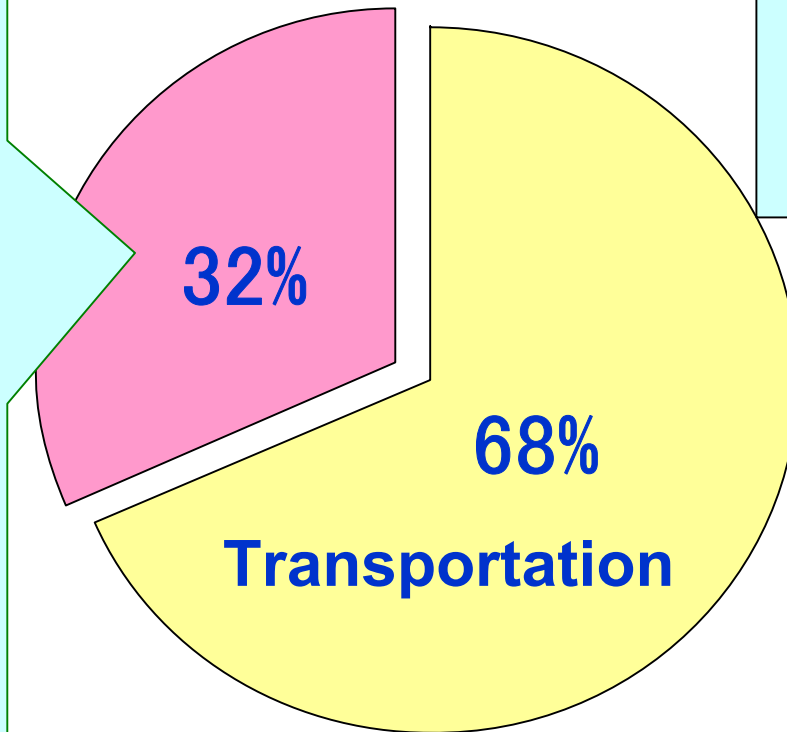
No. of Passengers: 241,000 /day

No. of Trains: 310 - 415 /day

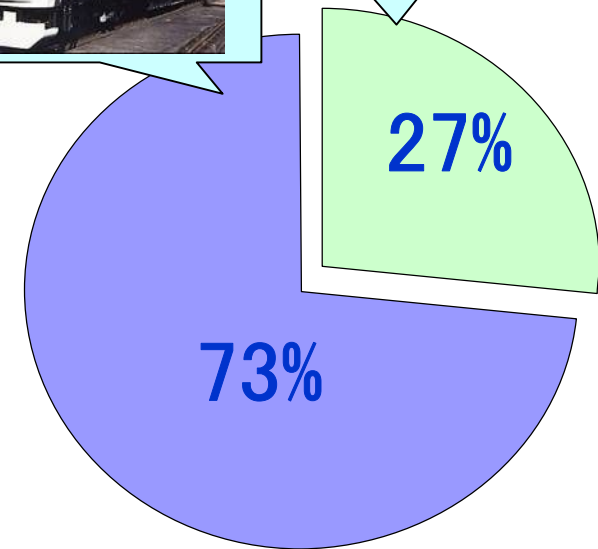
Conventional lines in greater Tokyo area



Revenues from Rail and Non-Rail Businesses



**JR East
Group Total
\$ 30.5 billion**



**Rail Revenue
\$ 19 billion**

As of Mar.31.2011

Features of Shinkansen (HSR)

1 High Speed Operation

2 High Capacity

3 Frequent Service

4 Through Service

5 Comfort

6 Environmentally friendly

7 Countermeasure against Disasters

1 High Speed Operation

Series E5 “Hayabusa”

Operation launched in March 2011

By 2013, maximum commercial speed of 320km/h(200mph) planned

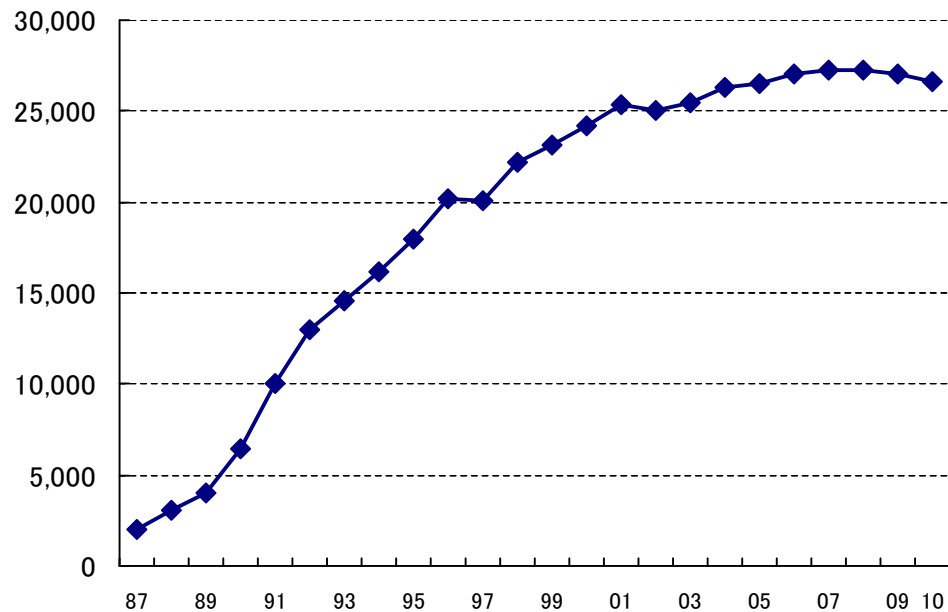


2 High Capacity

Series E4 (Double-decker)

No. of seats : **1,634**

(the world's largest high-speed train)



**No. of Shinkansen
commuter pass holders**



3 Frequent Service

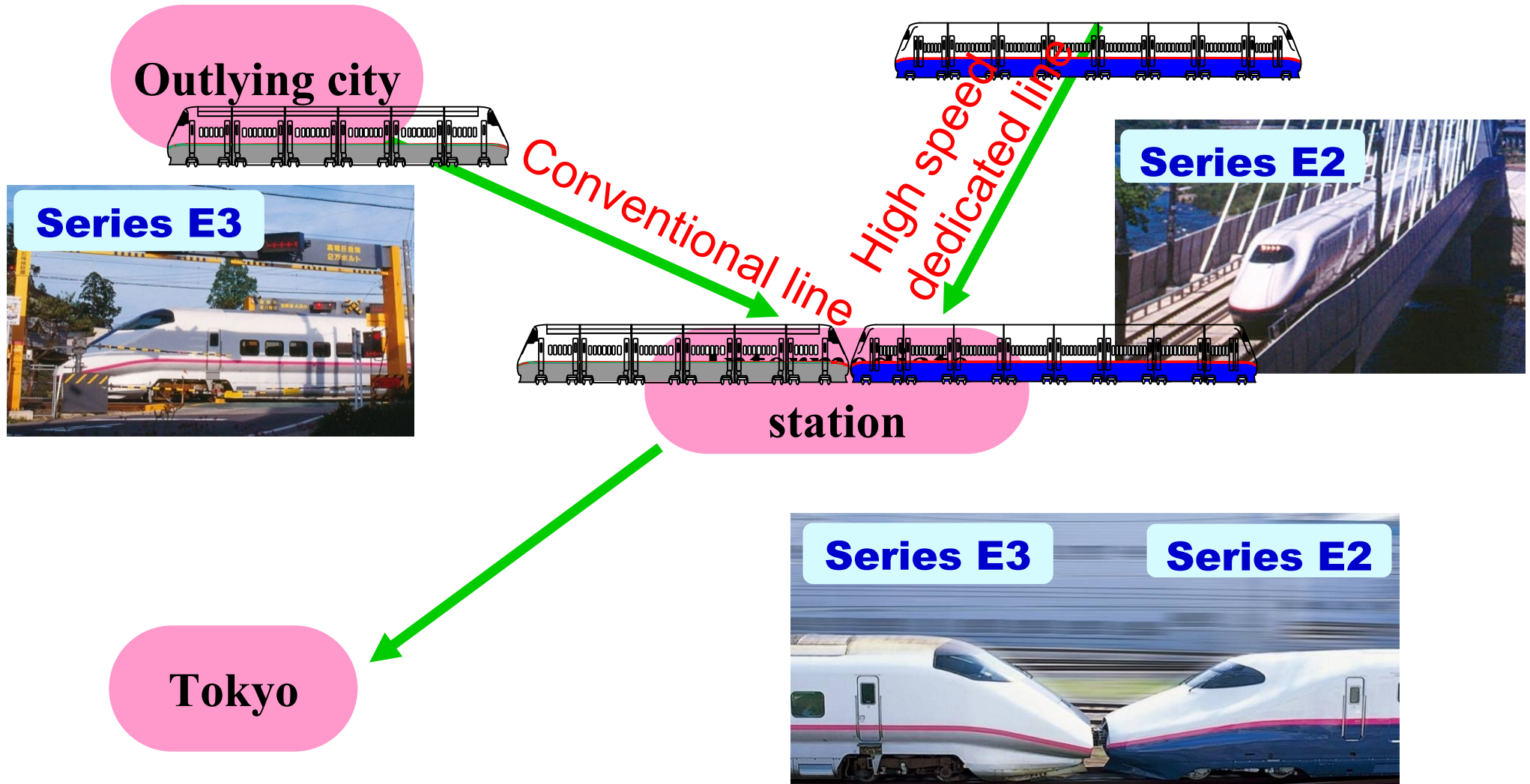


東北・山形・秋田・上越・長野新幹線 Tohoku · Yamagata · Akita · Joetsu · Nagano Shinkansen					
列車名 Train	番号 Train No.	時刻 Time	行先 Destination	番線 Track	記事 Remarks
HAYATE KOMACHI	21	13:56	HACHINOHE AKITA	21	16 Cars
ASAMA	527	14:04	NAGANO	20	8 Cars
Max YAMABIKO	TSUBASA 119	14:08	SENDAI YAMAGATA, SHINJOU	22	15 Cars
YAMABIKO	211	14:20	SENDAI	21	10 Cars
Max TOKI	327	14:32	NIIGATA	23	8 Cars
YAMABIKO	57	14:36	MORIOKA	21	10 Cars

- 5** Destinations from Tokyo station
- 4 min.** Minimum train interval
- 12min.** Turn-back time at Tokyo Station
- 400** Trains per day

4 Through Service

Coupling capability



4 Through Service

Series E6 Debut in Spring 2013



Series E5

Series E6



5 Comfort



 GranClass

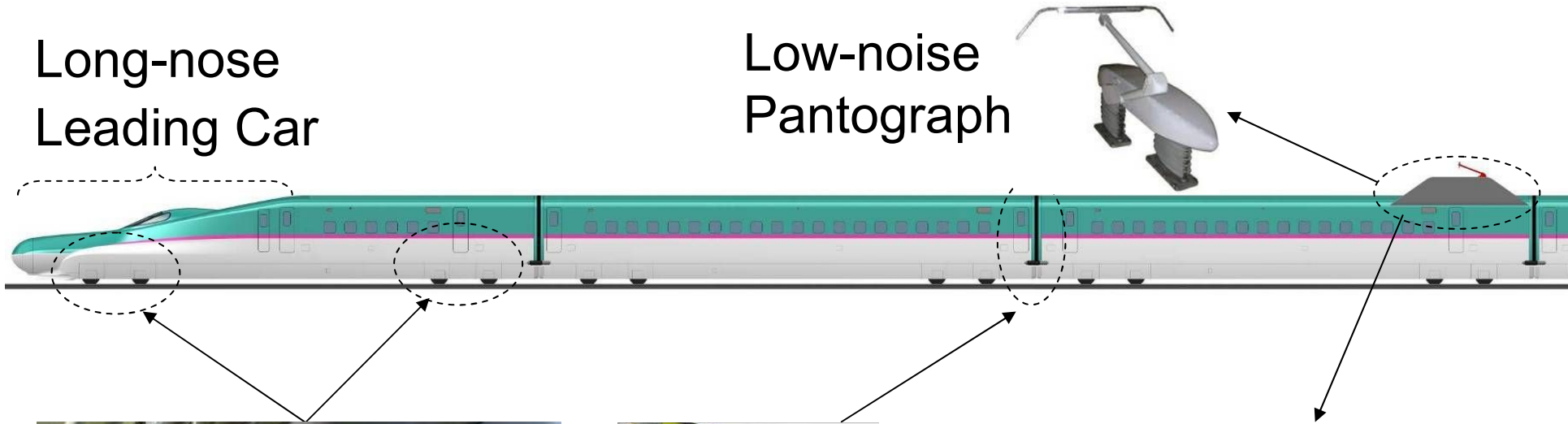
on the Series E5



Controlling Rolling Stock Noise

Long-nose
Leading Car

Low-noise
Pantograph



Full bogie cover &
sound-absorbing panels



Smooth covers
between cars



Pantograph noise
insulation panels

7 Countermeasures against Disasters

■ Heavy Rainfall



Slope protection

■ Strong wind



Windbreak wall (Elevated section)

■ Falling rocks



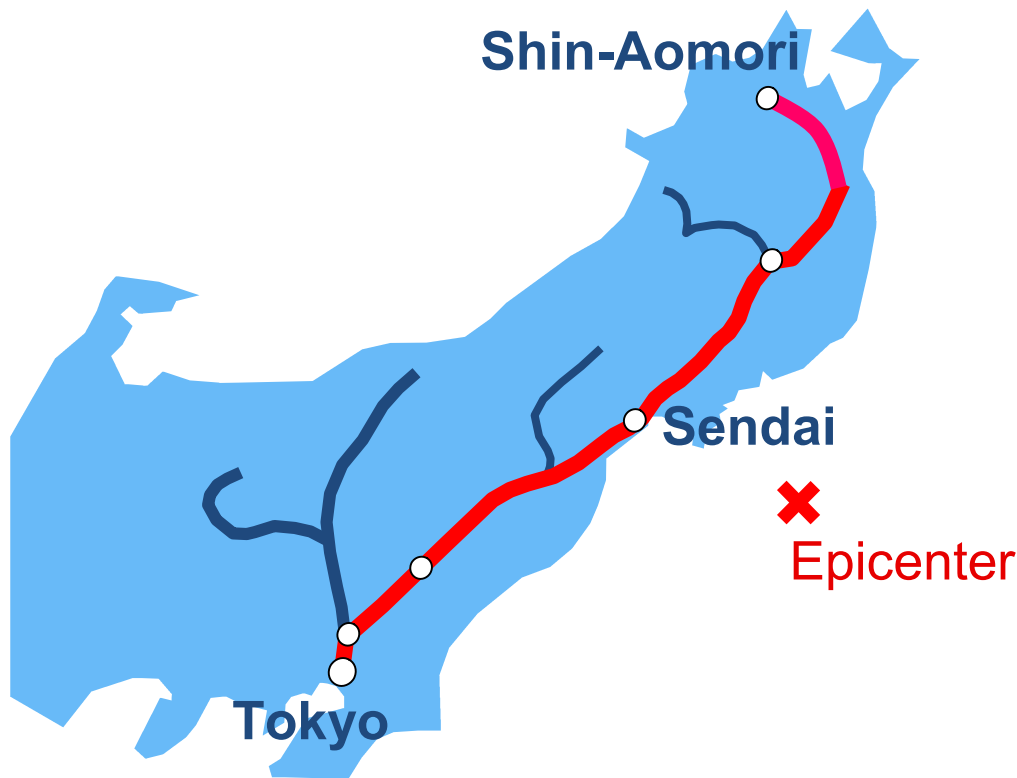
Falling-rock protecting work

■ Earthquake



Aseismic reinforce of Viaduct columns

Great East Japan Earthquake



- **Date and time of occurrence:**

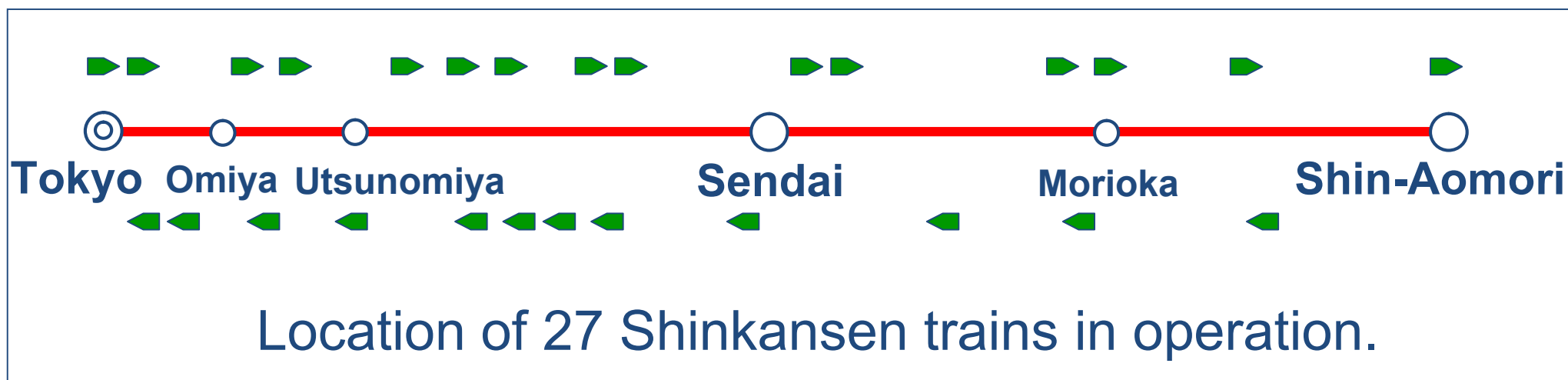
Approx. 14:46 March 11, 2011

- **Strength of earthquake:**

Magnitude 9.0 (Largest in the recorded history of Japan)

- **Number of deaths and missing:**

19,451 (As of Nov. 24, 2011)
(Resulting from earthquake, tsunami)



Countermeasures against earthquakes

- ① Detect earthquake and stop trains as quickly as possible
- ② Prevent collapse of viaducts
- ③ Prevent trains from a large scale deviation in case of a derailment
- ④ Education and training for emergency

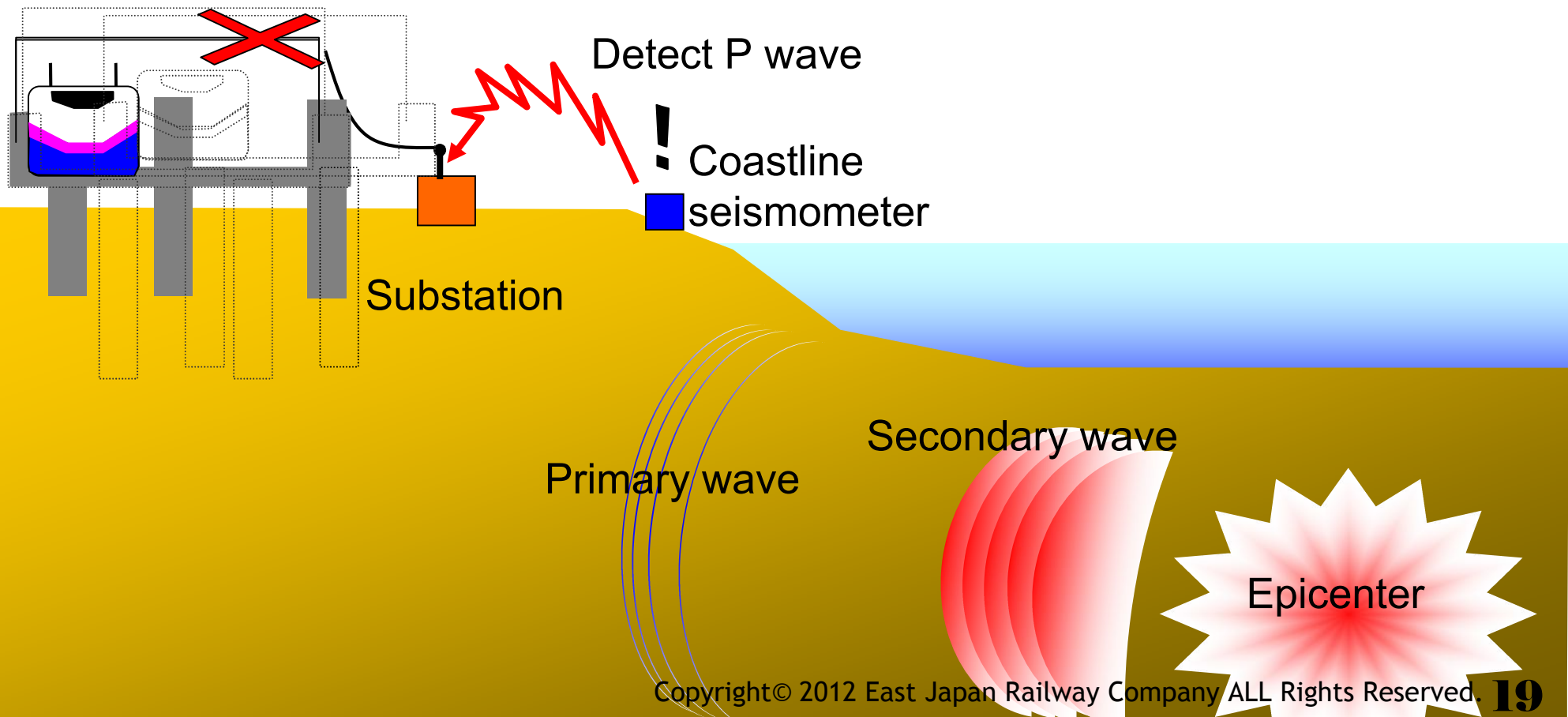
7 Countermeasures against Disasters

“Early Earthquake Detection System”

Whenever coastline seismometer detects Primary wave.

Power shutdown

Emergency brakes



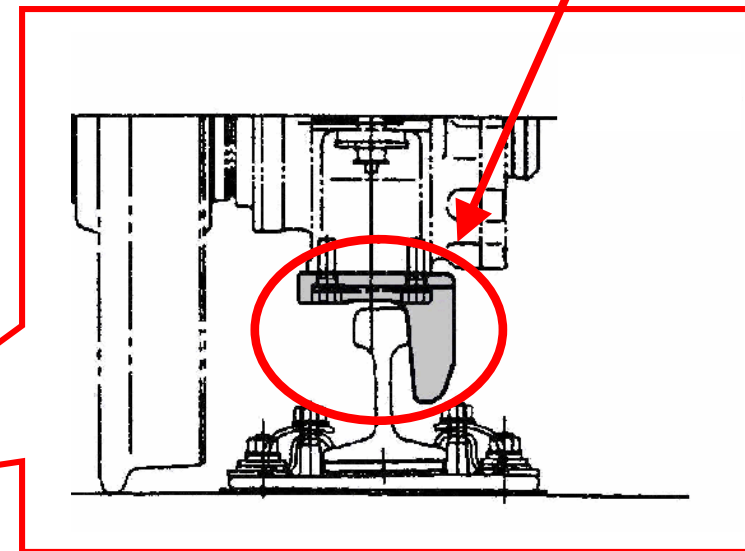
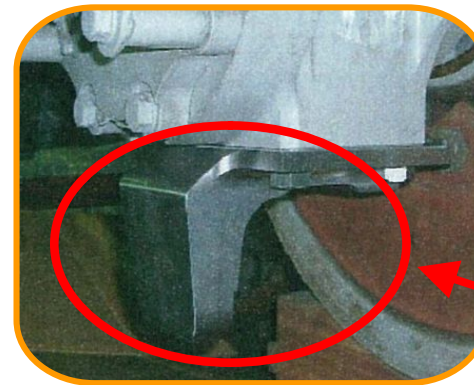
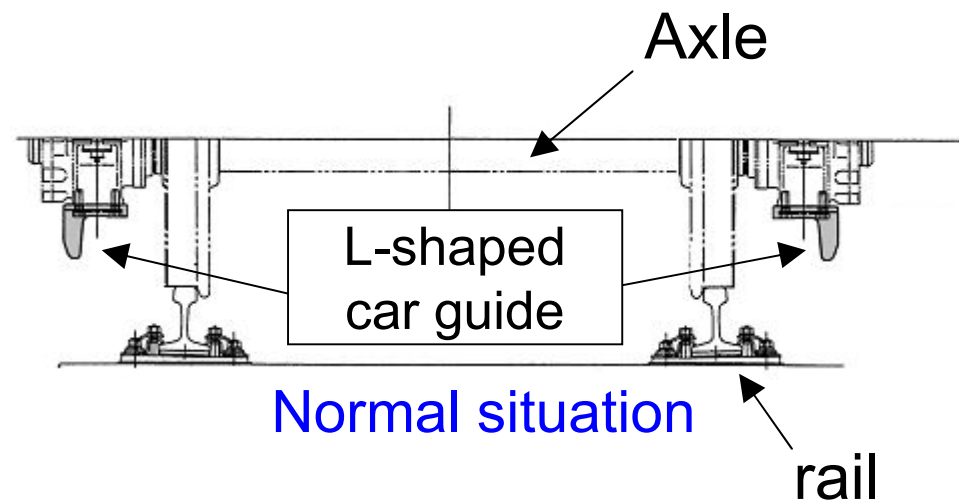
Aseismic reinforcement

Great Hanshin-Awaji Earthquake



7 Countermeasures against Disasters

L-shaped guides (on vehicles), attached to the axle boxes



After derailment

L-shaped guides grasp the rail, and prevent a large deviation.

- Passenger fatalities : 0
- Passenger injuries : 0

Shinkansen (HSR)

- Aseismic reinforcement
- Early earthquake detection system ⇒ **No derailment of commercial trains**

✕ Conventional lines

Station staff and train crews successfully led passengers to emergency evacuation areas before the tsunami hit.

Economic Effects

Tokyo Station City



Economic Effects

Tokyo Station City



Economic Effects

Tokyo Station City



Tokyo Station City



Tokyo Station (Autumn 2012)



THE TOKYO STATION HOTEL (Autumn 2012)



Impact on regional economy

Sakudaira Station (Nagano Shinkansen)

Before Shinkansen



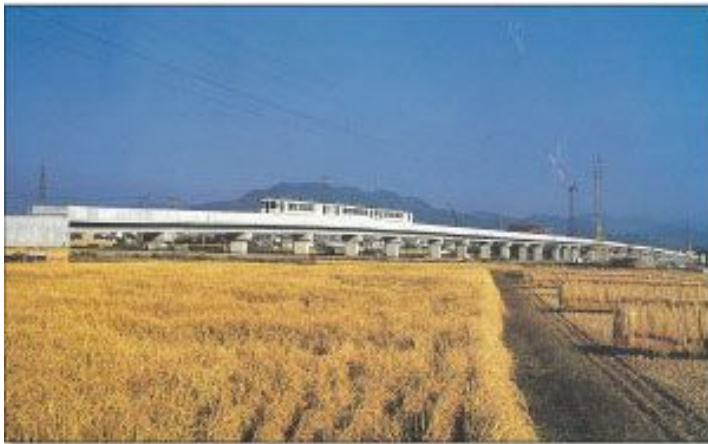
10 years after opening



Impact on regional economy

Area around Sakudaira Station

Before Shinkansen



12 years after opening



Source: Google

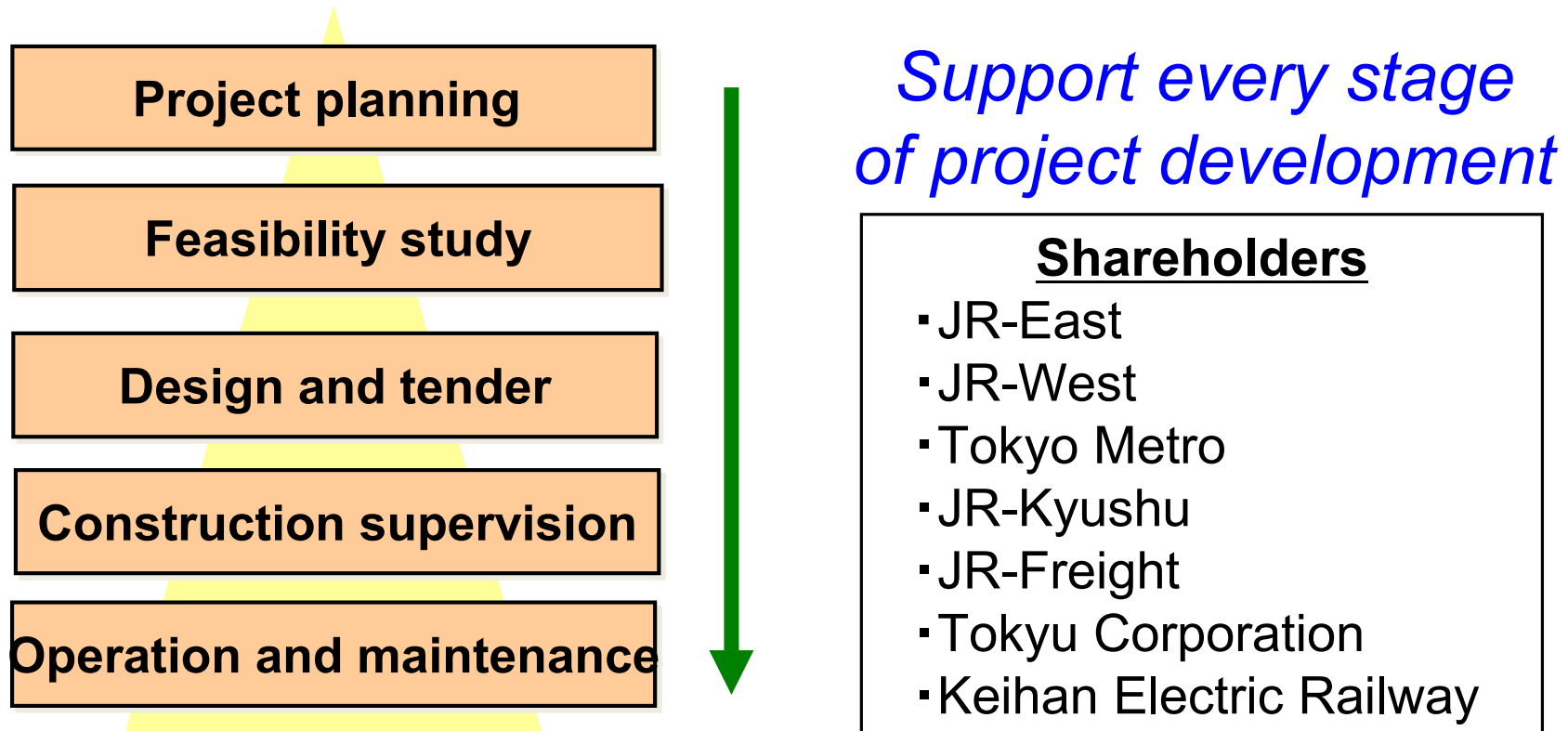
The perfect time to realize HSR in India!

- HSR is safe, fast, punctual, highly efficient, environmentally friendly and providing a comfortable ride.
- Moreover, HSR can aid the development of stations and towns.
- We can contribute to HSR in India with our technology and experience of HSR.

[Topics] International Railway Consulting Company

■ Company overview

- Company name: Japan International Consultants
for Transportation Co., Ltd. (“JIC”)
- Establishment date: November 1, 2011
(Preparatory work will continue with full-scale operations expected to begin in spring of 2012.)



Thank you for your attention

