Toward the Mutual Development of Railway Industries in both Europe and Japan

April 25, 2013

East Japan Railway Company (JR East)
Introduction

- JR East believes that as a railway company it has the ultimate responsibility for every aspect, including safety, of its passengers.

- Based on this management philosophy, JR East has been actively seeking and procuring high-quality, low-cost railway products with strong after-sales service from a broad range of suppliers, both domestic and abroad, and will continue to do this.

- Throughout many years, Japanese railways have been able to develop through the active introduction of the latest technologies from Europe, where the world’s railways began. With the progression of globalization, we believe that the world’s two leading railway industry centers, Europe and Japan, will play extremely important roles in the development and the global sustainability of railways throughout the world.

- Based on this understanding, JR East continues to pursue the evolution of railways in many ways, including the introduction of superior technologies from both overseas and domestic sources.

- This presentation summarizes the activities and efforts of JR East.
Contents

■ Japanese railways and JR East

■ The efforts of JR East

■ Efforts to further increase the reinforcement of coalitions between companies related to European railways and JR East
Japanese railways and JR East

- History of Japanese railways
- The current state of Japanese railways
- Overview of JR East
- Attributes of JR East
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1872</td>
<td>Opening of Japan’s first railway between Shimbashi and Yokohama (Introduction of European technologies such as those from U.K.)</td>
</tr>
<tr>
<td></td>
<td>Expansion of Japan’s railway network, primarily through 5 major private railway companies</td>
</tr>
<tr>
<td>1906</td>
<td>Nationalization of railways</td>
</tr>
<tr>
<td></td>
<td>Nationalization of main trunk lines set a framework in which urban and regional railways were able to individually develop.</td>
</tr>
<tr>
<td>1949</td>
<td>Public-sector corporation, Japanese National Railways (JNR)</td>
</tr>
<tr>
<td>1964</td>
<td>Opening of the Tokaido Shinkansen high speed railway</td>
</tr>
<tr>
<td>1987</td>
<td>Division and privatization of JNR, with establishment of 6 JR passenger railway companies (including JR East) and JR Freight</td>
</tr>
</tbody>
</table>
Current state of Japanese railways

- Japan is a small country with more than 60% of its land covered with mountains. Population density of cities is high, and railways are widely used for everyday transport.
- The average annual railway travel distance per resident of Japan is 1,910 km, second in the world after Switzerland (2,258 km).

(Source: Study in 2010 by Litra, Switzerland’s public transport information service.)

Market share of railways in passenger transport in Japan (FY2009)

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airplane</td>
<td>5.5%</td>
</tr>
<tr>
<td>Vessels</td>
<td>0.2%</td>
</tr>
<tr>
<td>Bus</td>
<td>6.4%</td>
</tr>
<tr>
<td>Private cars</td>
<td>59.3%</td>
</tr>
<tr>
<td>Other Private railways</td>
<td>10.8%</td>
</tr>
<tr>
<td>JR</td>
<td>17.8%</td>
</tr>
</tbody>
</table>

Market share by railway transport operator in Japan (FY2010)

<table>
<thead>
<tr>
<th>Railway Operator</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>JR East</td>
<td>32%</td>
</tr>
<tr>
<td>JR West</td>
<td>13%</td>
</tr>
<tr>
<td>JR Central</td>
<td>13%</td>
</tr>
<tr>
<td>Tokyo Metro</td>
<td>5%</td>
</tr>
<tr>
<td>JR Companies in three islands</td>
<td>4%</td>
</tr>
<tr>
<td>Major private railways in western Japan</td>
<td>7%</td>
</tr>
<tr>
<td>Others</td>
<td>10%</td>
</tr>
<tr>
<td>Major private railways in Tokyo area</td>
<td>16%</td>
</tr>
</tbody>
</table>

(Suji de miru tetsudo 2012) (Supervised by the Railway Bureau, Ministry of Land, Infrastructure, Transport and Tourism)
Overview of JR East

- Service km: 7,512.6 line-km
- Average number of passengers: 17 million persons per day
- No. of trains: Approx. 13,000 trains/day
- Operating revenue: 19.5 billion Euro (consolidated)
- Net income: 836.2 million Euro (consolidated)
- No. of employees: Approx. 71,000 (consolidated)
- Total market capitalization: 18.8 billion Euro (as of March 31, 2012)
JR East characteristics (1)

- Large passenger transport volume
- High transport density (transport demand during peak hours in the Tokyo metropolitan area for each line: Approx. 3,000 persons/3 min.)

<table>
<thead>
<tr>
<th>Line Name</th>
<th>No. of Passengers per Train/Train Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takasaki Line</td>
<td>3,500 persons/4 min. 30 sec.</td>
</tr>
<tr>
<td>Saikyo Line</td>
<td>2,800 persons/2 min. 30 sec.</td>
</tr>
<tr>
<td>Joban Local Line</td>
<td>2,400 persons/2 min. 30 sec.</td>
</tr>
<tr>
<td>Sobu Line</td>
<td>3,000 persons/2 min. 20 sec.</td>
</tr>
<tr>
<td>Keiyo Line</td>
<td>2,600 persons/3 min.</td>
</tr>
<tr>
<td>Tokaido Line</td>
<td>3,500 persons/3 min.</td>
</tr>
<tr>
<td>Yamanote Line</td>
<td>3,300 persons/2 min. 20 sec.</td>
</tr>
<tr>
<td>Chuo Line</td>
<td>2,900 persons/2 min.</td>
</tr>
<tr>
<td>Keihin-Tohoku Line</td>
<td>2,900 persons/2 min. 20 sec.</td>
</tr>
<tr>
<td>Joban Line</td>
<td>3,500 persons/3 min.</td>
</tr>
</tbody>
</table>

(Legend)
Line name
No. of passengers per train/train interval

(FY2010)
Extremely high rate of punctuality of operation (average operational delay per train: Shinkansen: 0.3 min.; Conventional lines: 1.1 min.)

For JR East lines with large passenger transport volume and high transport density, even a short train delay (2 or 3 minutes) can result in crowds of passengers at stations.

Additionally, railways in Japan are highly respected in society, and due to the national character of the Japanese people, highly punctual operations are expected.
All shares held by the Government of Japan in the three JR passenger railway companies of mainland Japan, including those of JR East, have been sold, and the government does now hold any shares in the companies. Approximately 30% of the shares issued by JR East are currently owned by foreign institutional investors.

JR East does not receive any subsidies from national and local governments.

Particularly in the Tokyo metropolitan area, JR East is facing fierce competition with other private railway companies. The company is not a monopolistic enterprise.
■ JR East’s efforts

— Exchanges with European railways
— Establishing networks with European suppliers
— Enhanced provision of procurement information
— High procurement record from overseas suppliers
— Introduction of CBTC and trials for new procurement methods
— Establishing our strong business foothold in Europe
Exchanges with European railways

* Those in yellow are European railways with MOU for mutual exchanges.

- **International railway-related organizations with headquarters in Europe of which JR East is a member:**
  - UIC (International Union of Railways), headquarters: Paris
  - UITP (International Association of Public Transport), headquarters: Brussels
  - CER (Community of European Railway and Infrastructure Companies), headquarters: Brussels

- **Major positions JR East has held or now holds in international railway-related organizations:**
  - UIC: Chairman (from April 2009 to Dec. 2012); Asia-Pacific regional assembly (APRA) Chairman (from Jan. 2013)
  - UITP: Policy Board members (from June 2007); Vice President and Director (planned to start in May 2013)
Establishing networks with European suppliers

* Those in yellow are European suppliers with which JR East has directly communicated with their top executives in the past year.

- Establishing relationships with supplier associations
  - UNIFE (Association of the European Rail Industry)
  - EBC (European Business Council) Railway Committee etc.
  - Hosted a meeting between Japanese railway operators and European suppliers’ associations in October 2011. In April 2012, JR East held individual meetings with suppliers’ associations for the exchange of opinions.

【Overview of the Oct. 2011 meeting】
- Participants: UNIFE, EBC (European Business Council in Japan) members, The Internal Market and Services Directorate General (EC), Mission of Japan to the European Union, 6 JR passenger railway companies, Tokyo Metro, etc.
- Outline
  - Presentations and technical visits by UNIFE, JR East and Tokyo Metro (visit to JR East’s Tokyo General Rolling Stock Center) etc.
Enhanced provision of procurement information

- Added a “Material Procurement Information” website page in English and Japanese in October 2010

- Expanded the website in January 2012 by adding examples of products purchased and processes for new contracts.

For those who are interested in newly initiating business transactions with JR East

<The following shows the flow from the beginning of the transaction to the placement of an order>

(1) Please send by email to JR East [procurement@jreast.co.jp] the following information:

1. Name of your company
2. Place where your head office is located (country, postal code, and full address)
3. Items for which you are interested in having transactions
4. The contact person in your company (department, title, name, phone number, e-mail address)
5. Please also attach relevant brochures, pamphlets, or other similar documents (in PDF files).

(2) JR East will request that you send your corporate information, etc. Please send your company outline, business condition, outline of the situation concerning how your company is working with CSR, items for which you wish to have business transactions with JR East, other necessary identification documents.

- JR East will consider the management situation of your company, etc., based on the documents submitted to us.
- JR East will consider the function & quality, quality control system, production & supply system of the products, etc.
- JR East will ask your company to send quotations of estimated prices, if it decides that it may plan to procure your products.

(3) Please send JR East your quotations of estimated prices.

- JR East will make comparisons among quotations and discuss prices, etc. with relevant companies.

JR East will place an order with an order form.

http://www.jreast.co.jp/e/data/procurement.html
Based on our procurement policy to seek high-quality and reasonably priced products with strong after-sales support regardless of origin, JR East purchases numerous products from both overseas and domestic sources. The following are a few examples:

**France**

**Faiveley Transport**
- [Electric Door Closing System]
- e.g.: Series E231, E233, etc.

**Saft**
- [Storage Batteries]
- e.g.: Shinkansen Series 400, Series E231, etc.

**Germany**

**Knorr-Bremse**
- [Dynamic Brakes]
- e.g.: Shinkansen Series E5, Series E6, Series E7.

**Recaro**
- [Seats for Shinkansen Series E5, GranClass]
- *Manufacturer-arranged Components*

**Austria**

**Platter & Theurer**
- [Multiple tie tampers]

**U.K.**

**Pandrol**
- [Rail Fastenings]
For the introduction of CBTC* to the Joban Local Line (planned for around 2020), a railway line in the Tokyo metropolitan area, JR East recruited suppliers widely from both abroad and within Japan. Including overseas companies, a total of ten suppliers expressed interest in the project, and in February 2013, two companies from those ten suppliers, Alstom and Thales, were shortlisted for further consideration.

For the procurement of products which are directly related to railway operation safety, in addition to the traditional method of Selective Negotiation, JR East aims to actively promote Open Negotiations like this.

* Communications-Based Train Control system
Configuration and features of the CBTC system

【Features】
1. CBTC is a comprehensive and integrated system capable of train control (controlling switch points, train headways) and traffic management.

2. It is completely different from conventional signalling systems.
   (1) Track circuits are no longer necessary
   (2) Information is communicated by radio
   (3) Train headways are controlled without blocks.

3. It is already in use on nearly 100 lines worldwide.

(1) Trains always recognize their own position by transponders and their axle rotation.
(2) Trains transmit their own position to the ground equipment by radio.
(3) Ground equipment calculates the point where a following train must come to a full stop, based on the distance from the preceding train.
(4) Ground equipment sends the information about this point to the following train by radio.
(5) The following train sets its speed profile so that it can stop before reaching this point.
Establishing a business foothold in Europe, our Brussels Branch Office

- In February 2013, JR East established its first overseas business office since its foundation, the Brussels Branch Office, in Belgium.

- The principal activities of JR East’s Brussels Branch Office are
  1) Promotion and enhancement of the railway businesses.
     - By utilizing the technologies and know-how that the JR East Group has accumulated over time, and through its cooperation with local companies in Brussels, JR East aims to contribute to the development of European railways.
  2) Further promotion in making overseas procurement.
     - Through its participation in railway-related trade shows in Europe, JR East intends to study the outstanding technologies and products of railway suppliers in Europe.

SIFER (Salon International de l’industrie ferroviaire): Participated in 2013 for the first time.
And much more
Efforts to further increase the reinforcement of coalitions between companies related to European railways and JR East

— Our conclusions and our position
Our conclusions and our position

JR East expects suppliers not only to provide us with their products but also to continue this cooperative relationship in the mid to long term, to include, among other services, establishing a firm structure on the supplier side to be able to respond promptly if a product fails and for maintenance. This long-term relationship is necessary because products and services used for railway businesses need a much longer service life than general consumer products.

Accordingly, for the development and procurement of products and services directly related to the safety of railway operations, it is inevitable to have partnerships with suppliers which include joint development. Through these partnerships, JR East has also been able to and is currently able to achieve innovations.

Based on this belief, JR East aims to further strengthen its coalitions with railway-related companies in Europe.
Our conclusions and our position

In its search for outstanding technologies and services, JR East has been putting much effort into discovering quality products and suppliers from throughout the world, and as a result, we have been successful in doing so. However, in spite of these utmost efforts of ours, JR East is currently facing an unreasonable situation globally.

JR East is currently subject to the WTO’s Agreement on Government Procurement (GPA), and we strongly request that we be permitted to withdraw from the Agreement at the earliest possible time.
* The U.S. and Canada have already dropped their petitions of objection for JR East’s withdrawal from the Agreement, and the EU petition is the only one which remains.

Withdrawal from the GPA will greatly improve JR East’s procurement environment, and we will be able to more actively seek good quality products and suppliers from throughout the world.
JR East believes that, as a railway company, it has the ultimate responsibility for the safety of its railway passengers.

Based on this management belief, we have continued our thorough pursuit of superior levels of safety and customer satisfaction in our operations, and are committed to continuing our efforts.

JR East’s efforts to date are a testament that the JR East Group is completely open toward any suppliers everywhere in the world. We will continue to take this stance in our efforts to remain open to offers for procurement.

JR East strongly hopes that together with railway-related companies in Europe, we will continue with our mutual openness and cooperation, and in our contributions to the further development of railways worldwide.