Introduction of the N700-I Bullet Train

The World’s Safest and Most Efficient High Speed Rail System

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Operating Distance (Shinkansen): 552.6km

- Area: 23.7%
- Population: 59.3%
- GDP: 64.3%

Tokaido Shinkansen’s Operating Area

*Sources*
GDP: Annual Report on Prefectural Accounts (Data: FY2009.3), Economic and Social Research Institute, Cabinet Office
Safety and Punctuality

- Safety

ZERO accident record, unbroken since 1964 (over 47 years)

= ZERO passenger injuries or fatalities from train accidents

- Punctuality

Annual average delay per train is 0.6 minutes *1 *2

= Less than One minute

*1: Including delays due to uncontrollable causes, such as natural disasters
*2: Standard for train delays; JR Central: “delay” = >1 minute, Europe: “delay” = >15 minutes
Safety and Punctuality

Dedicated Line with No Level Crossings

A dedicated, closed passenger rail system with
- complete separation of passenger and freight traffic
- full grade separations
  
  zero possibility of catastrophic collision with goods trains or motor vehicles
Safety and Punctuality

Automatic Train Control (ATC)
- Eliminates possibility of collision with train running ahead
- 100% safety record in Japan for over 47 years

Calculated brake pattern
Comparison of Brake pattern and Speed
Brake Command
Brake pattern is calculated by on-board ATC system
ATC Signal (Information on the train running ahead)
Ground Facility
Safety and Punctuality

Shinkansen General Control Centre
(Computer-aided Traffic Control)

- Monitors operational condition of trains and facilities
- Manages train operations comprehensively
- 100% safety record in Japan for over 47 years
The “N700-I Bullet”

“N700-I (I: International) Bullet”
- Cruising Speed 330 km/h -
The “N700-I Bullet”

Totally Integrated System

Hardware
- Rolling stock
- Ground facilities and tracks
- Signal system “ATC” (onboard and ground facilities)
- Disaster prevention facilities
- Protective facilities

Software
- Safety promotion structure
- Employee education and aptitude
- Maintenance
- Operation management
What is the “N700-I Bullet”?

- A total “High-Speed Rail System”
- Comprises the N700-I rolling stock, a derived model of the N700 optimized for overseas operations and the entirety of the Tokaido Shinkansen system
- The system has provided safe and stable operations in Japan for over 47 years.

Fast
Safe
Green
Comfortable
Proven
### Specifications of Rolling Stock

**N700-I** (eight-car configuration, or reference design)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic formation</strong></td>
<td>8-car trainset (each car individually motorized, 100% regenerative brake)</td>
</tr>
<tr>
<td><strong>Seating Capacity</strong></td>
<td>636</td>
</tr>
<tr>
<td><strong>Maximum Cruising Speed</strong></td>
<td>330 km/h</td>
</tr>
<tr>
<td><strong>Train Set Length</strong></td>
<td>204.7m</td>
</tr>
<tr>
<td><strong>Train Set Weight</strong></td>
<td>365 t</td>
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</tbody>
</table>

#### Diagram:

- **Car No. 1**: Capacity: 85
- **Car No. 2**: Capacity: 100
- **Car No. 3**: Capacity: 75
- **Car No. 4**: Capacity: 100
- **Car No. 5**: Capacity: 90
- **Car No. 6**: Capacity: 80
- **Car No. 7**: Capacity: 90
- **Car No. 8**: Capacity: 70

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[Image of train layout diagram]
Mass Transport

N700-I has a large cross section, enabling maximization of seating capacity/train. This gives N700-I superiority in rolling stock cost/seat.
Optimum Seat Capacity

The N700-I basic configuration is scalable for a 6 to 16 cars configuration, enabling highly tailored corridor-specific transportation construction.

- Configuration length can be freely changed. Distributed traction system means configuration does not impact train performance.

- Moreover, configuration can be extended in response to increasing demand.
Conclusions

The “N700-I Bullet” is a proven technology based on the “Total System Approach” that builds on 47 years of experience and refinement.

- Safety and Punctuality
- High-speed, Efficient Transportation
- Low Energy Consumption
- Low Carbon Emissions