

HITACHI Railway Systems

High Speed Rail for India



11 Feb. 2013 Hitachi, Ltd.

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1. Total Solution Provider for Shinkansen



Provide the Total Solution with Shinkansen High Speed Rail



2. Global Supply Record

HITACHI Inspire the Next

India



Steam Locomotive (1953)



Electric Multiple Unit (1957)



Electric Locomotive (1988)



Tilting Train Express (Taiwan)



Palm Jumeirah Monorail (Dubai, UAE)



Nooriro Express (South Korea)



Class 395 High Speed Train (UK)



Intercity Express Programme in UK



3. Overseas Experience in Rolling Stock for HSR (Class 395)



Complying with the UK & European standards and requirements based on Japanese Technology



- Quantity: 174 cars (6car x 29 trains)
- Maintenance contract : Max 35 years
- Runs on both high speed and conventional routes

<Achievements>

- + On-time Delivery
 Entered passenger service
 6 months earlier than the original schedule
- + High Reliability
 Top level MDBF in UK
- + Excellent Passenger Satisfaction 90% passengers are satisfied with Class 395 (Source: Modern Railways Nov. 2009)

Successful delivery of Class 395 led to another big contract

3. Overseas Experience in Rolling Stock for HSR (Class 395)



Played a great role in the London Olympic 2012, as a shuttle express train between St. Pancras and the Olympic Park



<Achievements>



Successful delivery of Class 395 led to another big contract

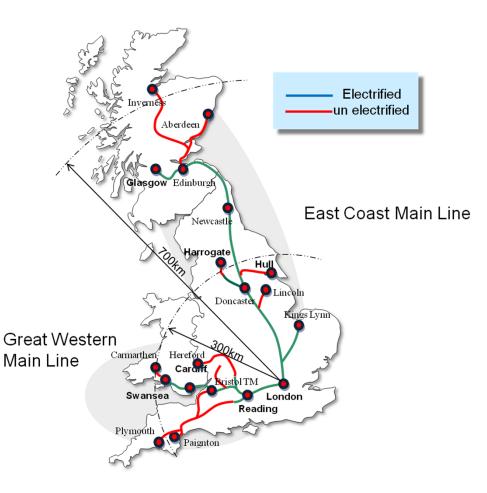
3. Overseas Experience in Rolling Stock for HSR (IEP)



Intercity Express Programme (IEP)

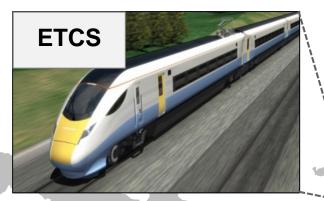
- ◆ Train manufacturing (596 vehicles + option)
- Maintenance
 12 depots in total (Includes 5 new depots)
 Maintenance period of 30 years
- Project Value4.5 Billion GBP





4. Overseas Experience in Signalling System for HSR







"UK" Intercity Express Programme

"UK" TMS projects



TMS

"China" Middle & High Speed Train

"Taiwan" High Speed Rail (Subcontractor for Toshiba)

TMS: Train Management System ETCS: European Train Control System CTCS: Chinese Train Control System

5. Our Plan to introduce HSR to India



Japanese HSR Technology

Basic Technology

Customization for **Indian Market**

Environmental Conditions in India

in India

Operational Requirement Technical Standard in India

Indian High Speed Rail

Based on Japanese Technology

Long Term Support from Japan

Training in Japan / Dispatching trainers to India

Transfer of Technology

- Train Manufacturing Technology
- Quality Assurance, etc.

Support for Maintenance

- Technical Instruction for maintenance
- Training for maintenance staff

6. Hitachi's Presence in India



Hitachi Group Operations in India **Gurgaon / Manesar** ■ Hitachi High Technologies * Instruments, Electronic Components ■ Hitachi Metglas (India) **Amorphous Metal Products** Hitachi Metals (India) Metal Products **Ahmedabad** Hitachi Home & Life Solutions (India) Air Conditioners, Refrigerators Hitachi HiREL Power Electronics (HHPE) Power Electronics Products Mumbai -Hitachi Plant Technologies * Water Treatment Systems, Compressors Flyjac Logistics Logistics Pune Hitachi Consulting India Consulting **Hyderabad** Hitachi Consulting Software

■ Sales Service ■ Manufacturing Sales Service

(*: Branch Office, **: Joint Venture of minority share)

Delhi

- Hitachi India
 - Infrastructure Systems etc
- Hitachi Lift India
 Elevators & Escalators.
- Hitachi Transport System India Logistics
- Hitachi Chemical (Thailand)*
 Sintered Automotive Parts etc.
- Quality Life Enterprise India
 Hotel
- Allied JB Friction ** Brake Friction Material

Bangalore

- Hitachi Data Systems India
 Data Storage Systems
- Hitachi Koki India Power Tools
- Telco Construction Equipment Construction Machineries
- Hitachi NeST Control Systems
 Control Software

Chennai

- India Nippon Electricals **
 Spark Plugs for Automobiles
- BGR Turbines **
 Turbine Generators
- BGR Boilers **
 Boilers
- Aloka Trivitron Medical Technologies
 Diagnostic imaging devices
- Vantec LogisticsLogistics

Software

Services India (Sierra Atlantic)

7. Contribution to the Development of India





Contribution to India through High Speed Rail

Local manufacturing with Indian partner

Confidential

Signalling System Train Management System Customization of software with Indian partner and local procurement of hardware







Thank you so much for your kind attention