

Technological Development & Economic Benefits of HSR



Toshiba International Corporation
Presented By: Kyle Kem,
Vice President of Sales, Industrial Division
June 28, 2010

Toshiba Corp. Overview

Company Overview

Company Name: Toshiba Corporation

Headquarters: Tokyo, Japan

Founded: July 1875

Paid-In Capital: 439.9 Billion Yen

Consolidated Net Sales: 6,381.6 Billion Yen

Employees (Consolidated): 203,889

Shareholders: 473,230

Shares Issued: 4,237,600,000 Shares

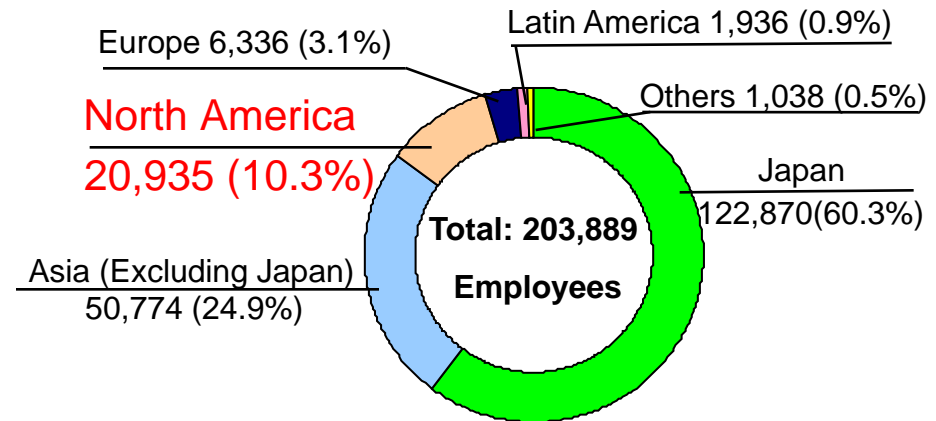
Consolidated Subsidiaries: 542 (227 in Japan, 315 overseas)

Affiliates Accounted for by the Equity Method: 200

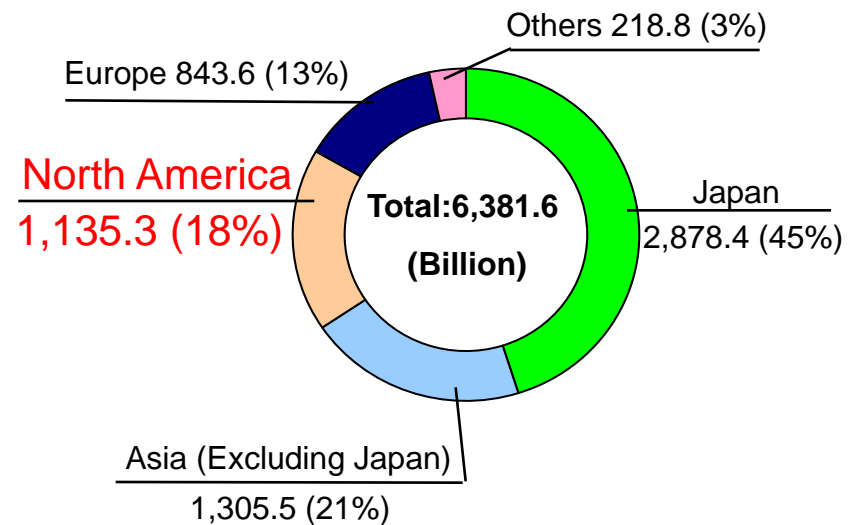
Stock Exchange Listings: Tokyo, Osaka, Nagoya, London

** Data as of March 31, 2010*

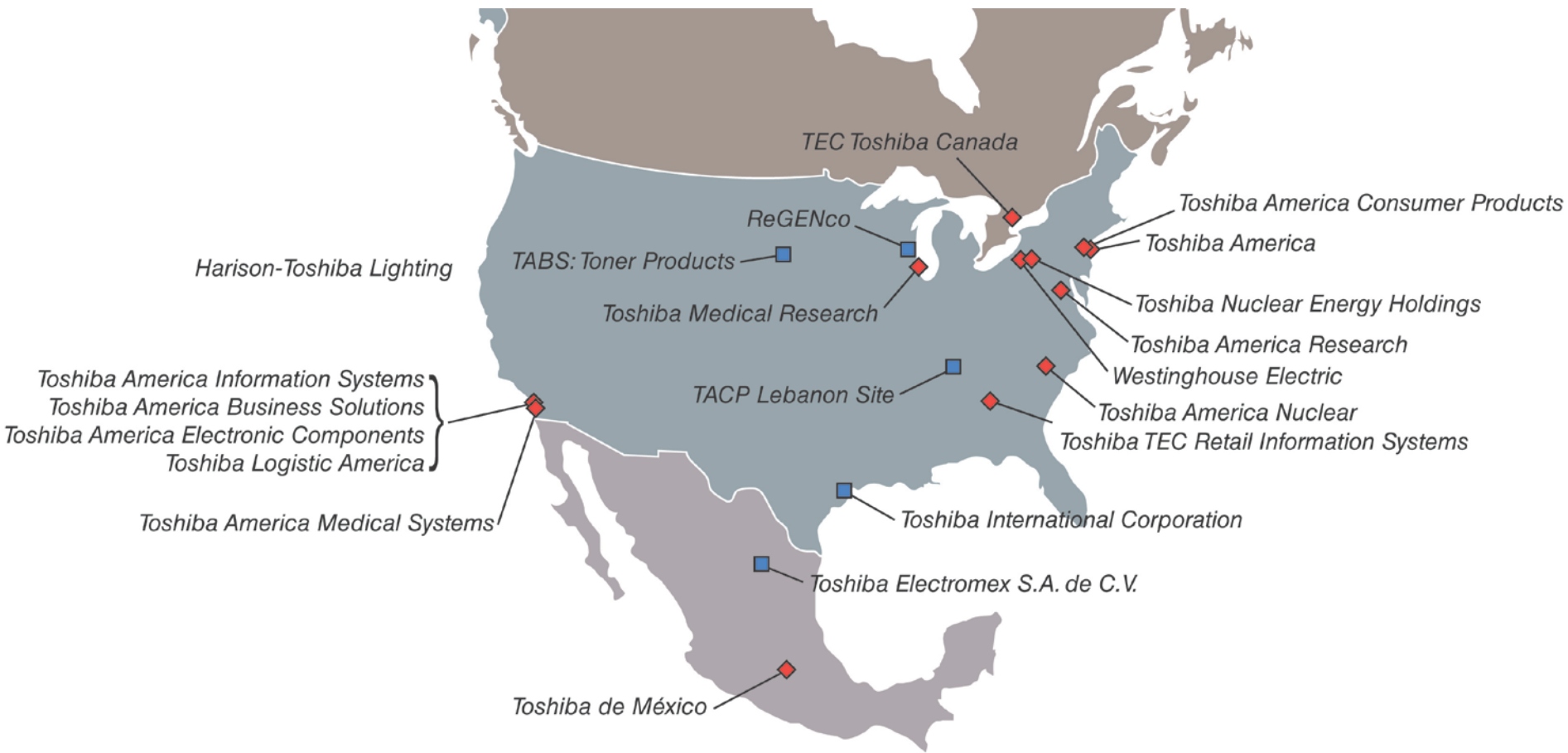
Employees by Region



Sales by Region (FY2009)



Toshiba North American Operations



- ◆ Head Office
- Manufacturing

Toshiba Group- 85 Companies
in North America

Contributions to Regional Economy

Manufacturing



High Speed Train

















Maintenance



Toshiba International Corp. (TIC) Presence in USA



Established: 1967
Total Employees: 900
Total Land: 2,400,000 Sq. Ft.
Buildings: 1,000,000 Sq. Ft.
Offsite Warehouses:
Chicago 5,000 Sq. Ft.

Motors	Drives	T&D	UPS	Automation	Transportation	Display Media	Security & Automation	Broadcast
								
								
						Rechargeable Battery		LED Lighting

TIC: Localized Midwest Products

- METRA Highliner, NICTD Gallery Car EMU(Chicago, USA)



- Minneapolis Hiawatha LF LRV

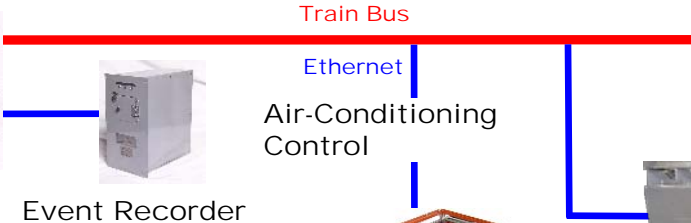


Toshiba's Products for High Speed Railways

Products (Taiwan High Speed Railway)

- System Integration of Electrical Equipment
- High Performance & High Quality
- Contribution to the Environment

On-Board Computer (OBC)
Central Unit



Event Recorder



Air-Conditioning
Control



Air-Conditioning
Equipment

On-Board Computer (OBC)
Terminal Unit



Traction Converter
Inverter



Main Circuit

Main
Transformer



On-Board ATC
Equipment



Programmed Station
Stop Control Equipment
(PSSC) & PWM
Generator Equipment



Traction
Motor



Auxiliary
Power Supply

Projects

Taiwan High Speed Railway
Series 700T



JR Kyusyu
Series 800



JR West / JR Kyusyu
Series N700-7000/8000



JR Central / JR West
Series N700



JR East
Series E5
(prototype)



Taiwan High Speed Rail

The First Export of Japanese Shinkansen System

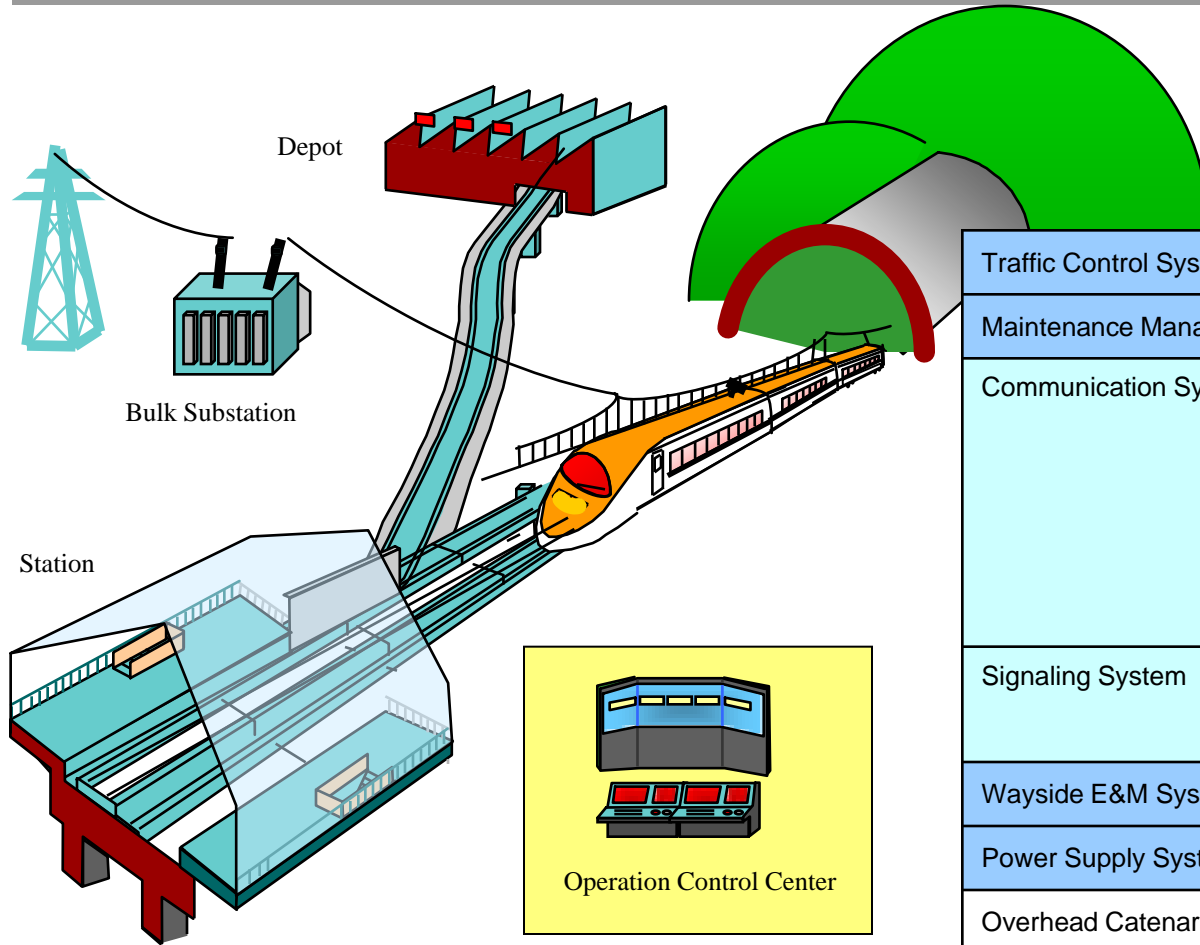


As a member of Japanese Consortium, Toshiba oversaw the project management work and the system engineering work to supply subsystems and to integrate the whole HSR core system.

Series 700T

- Maximum Speed: 300 km/h
- 25 kV AC Catenary
- IGBT Traction Converter/Inverter
- 300 kW AC Traction Motor
- Main Transformer
- IGBT Auxiliary Power Unit
- Train Control & Monitoring System
- Navigation System
- ATC
- Air Conditioning Unit

Toshiba's Scope of Work in Taiwan High Speed Rail E&M System



Traffic Control System	
Maintenance Management Information System	
Communication System	Data Transmission
	Telephone
	Train radio
	Public Address
	Passenger Information
Signaling System	Ground
	On-Board
Wayside E&M System	
Power Supply System with SCADA	
Overhead Catenary System	
Rolling Stock	Mechanical
	Electric
	Driving Simulator
Track Work	

Supplied by Toshiba
Supplied by Toshiba and Others
Supplied by Others

Corporate Social Responsibility

- Local & Nationwide Contributions to Education, Community Relations, the Environment, Charitable Sponsorships, Employee Volunteer Activities and Philanthropy
- Example Activities Include:
 - ExploraVision
 - Red Cross- Disaster Relief
 - United Way
 - Habitat for Humanity
 - Toys for Tots
 - Tree Plantings
 - Blood Drives
 - Recycling Programs



ExploraVision Program

- Annual science technology sponsored by Toshiba & NSTA for K-12 students in the USA and Canada.
- Students propose future technologies by combining imagination with current tools of science.
- 24 teams selected as area champions in March for each US area and Canada; 8 teams selected as grand champions and runners-up and are recognized every June in Washington DC.
- Competition has been held 18 times since 1992 with more than 270,000 student participators.
- TAI has a staff of volunteers to assist with website production and organizing the award ceremony.

Where innovation begins.

TOSHIBA NSTA EXPLORAVISION AWARDS

Bright young minds shine in the 2010 ExploraVision Awards, fostered by Toshiba's 135-year quest for leading innovation and longtime commitment to science education. We look to these young science stars for inspiration as they begin to light up the future.

Congratulations to this year's Best Young Scientists

Now in its 18th year, the ExploraVision competition encourages K-12 students to explore a vision of future technology by combining their imaginations with the tools of science. Over 250,000 students to date have taken part in the competition, sponsored by Toshiba and administered by the NSTA since 1992. To learn more about the 2010 winners and their bright ideas, please go to www.exploravision.org

1st Place
Grades 10-12: University Laboratory High School, Urbana, IL
Grades 7-9: Forest Ridge School, Bellevue, WA
Grades 4-6: Scofield Magnet Middle School, Stamford, CT
Grades K-3: Willow Grove Elementary, San Diego, CA

2nd Place
Grades 10-12: Stuyvesant High School, New York, NY
Grades 7-9: Ma'ayanot Yeshiva High School for Girls, Teaneck, NJ
Grades 4-6: Fairmont Private School, Anahaim, CA
Grades K-3: Tampa Christian Community School, Tampa, FL

TOSHIBA
Leading Innovation >>>
www.toshiba.com

TOSHIBA eco style

Lighting the way to a brighter future
As environmental concerns grow, Toshiba draws on a century of lighting expertise to change the basic bulb. Our newly available long-life, energy-saving E-CORE™ LED Light Bulbs are designed to fit standard fixtures and reduce energy use. Our goal? Lighting the way to harmony between people and the planet — through bright minds and innovative thinking.

Starting today, see the winning teams up in lights on TOSHIBA VISION Times Square.

TOSHIBA

Leading Innovation >>>