

MHI Gas Turbine Business Presentation

GTCC Business Report and Strategic Goals



September 12, 2005

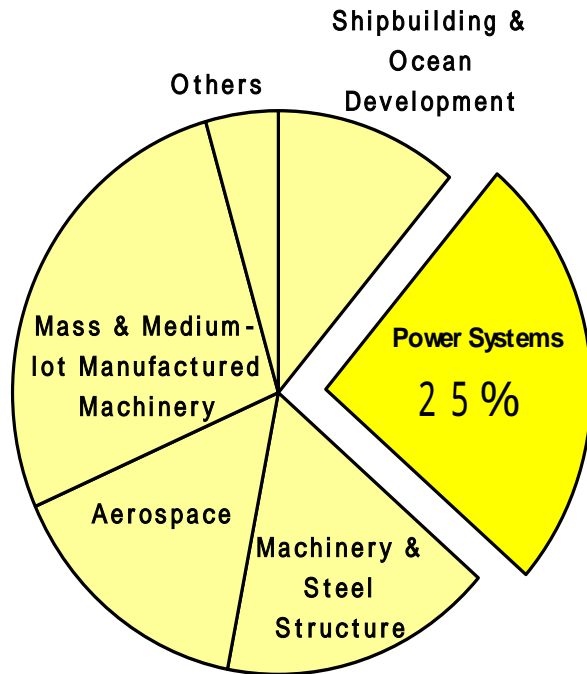
Mitsubishi Heavy Industries, Ltd.

Ichiro Fukue

**Executive Vice President &
Representative Director General Manager,
Power Systems Headquarters**

Positioning of the Power Systems Segment

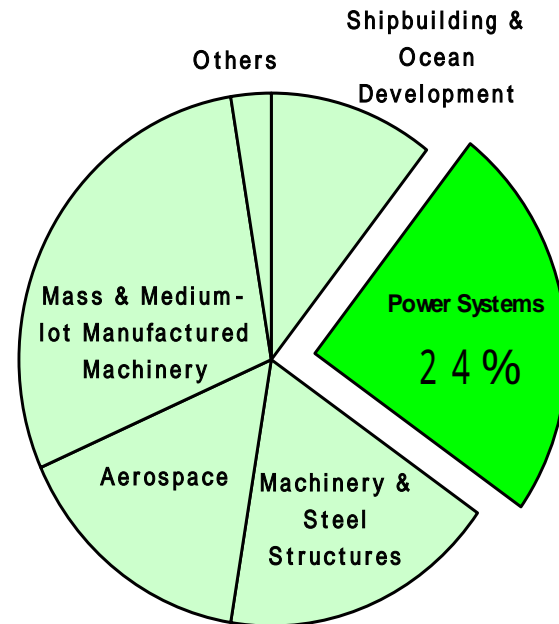
Power Systems Share of Total Orders and Sales



**FY04 Consolidated
Orders Received**

¥691.4billion

Total: ¥2,722.8 billion



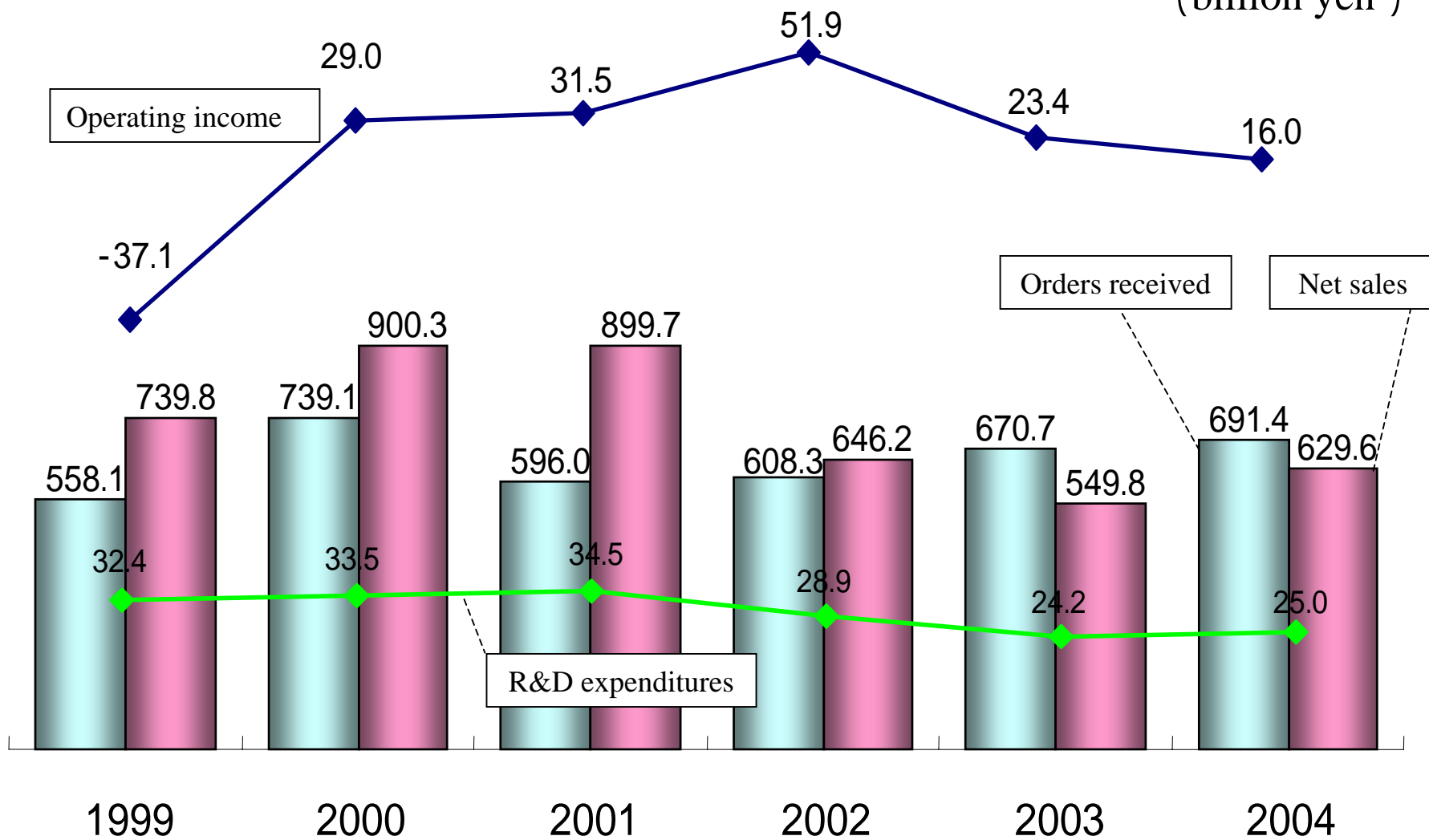
**FY04 Consolidated
Net Sales**

¥629.6billion

Total: ¥2,590.7 billion

Power Systems Consolidated Orders Received, Net Sales, Operating Income and R&D Expenditures

(billion yen)



Major Products of the Power Systems Segment

Power Systems

Thermal power plant (GTCC/conventional)

- Steam turbines, Gas turbines, Boilers
- Selective Catalytic NO_x Removal System

Renewable energy

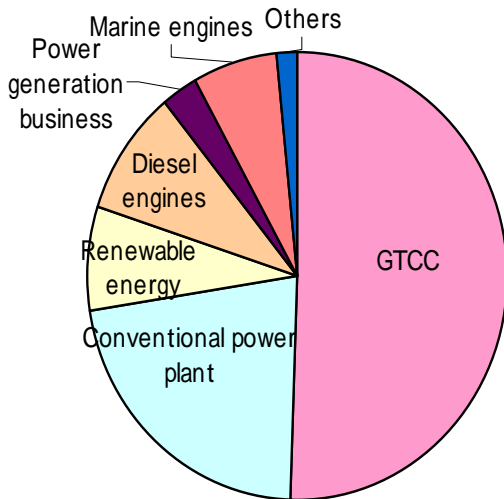
- Wind , Hydro, Geothermal, Solar power plant

Diesel engines

Marine engines

Fuel cells

Composition of FY04 Orders Received (Power Systems)



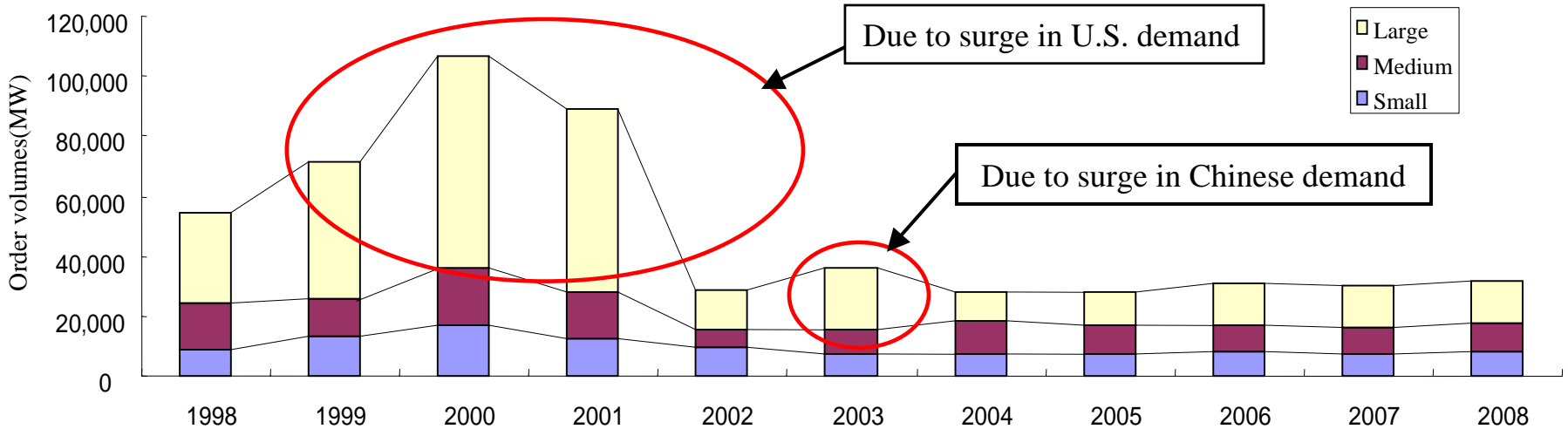
Nuclear Power

- PWR Power Plants
- New boiler plant type power plant
- Nuclear fuel
- Nuclear Fuel Cycle Equipments

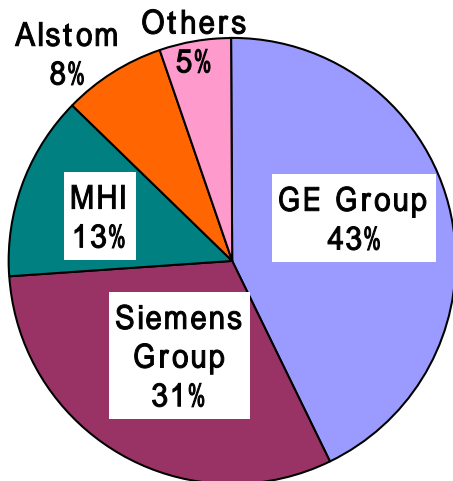


The Gas Turbine Business

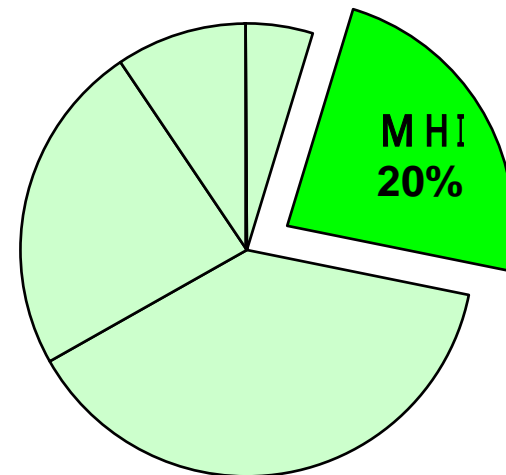
Global Orders for Gas Turbines by Category



Average Market Share Over Past Three Years (2002-2004)



[Target] Market Share of 20%



Gas Turbine Deliveries by Region

As of June 2005

M501G × 29
M701G × 7
Total : 36units

M501F × 61
M701F × 69
Total : 130units

M501D × 17
M701D × 79
Total : 96units

Europe and Middle East

Americas

China

Japan

Southeast Asia



TOTAL
450 units

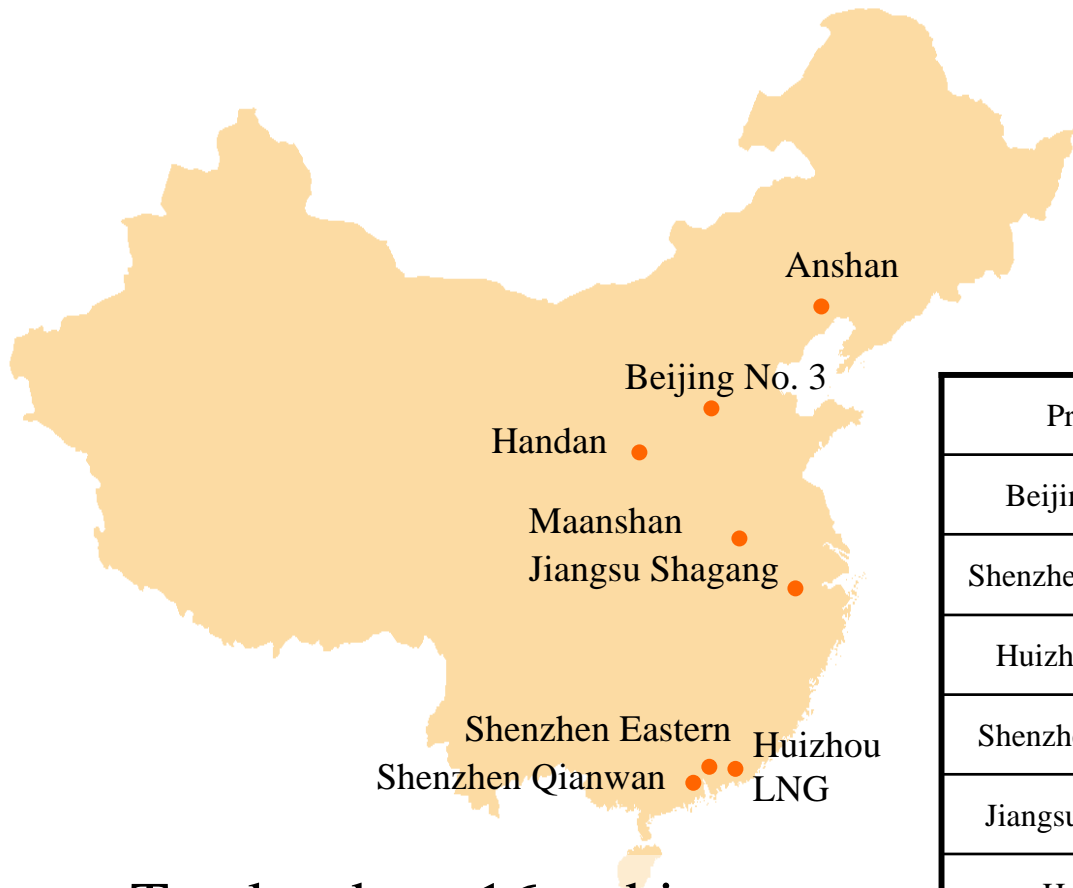
Japan



Continuously received several orders for large combined-cycle projects

Customer	Project	Turbines	Output	Completion
Tohoku Electric Power	Higashi-Niigata 4-2	M701G × 2	805MW	2008
Tokyo Electric Power	Kawasaki No. 1	M701G2 × 3	1,500MW	2007
Kawasaki Natural Gas Generation	Kawasaki Natural Gas	M701F × 2	800MW	2008

China



Captured large volume of orders through bulk-negotiations

The sole provider in China of CC generators fueled by blast furnace exhaust gas

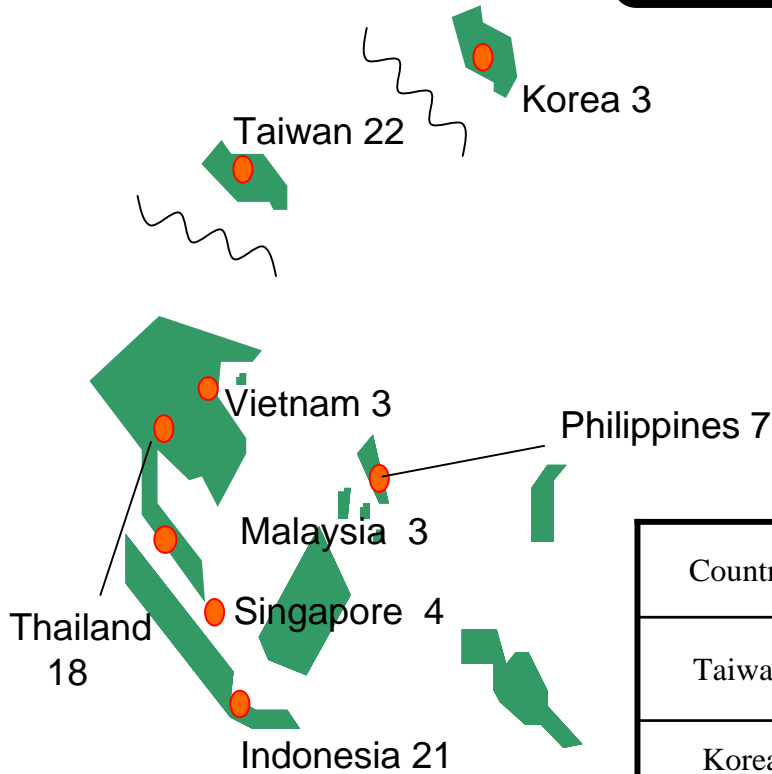
Total orders: 16 turbines
(as of September 1, 2005)

Project	Turbine	Output	Completion
Beijing No. 3	M701F × 1	272MW	2005
Shenzhen Qianwan	M701F × 3	735MW	2006 ~ 7
Huizhou LNG	M701F × 3	735MW	2006 ~ 7
Shenzhen Eastern	M701F × 3	735MW	2006 ~ 7
Jiangsu Shagang	M251S × 2	60MW	2005 ~ 6
Handan	M251S × 2	60MW	2006
Anshan	M701F × 1	300MW	2007
Maanshan	M701DA × 1	153MW	2007



Deliveries by country

Southeast Asia



About 14 GW orders are expected over the next five years

Country	Customer	Project	Turbine	Output	Completion
Taiwan	TPC	Dah-tarn	M501F × 6 M501G × 8	4,272MW	2005 ~ 8
Korea	KDHC	Hwaseong	M501F × 2	800MW	2007
Korea	POSCO	Pohang	M501DA × 1	145MW	2007
Thailand	RPC	Ratchaburi	M701F × 4	1,400MW	2008
Indonesia	PLN	Cilegon	M701F × 2	700MW	2005



Deliveries by country

Americas



Enhanced presence in this region by expanding the function of the existing local base

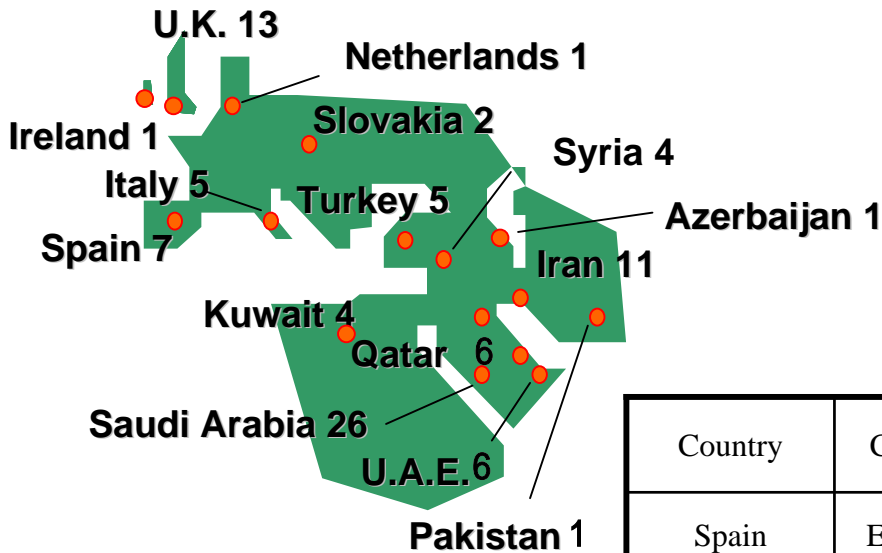
Prepared for a recovery in demand in North America

Country	Customer	Project	Turbine	Output	Completion
U.S.	Portland GE	Port Westward	M501G × 1	400MW	2007
Mexico	Mitsubishi Corp.	Tuxpan V	M501F × 2	495MW	2006
Chile	ENDESA	San Isidro	M701F × 1	377MW	2008



Europe and Middle East

Deliveries by country



Enhanced presence in this region by establishing more local bases

Country	Customer	Project	Turbine	Output	Completion
Spain	Electrabel	Castelnou	M701F × 2	800MW	2006
Spain	AES	Cartagena	M701F × 3	1,200MW	2006
Spain	ENDESA	Cristobal Colon	M701F × 1	400MW	2006
Saudi Arabia	ARAMCO	Berri	M501F × 2	300MW	2005

Strategies for Gas Turbine Business

Business model

- *Increase full turnkey and service businesses*

Development of technologies

- *Refine technologies for higher efficiency and the fuel flexibility capability*

Regional strategy

- *Use overseas bases to increase the scale of operations*

The MHI GTCC Business Model

Specialize in large GT (F/G type) to maximize efficiency of business operations

Order
Composition

Maintain consistent volume of business through suitable volume of full turnkey orders



< Summary of full turnkey price structure >

Gas turbine	ST, HRSG generator	Site preparation, installation, trial operations
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Full
turnkey

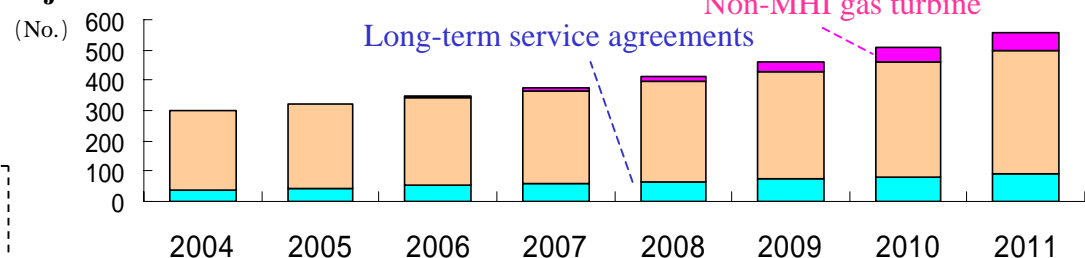
Maintain consistent earnings through growth in turbines serviced by MHI and long-term service agreements

Services

- More long-term service agreements
- Provide servicing for gas turbines of other companies

Stand-alone
equipment

< Projected Growth in Gas Turbines Serviced >



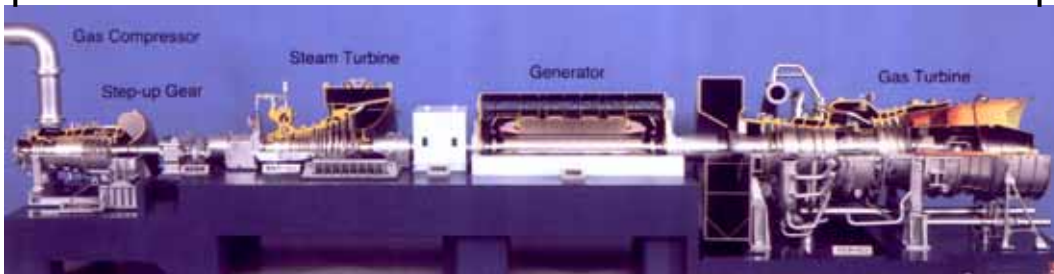
GTCC: Gas Turbine Combined Cycle
FTK: Site preparation, installation, trial operations and delivery

Increase Sales by Offering Exclusive Technologies

GTCC fueled by blast furnace exhaust gas

Blast furnace exhaust gas: A low-calorie (about one-tenth of natural gas) generated as a byproduct of the steelmaking process during the reduction reaction of iron ore and coke

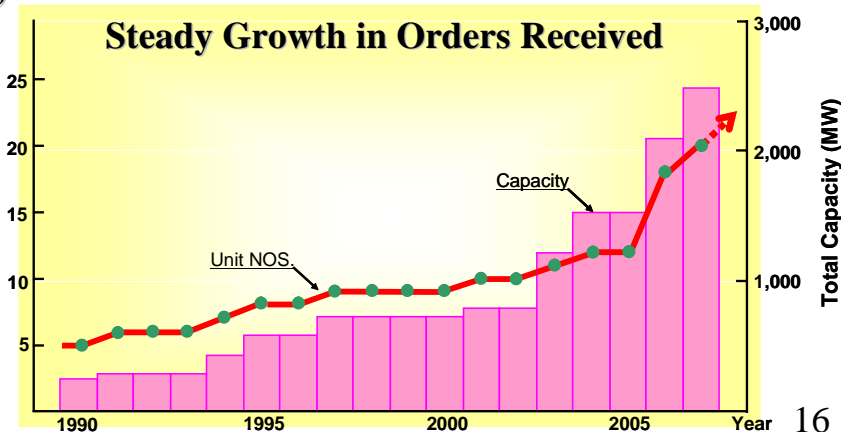
150MW class (about 50 meters)
300MW class (about 60 meters)



Strategic sales promotion
by focusing on Asia



World's largest blast furnace/coke oven gas GTCC (using M701F)
Kimitsu Cooperative Thermal Power (began operations in 2004)



(Source: MHI forecast)

Extensive Use of Fuel Flexibility Technology Coal and Petroleum IGCC

Petroleum IGCC

Fuel flexibility technology

Coal IGCC

Compatible with any gasification system

Use Japanese technology in other countries

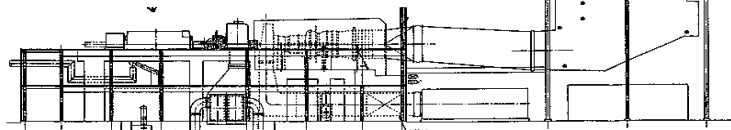
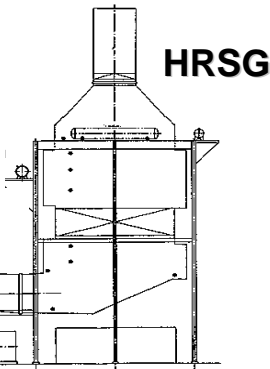
Nippon Oil Negishi (Vacuum Residue IGCC)

Completed in 2003

*Vacume Residue= Vacuum residue gasification



GEN. ST GT (M701F)



Cross section of power train

Jyoban Karyoku, Nakoso Power Plant IGCC
Prototype

Slated for completion in 2007



M P S (Mitsubishi Power Systems)

Objective

Provide total activities including sales, engineering, project management and service for MHI fleet to expand the business in the U.S. power market.

Profile

- Established : April 2001
- Activities : Repair of Hot gas path parts, Remote monitoring of operating plants, field services for gas and steam turbines.
- Employees : 337 (as of July 31, 2005)

Head Office of MPS



OSC (Orlando Service Center)



Guangzhou Joint Venture (Mitsubishi Heavy Industries Dongfang Gas Turbine (Guangzhou) Co., Ltd.)

Objective

Participate in the bulk gas turbine projects and establish the local production capability to enter the power market in China

- Established : July 2004 (receipt of government approval)
- Inauguration : September 9, 2005
- Activities : Sales, Manufacturing and repair of core components of gas turbines
- Share holders : MHI (51%), Dongfang Steam Turbine Works (49%)
- Employees : 94 (including 72 in manufacturing dept.)



The F Revolution ~ A Campaign to Increase Productivity

MHI is conducting a campaign aimed at higher quality and efficiency of manufacturing activities by returning to the basics of manufacturing.

- The Three F's**
- **Flow** : Continuous flow processing
 - **Fast** : Faster manufacturing and improvement speed
 - **Fine** : Earning customer satisfaction by delivering fine quality

The F Revolution began in October 2001 with a numerous steady programs for production and development activities.

(The revolution is expanding into other factories of MHI and our business partners.)

Achievement of Productivity

$$\text{Productivity} = \frac{\text{Manufacturing} \times \text{Actual productions}}{\text{Standard hours} \times \text{Work hours}}$$

