

# Results for the Six Months Ended September 30, 2013

## Management Overview

November 1, 2013

**IHI Corporation**

Tamotsu Saito, President and Chief Executive Officer

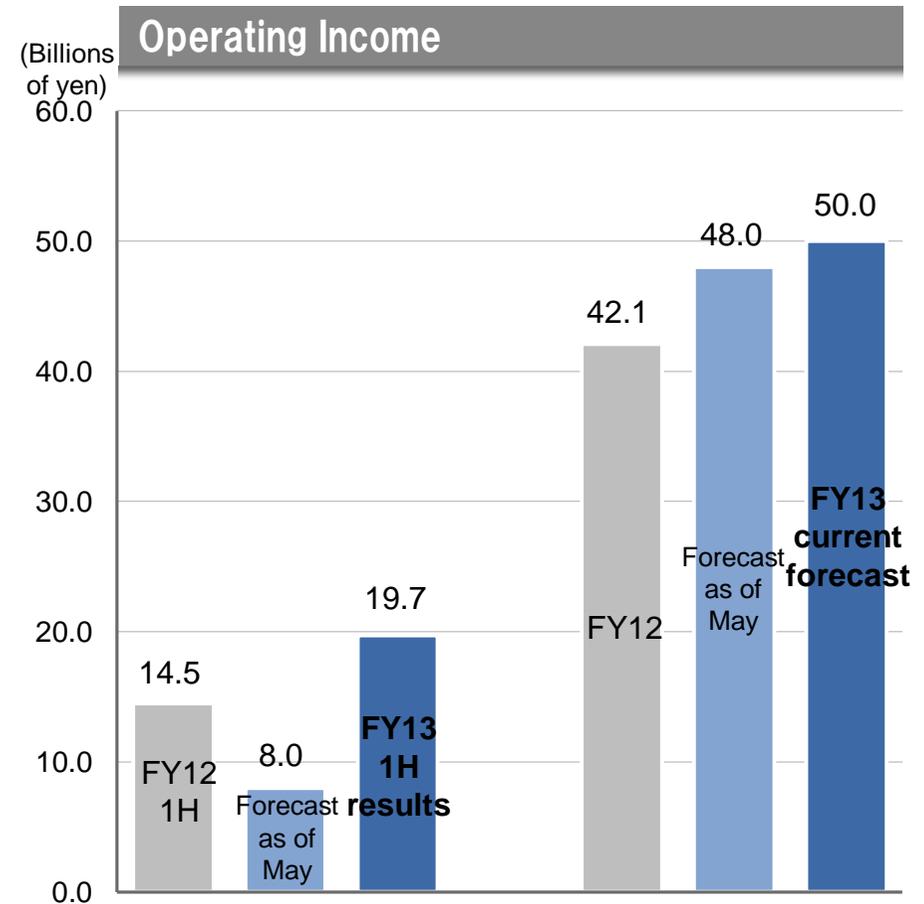
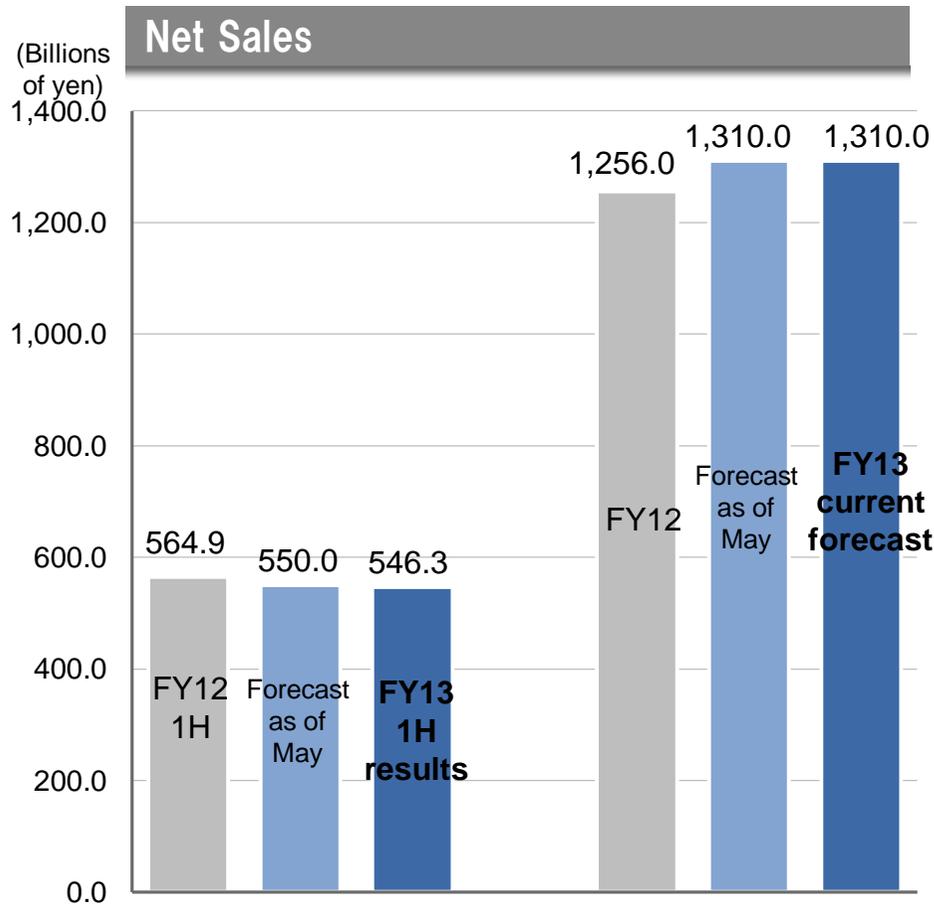
1. Management Overview.....	3
Review of Six Months Ended September 30, 2013.....	4
Numerical Targets for Group Management Policies 2013.....	6
Current Management Issues.....	10
2. Progress of Group Management Policies 2013.....	11
Strengthening of Common Group Functions toward Growth (The Three <i>Tsunagu</i> ).....	12
Progress of Large-Scale Overseas Projects.....	15
Resources, Energy and Environment.....	18
Social Infrastructure and Offshore Facilities.....	19
Industrial Systems and General-Purpose Machinery.....	20
Aero Engine, Space and Defense.....	21

# Management Overview

# Review of Six Months Ended September 30, 2013 (1)

## ■ Group Management Policies 2013 Start Smoothly

- In first half, slightly lower-than-planned net sales and higher-than-planned operating income and operating margin posted
- For full-year earnings forecasts, with exchange rate assumption (¥95/\$) unchanged, net sales forecast left as they stand, and operating income forecast slightly increased

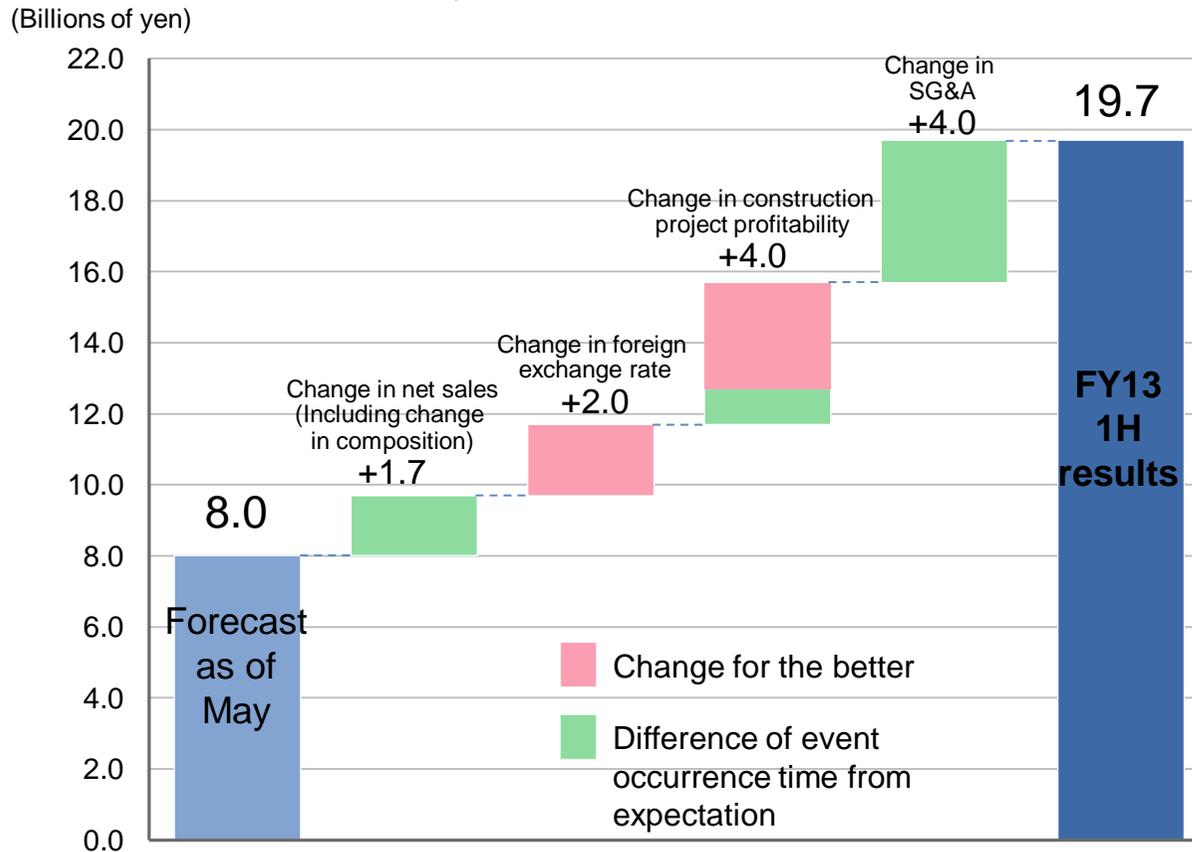


\* Figures for FY12 1H include the results of former Ships & Offshore segment (net sales ¥74.3 billion, operating income ¥4.1 billion).

\* Figures for FY12 include the results of former Ships & Offshore segment (net sales ¥117.3 billion, operating income ¥6.5 billion).

# Review of Six Months Ended September 30, 2013 (2)

- Analysis of change in operating income in the six months ended September 30, 2013 (compared to forecast as of May 2013 forecast)



## ■ Causes of change in performance

- Causes of substantial change for the better in first half

- Reduction of cost for civil aero engines
- Correction of the strong yen

- Events expected for second half

- Uncertainty of offshore structures order receiving timing
- Impact of unprofitable bridge construction work in Japan
- Uncertainty about nuclear power business

# Numerical Targets for Group Management Policies 2013 (Net Sales, Operating Income)

(Unit: Billions of yen)

	Net Sales				Operating Income			
	FY2013 (Outlook)		FY2015 (Target)		FY2013 (Outlook)		FY2015 (Target)	
	As of May	Current	Initially	<Ref> Change in exchange rate assumption	As of May	Current	Initially	<Ref> Change in exchange rate assumption
Resources, Energy and Environment	350.0	350.0	440.0	450.0	14.0	14.0	21.0	25.0
Social Infrastructure and Offshore Facilities	170.0	170.0	160.0	170.0	7.0	5.0	10.0	13.0
Industrial Systems and General-Purpose Machinery	400.0	400.0	430.0	440.0	14.0	14.0	23.0	24.0
Aero Engine, Space and Defense	380.0	380.0	380.0	400.0	20.0	25.0	19.0	26.0
Others	60.0	60.0	60.0	60.0	1.0	1.0	1.0	1.0
Adjustment amount	-50.0	-50.0	-70.0	-70.0	-8.0	-9.0	-4.0	-4.0
<b>Total</b>	<b>1,310.0</b>	<b>1,310.0</b>	<b>1,400.0</b>	<b>1,450.0</b>	<b>48.0</b>	<b>50.0</b>	<b>70.0</b>	<b>85.0</b>

Exchange rate      ¥95/US\$    ¥95/US\$    ¥80/US\$    ¥95/US\$    ¥95/US\$    ¥95/US\$    ¥80/US\$    ¥95/US\$

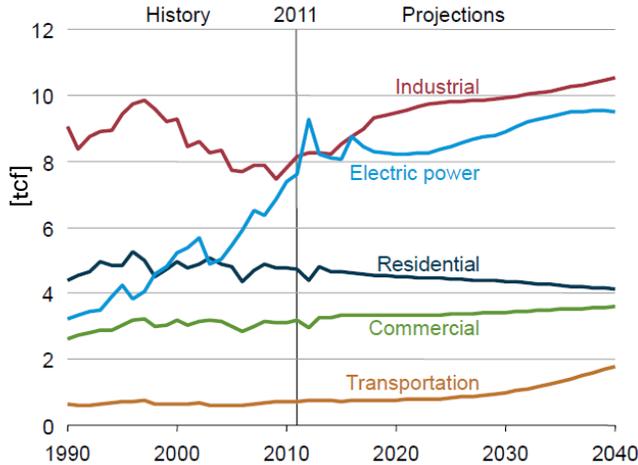
# Numerical Targets for Group Management Policies

## 2013 (1)

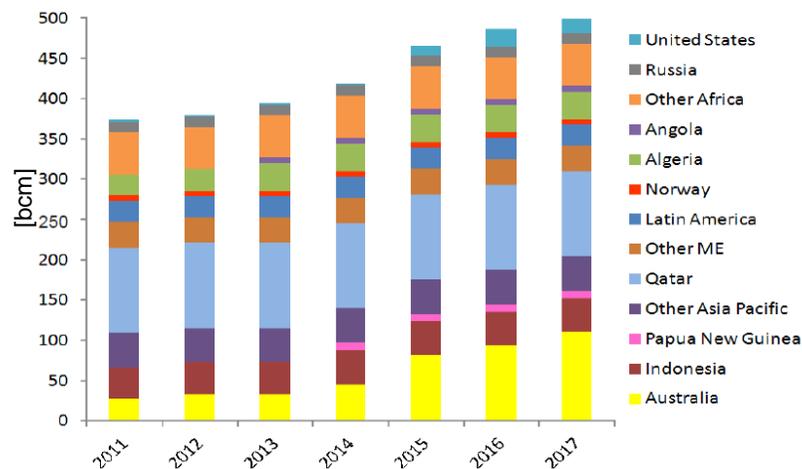
- Growth Factors in Resources, Energy and Environment, and Social Infrastructure and Offshore Facilities (Liquefied Natural Gas-Related)

### Burgeoning Natural Gas Demand and Increasing Scale of Liquefaction Plants

U.S. Natural Gas Consumption Forecasts  
(Source: U.S. EIA)



Increase in World's Natural Gas Liquefaction Plant Capacity  
(Source: IEA)



Against backdrop of climate change issues, demand will increase for natural gas, which emits less CO<sub>2</sub> per unit energy consumption. Demand will increase for natural gas chemical plants in U.S. due to shale gas revolution, as well as for plants for liquefied gas for export and ships to carry the products.

### IHI Predominance in Natural Gas-Related Businesses

Globally develop products that link from the upstream to the downstream of LNG value chain

#### Purification/Liquefaction

Plants that use natural gas, and liquefaction plants  
 • Extensive track record in FS and FEED projects



#### Transportation/Storage

F-LNG facilities, offshore vessels, and SPB tanks for use on LNG carriers  
 • Shake-resistant square tanks  
 • High hull-space utilization efficiency



Bases/storage tanks to receive LNG  
 • Has leading position in Japan and extensive track record in EPC projects overseas



#### Energy Conversion

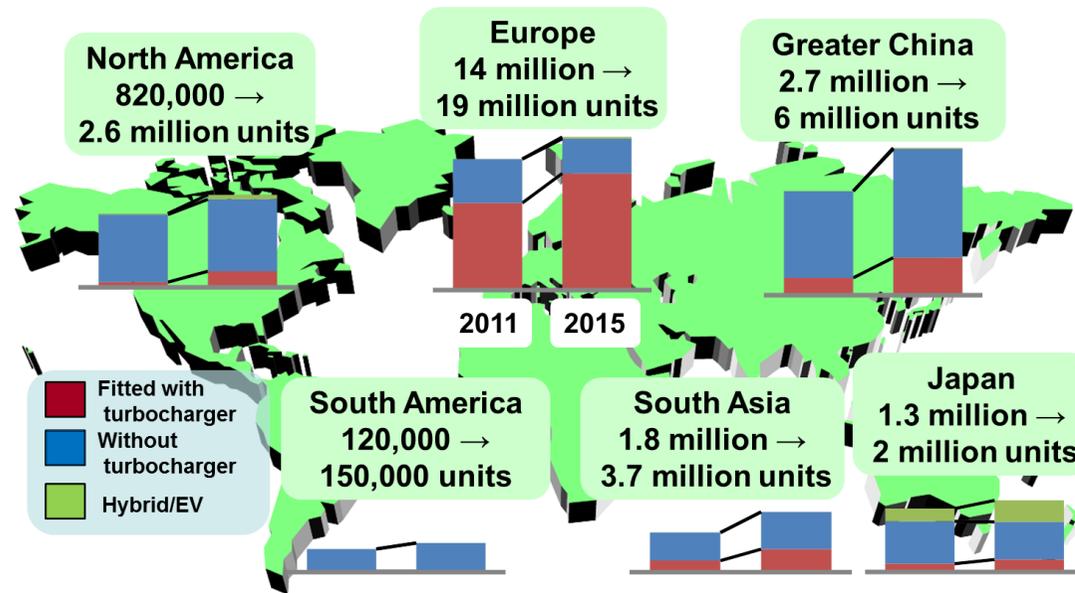
Natural gas power generation facilities  
 • High efficiency and low environmental impact  
 • Large number already delivered



# Numerical Targets for Group Management Policies 2013 (2)

## Growth Factors in Industrial Systems and General-Purpose Machinery

### Global Turbocharger Market

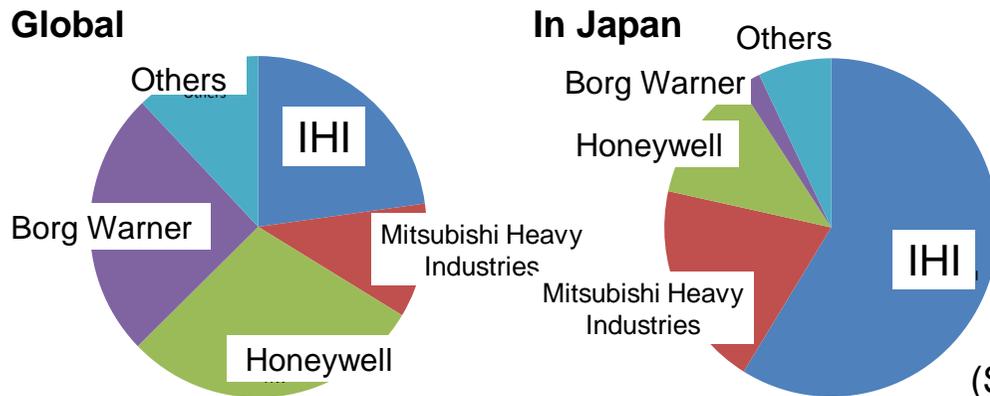


**Global Turbocharger Demand From 22 million in 2011 to 35 million in 2015**

Demand for turbochargers for diesel engines will globally increase in years to come due to expanding and more stringent environmental regulations passing from developed to emerging countries.

Downsizing of gasoline-engine turbocharging making rapid progress due to tighter fuel consumption regulations in some countries; jump in turbocharger installation ratio that started in Europe will be seen in China and North America.

### IHI's Predominance in Competitive Turbocharger Relationships



**Globally in third position in the industry with market share of nearly 30%, IHI accounts for nearly 60% of Japanese market.**

(Sales basis)

# Numerical Targets for Group Management Policies 2013 (3)

## Growth Factors in Aero Engine, Space and Defense

### Firm Demand for Civil Aero Engines in which IHI Participates

#### Planned New Engine Shipments

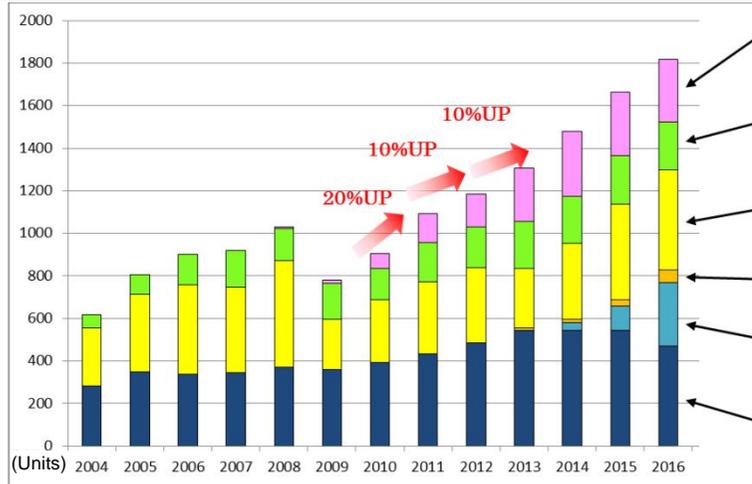
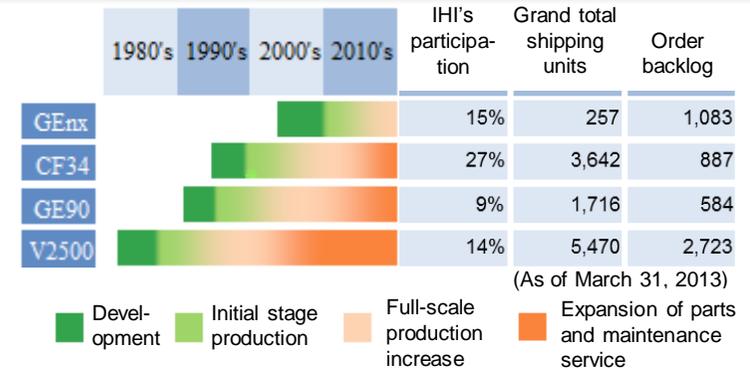


Photo: JAEC, GE



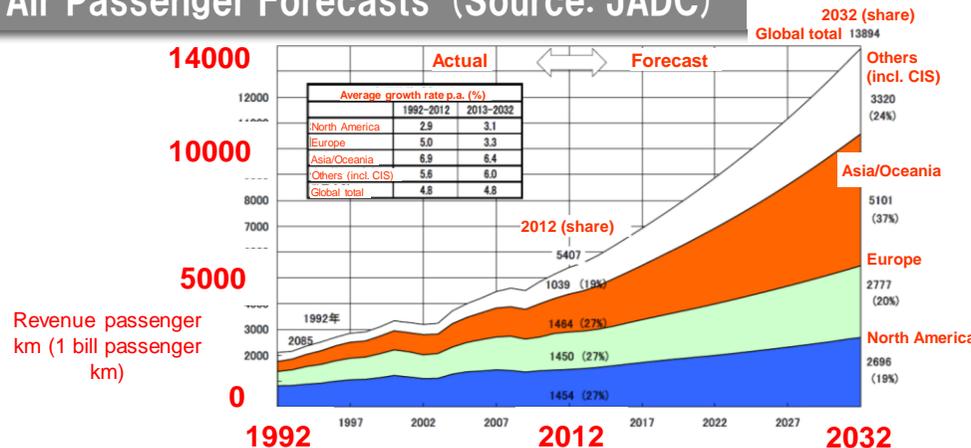
#### Development/Shipment Status of Engine Programs in which IHI Participates



Production of numerous best-seller engines, from small- to large-size powerplants

## Aviation Industry Growth

### World Air Passenger Forecasts (Source: JADC)



World air passenger traffic to grow by an average 4.8% over next 20 years  
 18,590 jet aircraft currently in service, but this set to increase 1.8 times to more than 34,000 aircraft over next 20 years

## Changes in Management Environment in Recent Years

### ◇ Market Globalization Development

- Importance of emerging countries as volume zone → **Unavoidable globalization**
- Industrial advances/buildup in emerging countries → **Importance of emerging countries, and rise of emerging country companies**
- Global trend of trade liberalization → **Activation of moves of management resources that transcend national borders**

Imperative to Gain More Orders through Globalization

### Group Common Policies

Realize “The Three *Tsunagu*” through Matrix Management Introduction

- Link among businesses  
Solution & Engineering Headquarters
- Link products and services with ICT  
Intelligent Information Management Headquarters
- Link global markets with IHI Group  
Global Marketing Headquarters

### Individual Policies

- Develop new markets for vehicular turbochargers
- Gain more orders for natural gas-related business (F-LNG, tanks for LNG carriers, chemical plants, etc.)
- Expand heat/surface treatment business
- Expand marine resource development business in Brazil

# Progress of Group Management Policies 2013

# Strengthening of Common Group Functions toward Growth (The Three *Tsunagu*) (1)

## ■ Solution & Engineering Headquarters

### Organizational Role

#### ● Role

- Develop solutions business (system sales) to create customer value, create business opportunities by expanding business scope

#### ● Final vision

- Expand business scope into upstream/downstream/peripheral areas
- Build management structure toward amalgamation of products from inside/outside IHI Group

### Effort Patterns by Model (Exemplification)

- Establish target projects, and create new projects

#### Multiple SBU Models

Efforts to amalgamate multiple SBU products and services. Can be expected to build on single SBU sales

#### Resource Provision Model

Extracts factors that single SBUs cannot handle on a priority basis due to deficiencies of resource such as personnel. Makes up for opportunities missed in winning orders by having these addressed by our headquarters

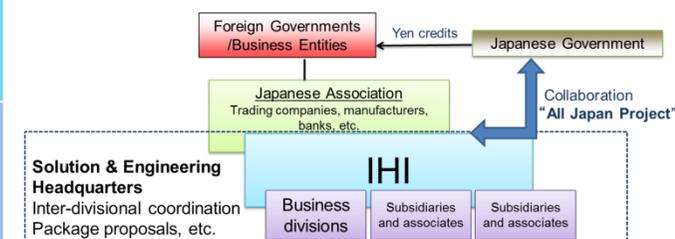
#### Package Model

Proposes packaging not only IHI Group products and services but also those of other companies in a business entity. To be proposed/advanced as “All Japan Projects” for Japan’s yen-credit projects

\* SBU: Abbreviation for Strategic Business Model.

- Allow initiatives from these models to take root in the Group and contribute to growth from an all-IHI perspective

Diagram of Package Model



# Strengthening of Common Group Functions toward Growth (The Three *Tsunagu*) (2)

## ■ Intelligent Information Management Headquarters

- Lead to the increased sophistication of more comprehensive IHI Group products and services by strengthening control systems, sensing and ICT

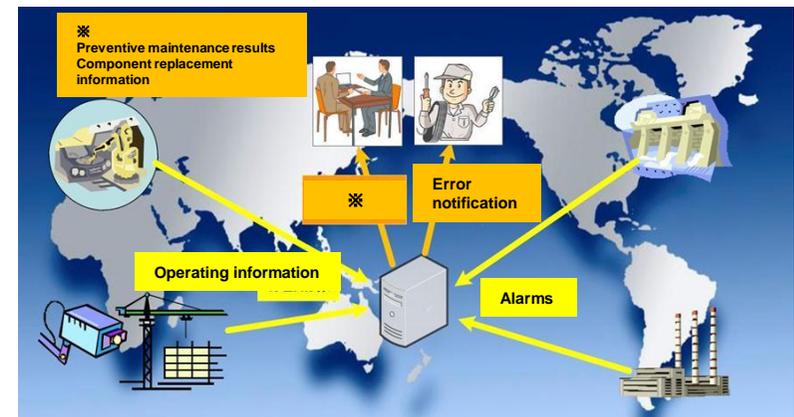
### Common Control System Platform

- Create and within current fiscal year commence real equipment applications of IHI Group unique control equipment and software building tools
- Quality improvements and cost reductions:
  - Increase reliability and at the same time shorten development times by library standardization
- Long-term guarantee:
  - Stable supply over the long term by developing unique control equipment
- Improvements in confidentiality:
  - Maintain software confidentiality by using unique software building tools



### Common Remote Maintenance Platform

- Partially introduce this system in Group products in use with customers, and commence constant monitoring
- In addition to rapidly responding to faults, contribute to customer cost reductions through planned maintenance
- Commencing operations, including test operations, at 10 businesses in 30 locations, plan to further expand applicable products



**ILIPS** IHI group Lifecycle Partner System

# Strengthening of Common Group Functions toward Growth (The Three *Tsunagu*) (3)

## ■ Global Marketing Headquarters

### Expansion of Regionally Based Businesses

Link Global Customers/Markets with IHI Group

- Build up customer and multilayered human networks in key regions (the Americas, China and Southeast Asia) and key countries (Indonesia, Thailand, Vietnam and Malaysia)
- In an integrated IHI Group manner develop region-based marketing/branding (hold forums in Brazil, Indonesia, London of the U.K., etc.)
- Market surveys/marketing to search for new business opportunities that follow those in key countries

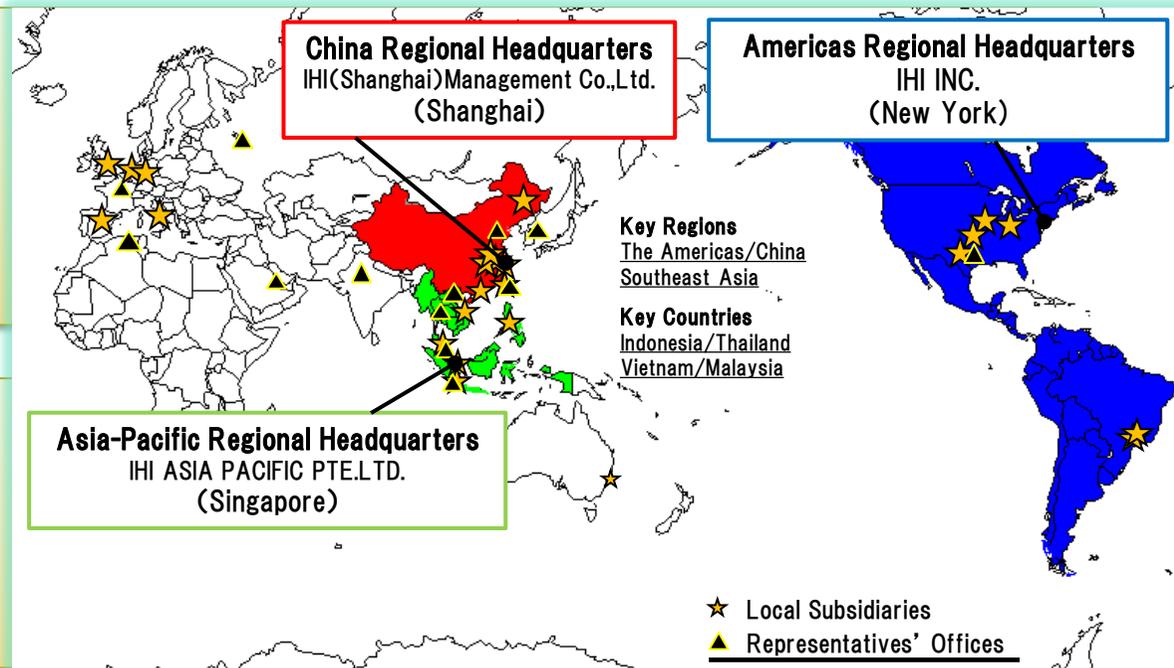
### Efficient Business Operations in Regions Globally link IHI Group

- Realize effective business management and rapid business development
- Promote monitoring and strengthen governance with regard to business management

### Development/Adoption of Global Human Resources

Link global human resources with IHI Group

- Build global human resource management across entire IHI Group
- Find highly capable human resources in the regions, and draw up development plan



## Development Centered on Three Regional Headquarters (the Americas, Asia-Pacific and China)

# Progress of Large-Scale Overseas Projects (1)

## Dominion Cove Point LNG Expansion project



IHI E&C International Corporation, a wholly owned subsidiary of IHI Corporation, and Kiewit Energy Company, have entered into an engineering, procurement and construction contract to develop the Cove Point liquefied natural gas facility located on the Chesapeake Bay in Lusby, Maryland. The IHI/Kiewit joint venture will design, construct, commission and start up the estimated 5.25 million tonnes per annum liquefaction facility.

### Key milestones

April 2013:	Contract award, start of engineering, procurement of key long-lead equipment
August 2013:	Commence full procurement
September 2013:	DOE authorization to export to non-Free Trade Countries
Mid-2014:	FERC approval expected
Autumn 2017:	Substantial Completion and commencement of operations

### Current status

- IHI/Kiewit have assembled a global engineering team located in the USA, Tokyo, Philippines and India, led from IHI's Houston office
- Key equipment has begun manufacture in the US and Europe
- Planning of construction is under way in anticipation of mobilization to site in mid 2014

# Progress of Large-Scale Overseas Projects (2)

## Izmit Bay Crossing Bridge (Turkey)



Izmit Bay Crossing Bridge  
(image of completed bridge)



Towing of provisionally completed caissons from primary manufacturing site

Concrete caissons for the main tower foundation section were provisionally completed in September 2013, and towing these from primary manufacturing site (a makeshift dry dock) to secondary manufacturing site (makeshift wet dock) was carried out. Under the current plan, the building of the caissons at the makeshift wet dock will be completed in March 2014, and sunk and installed under the sea at the north-south main tower location.

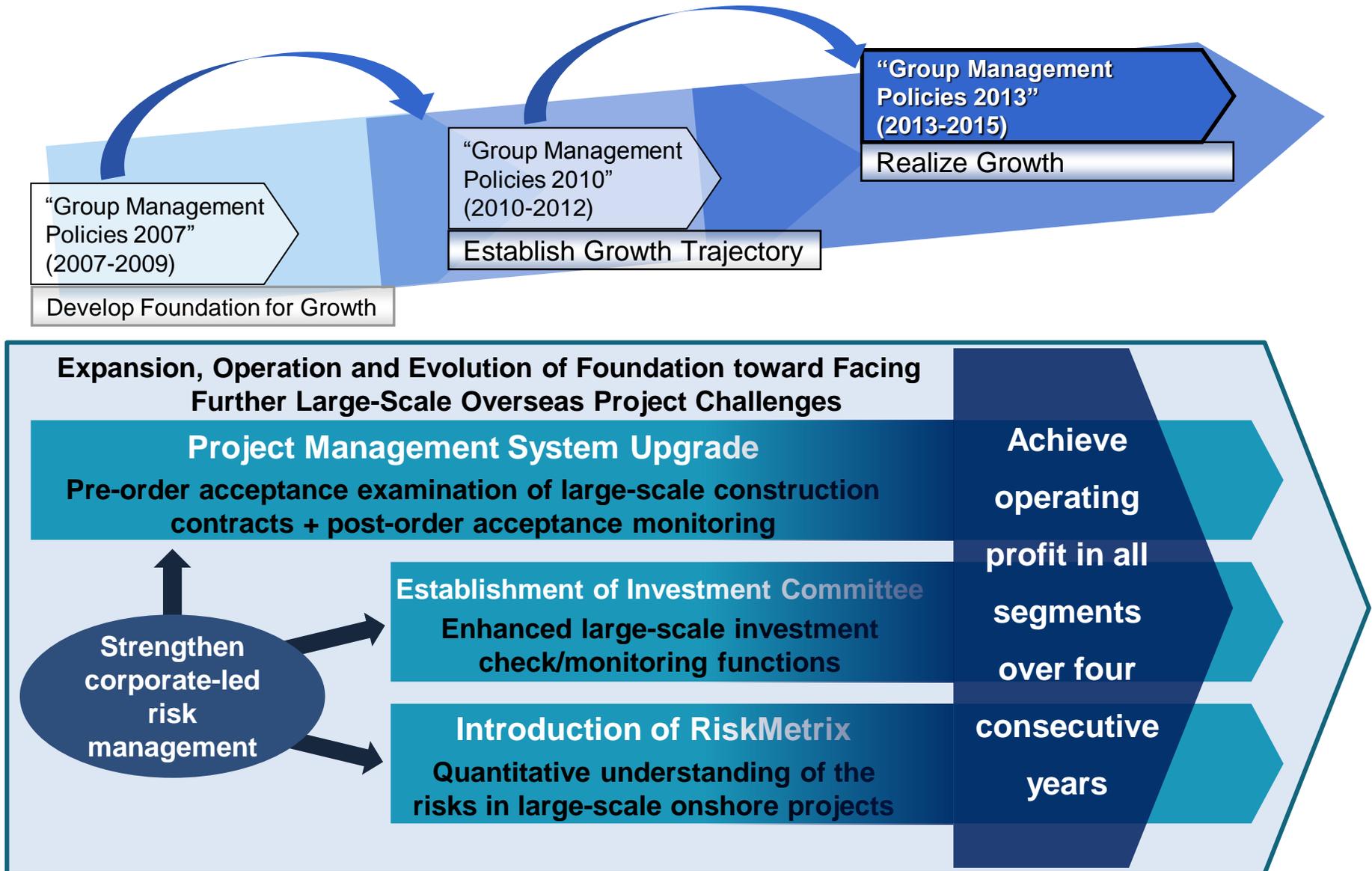
### Principal Processes

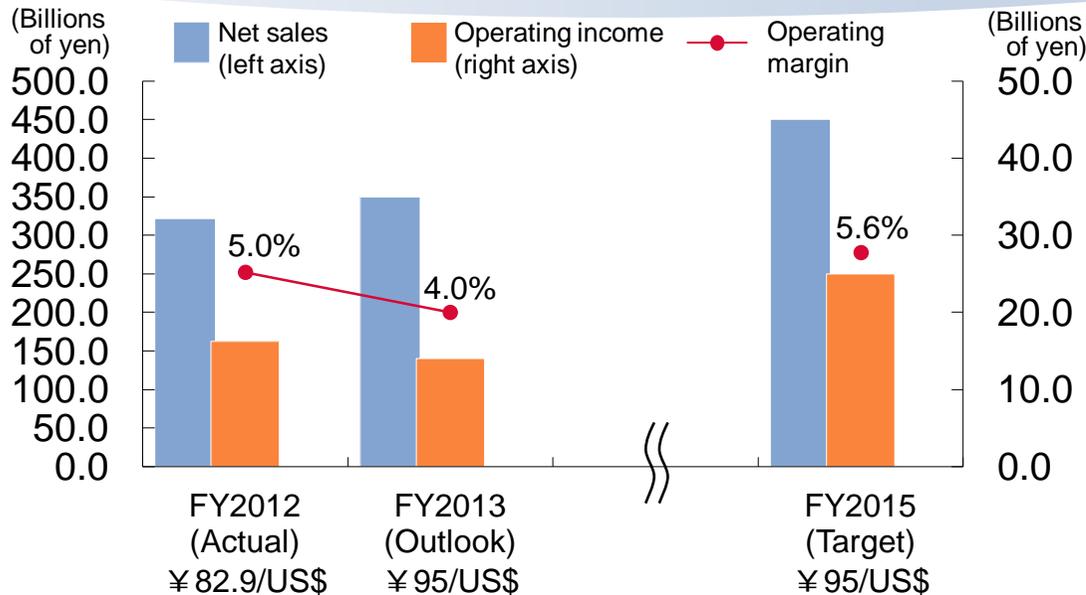
- Sept. 2011: Contract signed, start of detailed design
- Jan. 2013: Construction commenced
- Dec. 2014: Main tower completion
- Feb. 2016: Contracted delivery

### Project Overview

- Type of bridge: Road suspension bridge
- Span: Approx. 3,000m
- Construction site: Izmit Bay, Turkey
- Total cost of contract: Approx. USD 1.1 billion (consortium of IHI Infrastructure Systems Co., Ltd. and Itochu Corporation)
- Areas of responsibility: Construction covering a full set of design, production and erection of superstructure and substructure of suspension bridge on a full turnkey basis

# Structure which Supports Large-Scale Overseas Projects





High-performance, low environmental impact medium-speed gas engine

## Making Proactive Efforts toward Natural Gas-Related Businesses

- An IHI E&C International Corporation (IHI E&C) and Kiewit Energy Company joint venture won an EPC contract from Dominion for the latter's Cove Point natural gas liquefaction facility.
- IHI E&C won an order from Dakota Gasification Company (Texas, the U.S.), a wholly owned subsidiary of Basin Electric Power Cooperative of Bismarck (North Dakota, the U.S.), to act as project management consultant for the construction of a shale-gas-based urea plant planned at its facility near Beulah, North Dakota.

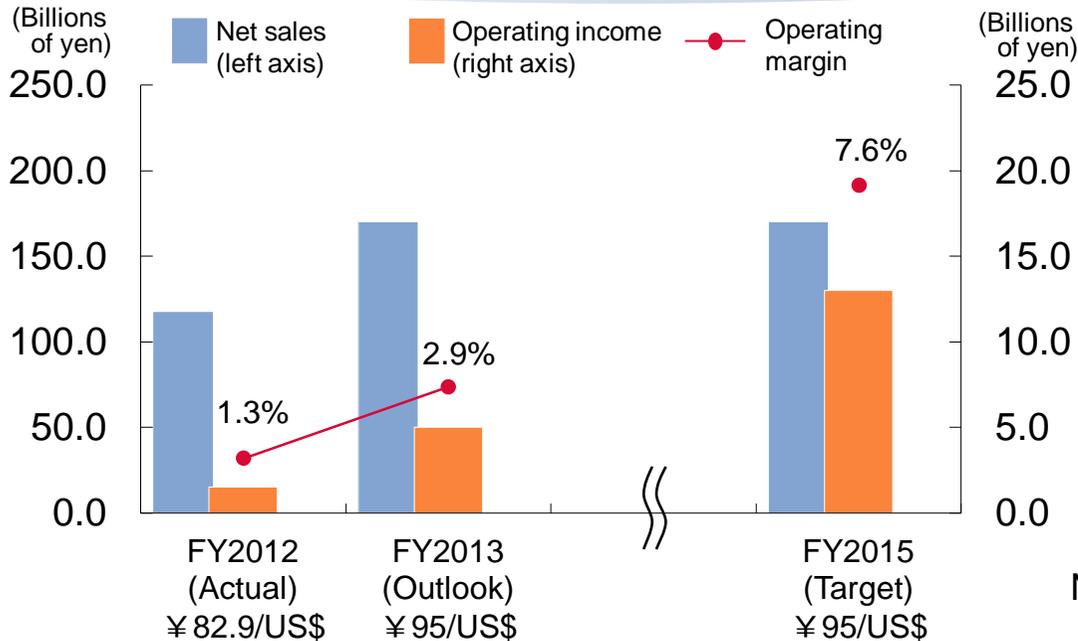
## Contributing to Safe Nuclear Power Generation Facility Decontamination/Decommissioning Work

- IHI acquired the U.S. company Nitrocision LLC, which possesses technologies that utilize ultrahigh-pressure liquid nitrogen in the decontamination and demolition of nuclear power generation facilities.

## Gaining More Orders by Introducing New Models

- Equipped with the first hybrid propulsion system in Japan, an environment-friendly tugboat is in service.
- First shipments of medium-speed gas engine with high-performance impact spark ignition whose environmental impact was reduced were made.

# Social Infrastructure and Offshore Facilities



Naht Tan Bridge main towers



Tsunami lifeboat (prototype)

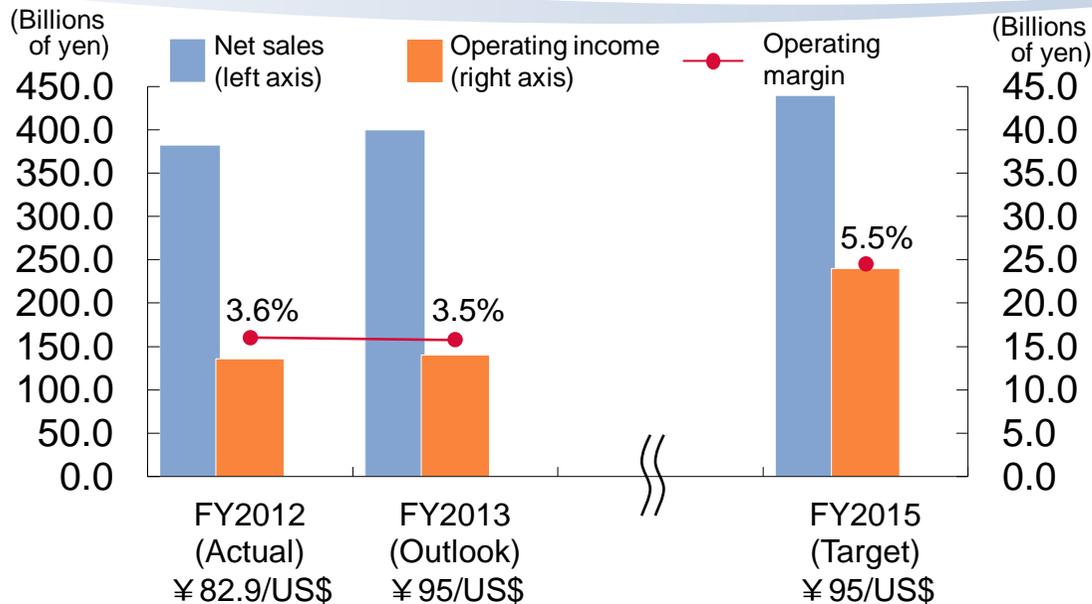
## Smooth Execution of and Strengthened Approaches to Overseas Projects

- Having completed construction of the main towers of the Naht Tan Bridge in Vietnam, whose construction started in October 2009, IHI commenced steel girder installation work. Plan is for all to have been completed at the end of 2014.
- Invested in Brazil's Estaleiro Atlântico Sul S.A. in conjunction with JGC Corporation and Japan Marine United Corporation. As a result, is proactively engaging in business in the marine resource development facilities and structures fields.

## Responses to Post-Earthquake Reconstruction and Natural Disaster Support Business

- Delivery of hybrid caissons for harbor mouth area of Kamaishi, Iwate Prefecture
- First orders for tsunami lifeboat received following prototype approval granted by the Ministry of Land, Infrastructure, Transport and Tourism's Shikoku Transport & Tourism Bureau

# Industrial Systems and General-Purpose Machinery



Exterior view of small binary power generation equipment



Exterior view of small binary power generation equipment turbine generator

## Enhancing Responses to Increased Overseas Demand for Vehicular Turbochargers

- Established joint venture covering vehicular turbochargers with Hyundai WIA Corporation, a major automobile parts manufacturer and a major subsidiary of Hyundai-Kia Motor Group in South Korea.
- Responding to forecasts of increased sales in Europe and China, expanded and upgraded facilities.

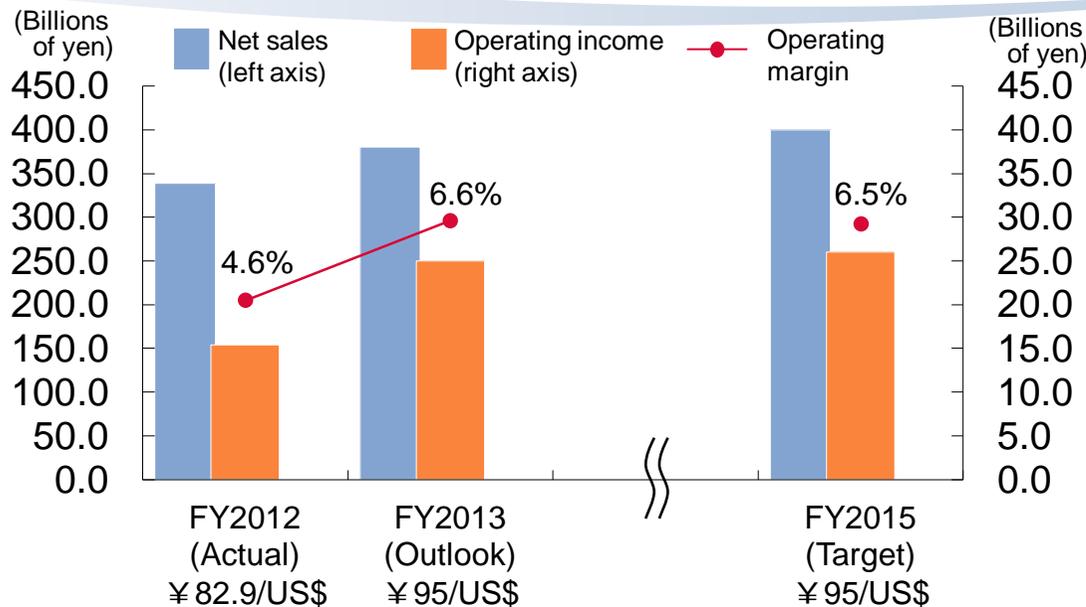
## Compressor Business Progress

- IHI Compressor and Machinery Co., Ltd. established a parts supply and technical center to enhance its after-sales service business. The company implemented inventory management of parts for general-purpose compressors and conducted maintenance training for technical service personnel using real machines.
- IHI launched highly efficient, grid connectable, package-type, small binary power generation equipment with a maximum sending-end power of 20kW.

## Overseas Development of Heat/Surface Treatment

- Following establishment of after-sales service bases for heat treatment equipment, IHI set up manufacturing base within its local subsidiary in Thailand.
- Commenced operation at the base for consignment heat treatment business in Vietnam.

# Aero Engine, Space and Defense



Epsilon rocket ©JAXA

## Aero Engine Demand Firm

- Airline passenger traffic is on growth trend and IHI in process of responding to increased production associated with increased demand for existing types of aero engines.
- Conducting development of new engines (PW1100G-JM, Passport20), aiming to steadily obtain type certifications, promoting building up of mass production system.
- Signed contracts with Japan Ministry of Defense on preparation for manufacturing 17 engine components for F135 engine powering the F-35A next-generation mainstay fighter.

## Expansion of Space Utilization Field

- IHI Aerospace Co., Ltd. was responsible for development of airframe systems of Epsilon rocket test vehicle successfully launched by Japan Aerospace Exploration Agency (JAXA).
- The U.S. Cygnus™ space station supply spacecraft successfully docked with International Space Station (ISS). Cygnus™ is fitted with a spacecraft/satellite propulsion system engine developed and manufactured by IHI Aerospace.

# IHI

**Realize your dreams**

Forward-looking figures shown in this material with respect to IHI's performance outlooks and other matters are based on management's assumptions and beliefs in light of the information currently available to it, and therefore contain risks and uncertainties. Consequently, you should not place undue reliance on these performance outlooks in making judgments. IHI cautions you that actual results could differ materially from those discussed in these performance outlooks due to a number of important factors. These important factors include political environments in areas in which IHI operates, general economic conditions, and the yen exchange rate including its rate against the US dollar.