

# Results for the Six Months Ended September 30, 2014

## Management Overview

November 5, 2014

**IHI Corporation**

Tamotsu Saito, President and Chief Executive Officer

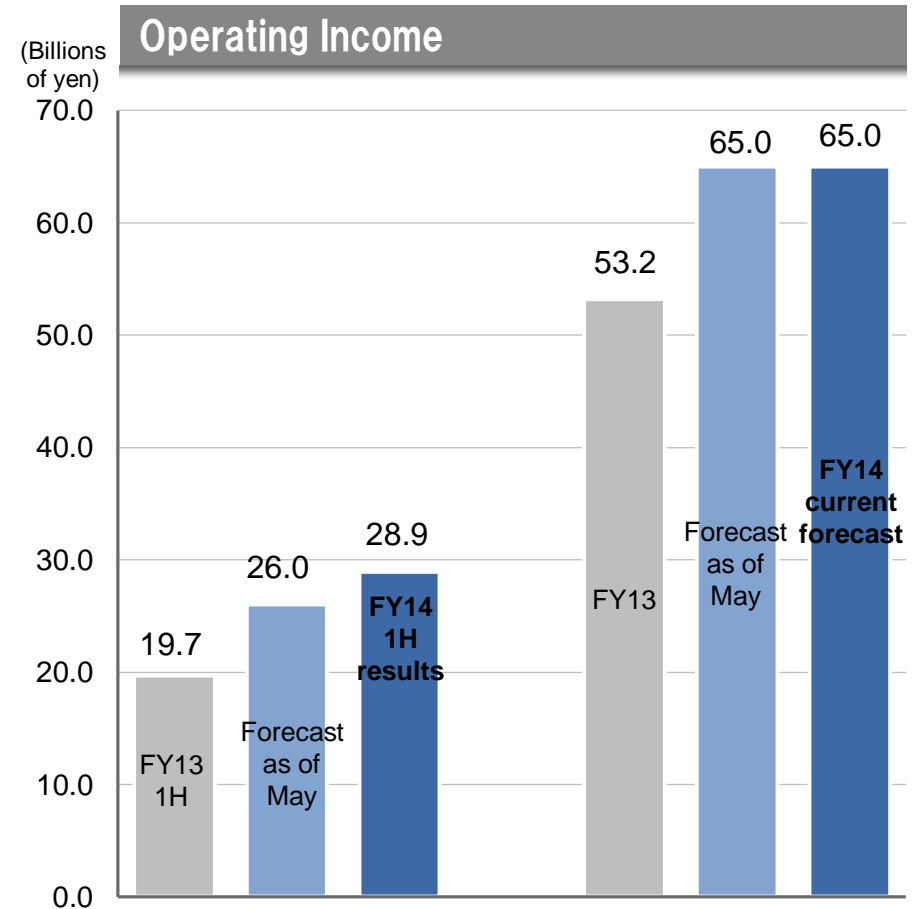
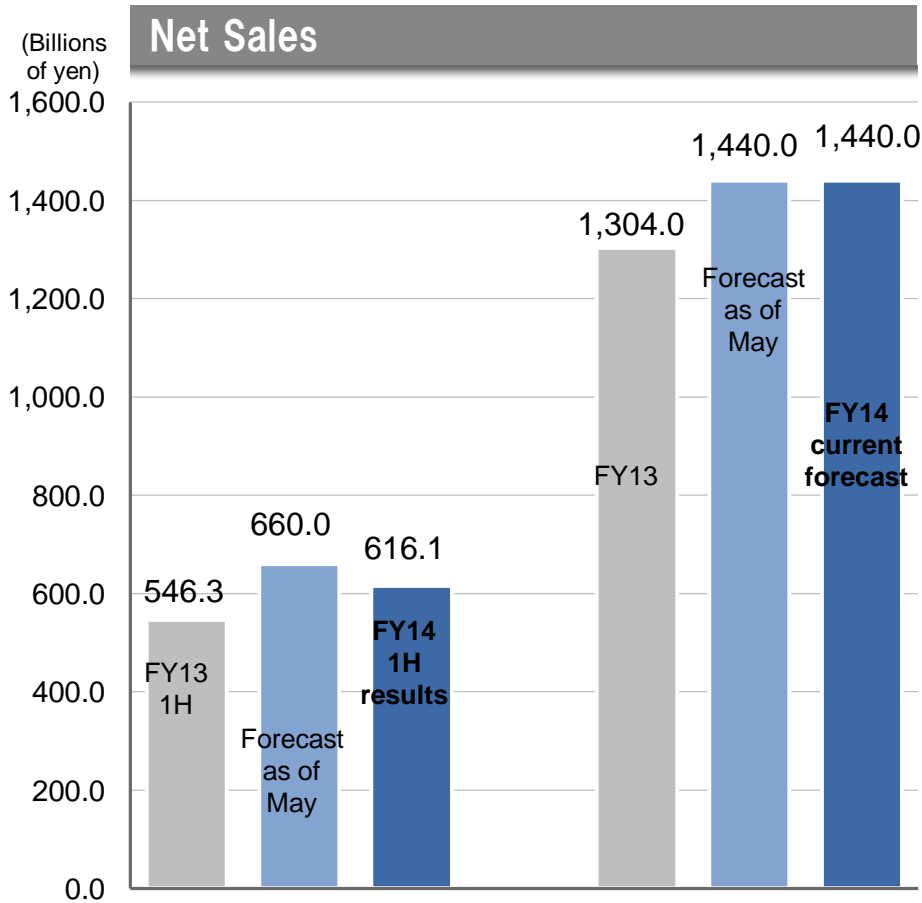
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# Management Overview

# Review of Six Months Ended September 30, 2014 (1)

## ■ Progressed well in second year of Group Management Policies 2013

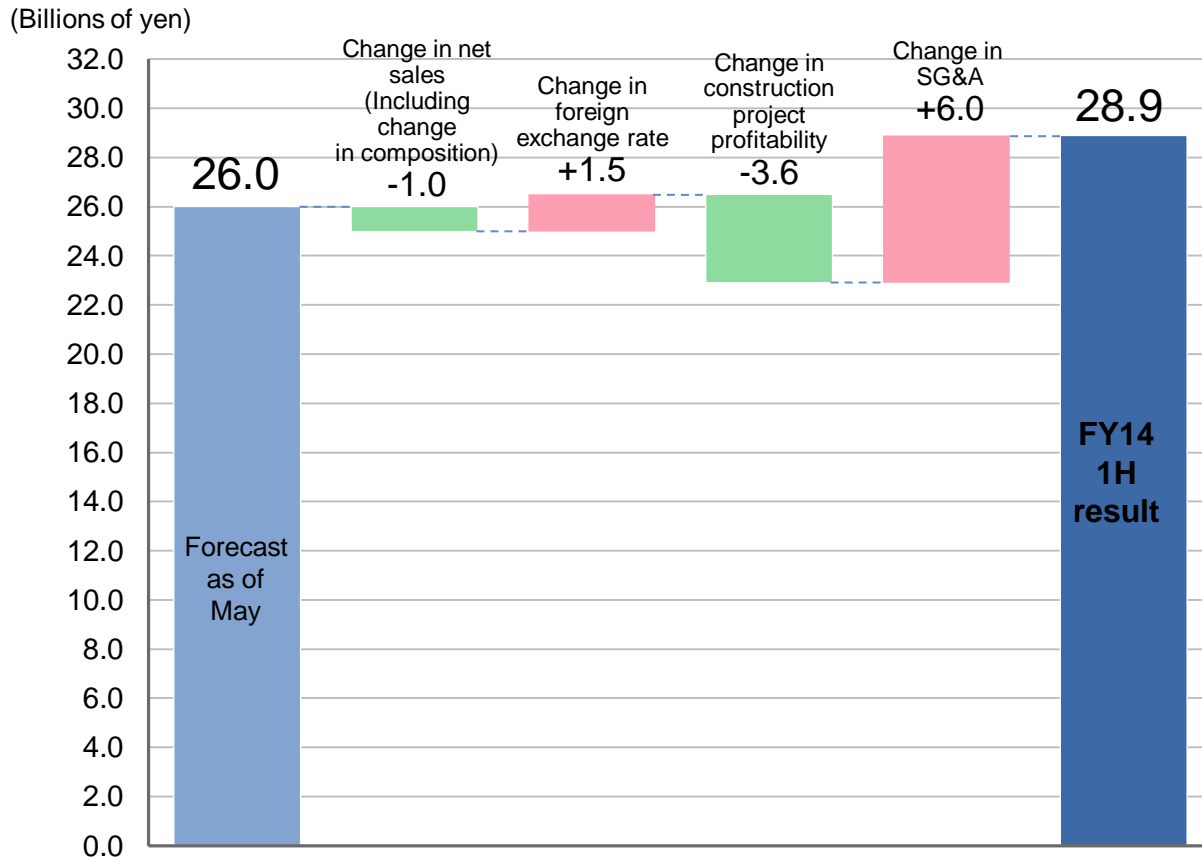
- Although net sales were lower than projected in May, operating income and operating margin exceeded expectations
- Retaining full-year assumption of ¥100/US\$1 and maintaining net sales and operating income forecasts



- Average exchange rate for FY13: ¥99.05/US\$1
- Forecast as of May: Using official announcement of May 8, 2014 (assumed exchange rate of ¥100/US\$1)
- Exchange rate assumption for FY14 forecasts: ¥100/US\$1

# Review of Six Months Ended September 30, 2014 (2)

## ■ Factors in first half operating income fluctuations from forecast as of May



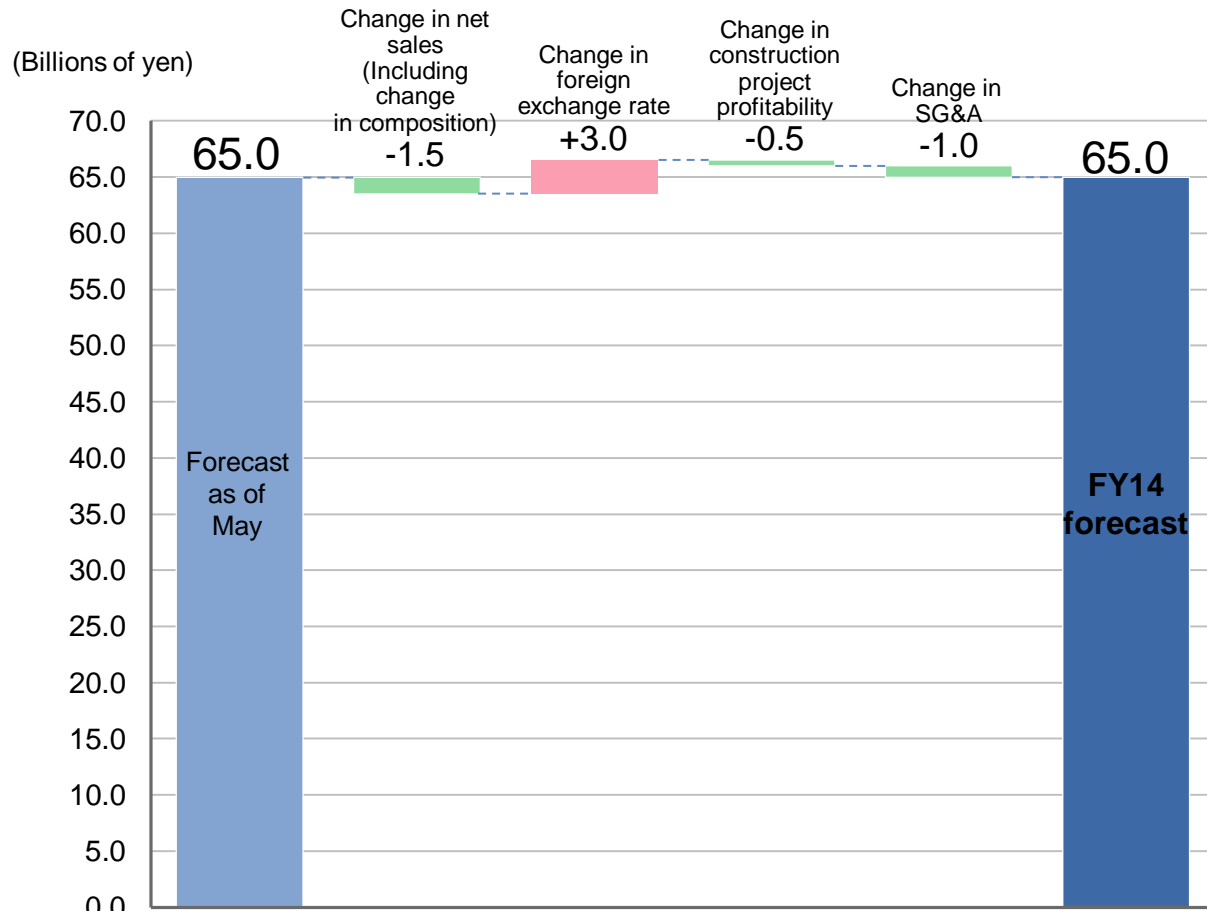
- Forecast as of May: Using official announcement of May 8, 2014 (assumed exchange rate of ¥100/US\$1)
- Exchange rate assumption for FY14 forecasts: ¥101.90/US\$1

## ■ Results fluctuation factors

- Changes for better or worse in project profitability
  - For worse: Resources, Energy and Environment (boilers)
  - For worse: Social Infrastructure and Offshore Facilities (bridges and offshore structures)
  - For better: Industrial Systems and General-Purpose Machinery (vehicular turbochargers)

- Changes in selling, general and administrative expenses
  - Industrial Systems and General-Purpose Machinery (vehicular turbochargers)
  - Aero Engine, Space and Defense (civil aero engines)

## ■ Factors in full-year operating income fluctuations from forecast as of May



- Forecast as of May: Using official announcement of May 8, 2014 (assumed exchange rate of ¥100/US\$1)
- Exchange rate assumption for FY14 forecasts: ¥100/US\$1

## ■ Forecast assumptions

- Positive factors in first half
  - Lower costs of civil aero engines
  - Exchange rates
- Important second-half factors
  - Uncertainties about global economy and foreign exchange markets
  - Project delays for offshore structure business at Aichi Works

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

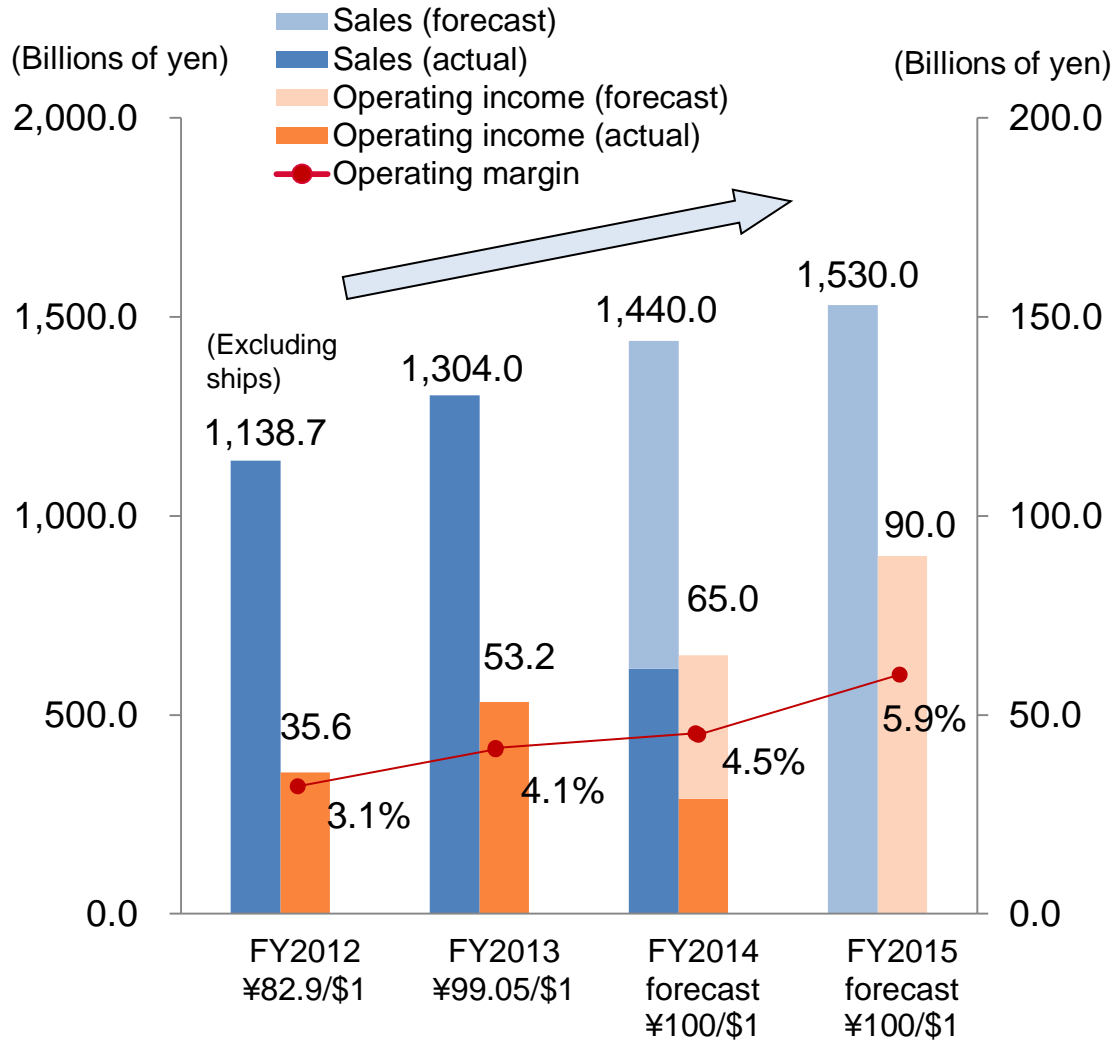
(Units: Billions of yen)

	Net Sales					Operating Income				
	FY2013	FY2014 (Forecast)		FY2015 (Targets)		FY2013	FY2014 (Forecast)		FY2015 (Targets)	
		As of May	<b>Now</b>	Initial	<Ref> Forecasts		As of May	<b>Now</b>	Initial	<Ref> Forecasts
Resources, Energy and Environment	344.0	430.0	<b>420.0</b>	440.0	490.0	11.6	22.0	<b>21.0</b>	21.0	29.0
Social Infrastructure and Offshore Facilities	150.3	200.0	<b>200.0</b>	160.0	170.0	2.3	10.0	<b>8.0</b>	10.0	11.0
Industrial Systems and General-Purpose Machinery	397.8	400.0	<b>400.0</b>	430.0	420.0	15.1	10.0	<b>10.0</b>	23.0	17.0
Aero Engine, Space and Defense	406.0	400.0	<b>410.0</b>	380.0	430.0	36.7	28.0	<b>31.0</b>	19.0	33.0
Others	58.9	60.0	<b>60.0</b>	60.0	70.0	1.9	1.0	<b>1.0</b>	1.0	2.0
Adjustment	-53.2	-50.0	<b>-50.0</b>	-70.0	-50.0	-14.4	-6.0	<b>-6.0</b>	-4.0	-2.0
<b>Total</b>	<b>1,304.0</b>	<b>1,440.0</b>	<b>1,440.0</b>	<b>1,400.0</b>	<b>1,530.0</b>	<b>53.2</b>	<b>65.0</b>	<b>65.0</b>	<b>70.0</b>	<b>90.0</b>

Exchange rate      ¥99.05/\$1      ¥100/\$1      ¥100/\$1      ¥80/\$1      ¥100/\$1      ¥99.05/\$1      ¥100/\$1      ¥100/\$1      ¥80/\$1      ¥100/\$1

# Prospects for Reaching Numerical Targets for Group Management Policies 2013

## Results and forecasts



## Progress

- Growth through The Three *Tsunagu*
- Expanded orders in global market
- Invested for growth
- Cultivated human resources

## Issues

### Reinforcing The Three *Tsunagu*

- Building a new business model
- Accelerating collaboration in businesses targeting growth through enhanced system value



# Progress of Group Management Policies 2013

## Strengthening and deploying shared Group functions

### Solution & Engineering

Undertake solutions-driven sales

### Intelligent Information Management

Expand sensing-related business

### Global Businesses

Support business expansion in Vietnam



Vietnam IHI Forum

## Secure orders stably

- Increase energy business orders in line with rising global demand for natural gas

## Enhance profit structure

- Strengthen collaboration in shared Group functions to reform business model
- Accelerate business selection and focus

## Allocate resources strategically

- Step up investments in promising growth businesses
- Reforming Group headquarters businesses
- Expand women's roles

## Improve manufacturing capabilities

- Push ahead with I-Project, a companywide business improvement initiative
- Set up IHI "Tsunagu" Lab.(IHI Innovation Centre) at Yokohama Works

# Strengthening and Deploying Shared Group Functions: Expanding Sensing-related Business

- In sensing-related business, applying 3D radar technology to create locally and market-focused businesses by collaborating with customers, R&D institutions, and other entities. Will accelerate efforts to cultivate business globally.

## Railway

### Domestic

- Scheduled to start joint research to expand new sales of level crossing obstacle detection system.

### Overseas

- Demonstration test of the level crossing obstacle detection system in European countries (testing in Italy as of October 2014)
- Will seek approval to deploy system in Europe.
- Will also reinforce market research and increase number of countries covered.

## Intelligent Transportation System (ITS)

### Domestic

- Took advantage of Japanese government's adoption of automated driving systems in its Strategic Innovation Promotion Program in May 2014 to accelerate adoption of 3D laser radar technology in road traffic sensor systems.

### Overseas

- Demonstration tests for development with Singaporean Agency for Science, Technology and Research (A\*STAR) of system to prevent intersection accidents.

### Overseas ITS: Demonstration testing at Jurong East intersection (2013 to 2014)

3D laser radar detects vehicles and motorcycles at intersection, as well as pedestrians.



Onboard unit provides risk information to drivers, notably to identify oncoming vehicles turning right and pedestrians crossing road.

# Strengthening and Deploying Shared Group Functions: Expanding Business in Vietnam

- Cultivating Group brand presence in bridge business (construction of Nhat Tan Bridge) and in other areas in Vietnam.

## IHI Forum 2014 in Vietnam

- Held IHI Forum 2014 in Hanoi on October 8, 2014
- Objectives
  - Highlight to relevant parties IHI's wide-ranging solutions for developmental issues in Vietnam.
  - Expand and reinforce networks with local organizations and corporations.
- Outline
  - Attracted more than 130 attendees, with 80 people from 19 IHI Group affiliates and businesses also taking part.
  - Divisions and affiliates in Social Infrastructure and Offshore Facilities, Resources Energy and the Environment, Aero Engine and Space, Industrial Systems and General-purpose Machinery and Research and Development conducted separate seminars.

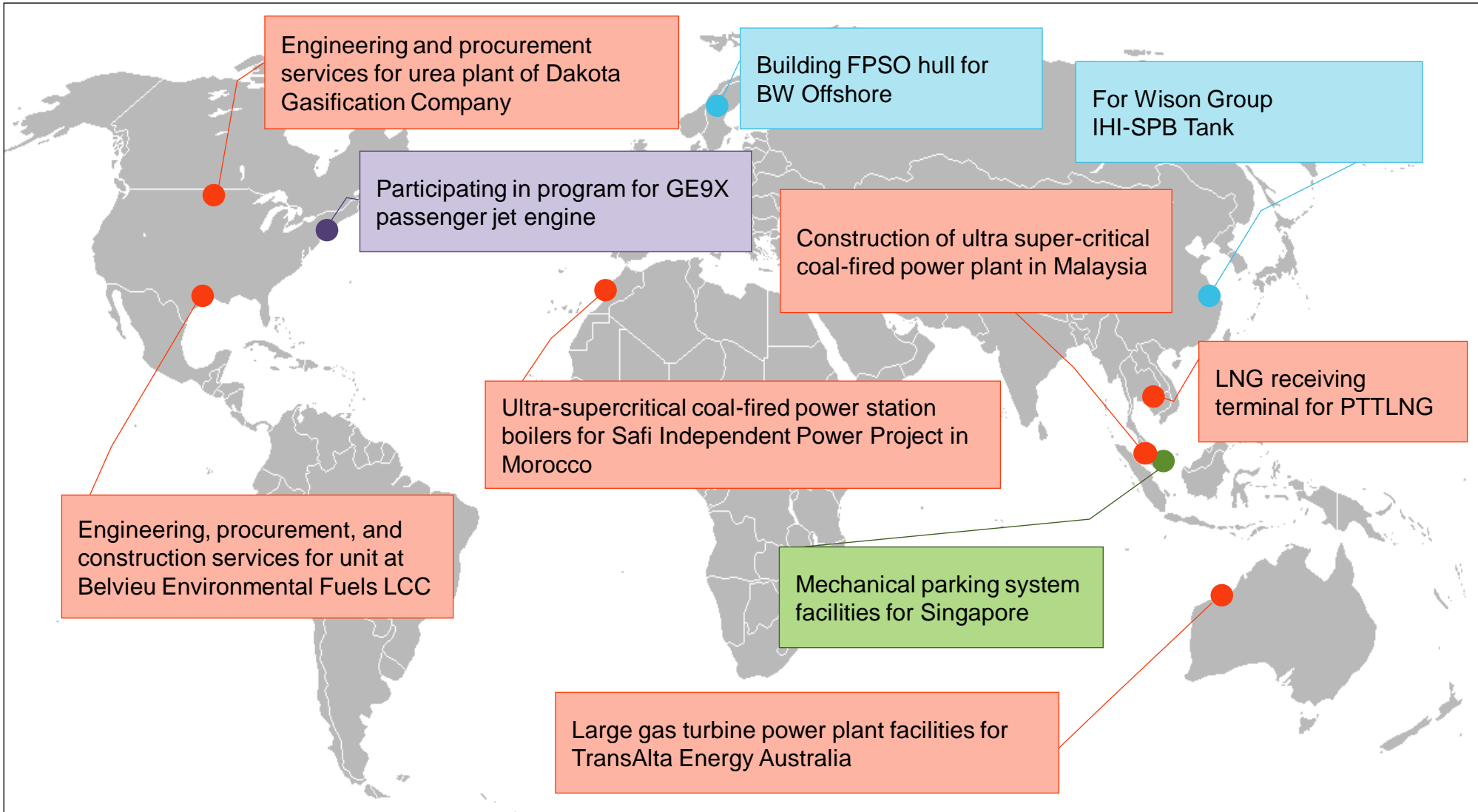
## Nhat Tan Bridge Construction

- Consortium of IHI Infrastructure Systems and Sumitomo Mitsui Construction started construction in October 2009.
- Completed towers and installation of girders. Overall completion scheduled for the end of 2014.
- Overall length of this cable-stayed bridge is 3,080 meters. Bridge will link both sides of Red River running through the central Vietnam and is a part of arterial road construction initiatives to reduce traffic jams in Hanoi. When finished, it will be key artery connecting central Hanoi and Noi Bai International Airport through to Chinese border.



Nhat Tan Bridge

# Securing Orders Stably: Orders for Key Overseas Projects



- Resources, Energy and Environment Business
- Social Infrastructure and Offshore Facilities
- Industrial Systems and General-Purpose Machinery Business
- Aero Engine, Space and Defense

# Enhancing Profit Structure and Allocating Resources Strategically: Investing in Promising Growth, Core, and Priority Businesses

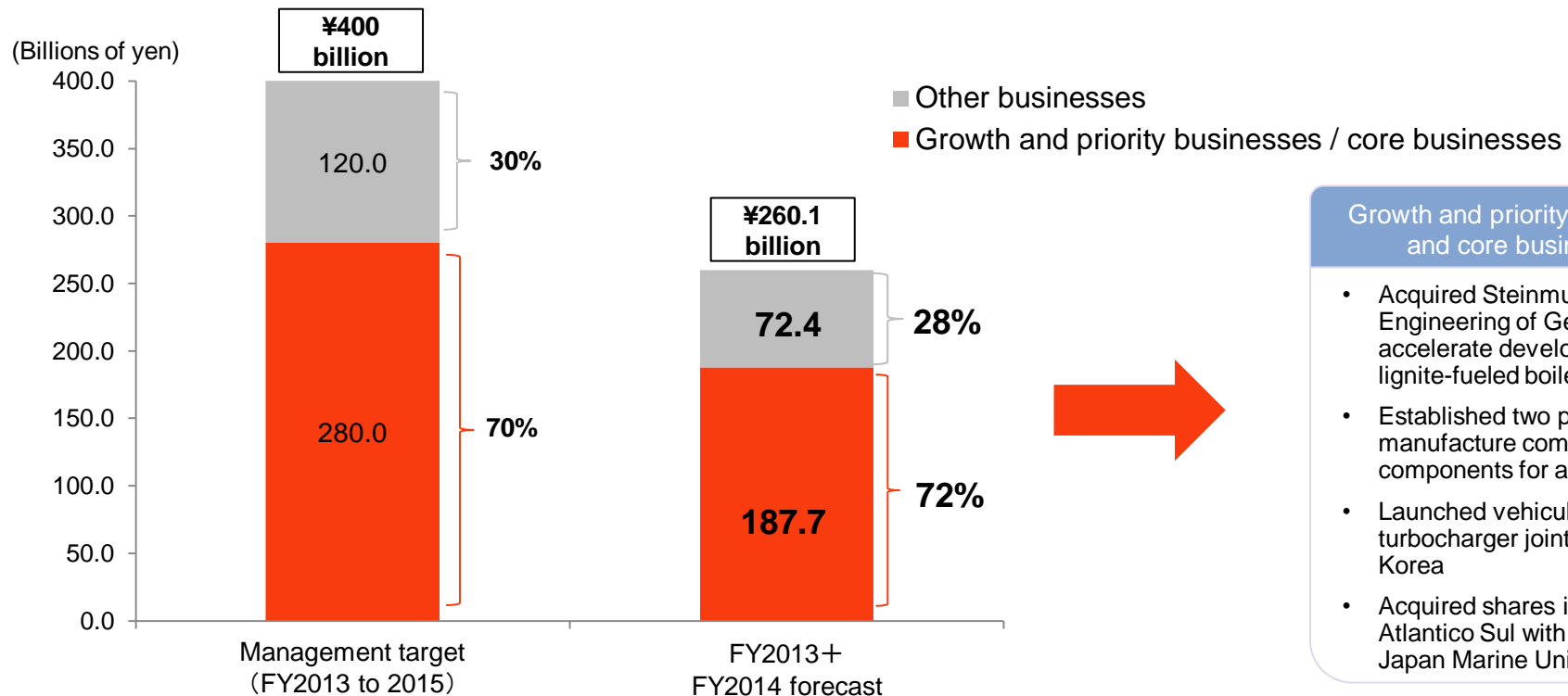
## Progressing solidly toward total investment objectives in FY2013 to 2015

- Planning to allocate around 70% of ¥400 billion in total investments allocated to growth and priority businesses and to core businesses
- For FY2013 and FY2014, combined investments in growth, core, and priority businesses should reach ¥187.7 billion

## Allocating Group resources even more efficiently and accelerating business portfolio management

- Invest in businesses that can deliver more growth
- Acceleration of “business selection and focus” to overhaul earnings structure

### Total investments (FY2013 to 2015)



# Allocating Resources Strategically: Reforming Group Headquarters Businesses and Expanding Women's Roles

## Reforming Group headquarters businesses

- Undertake these reforms to reinforce headquarters contributions to overall Group growth
- Opened Group Business Process Platform Div. on April 1, 2014, to optimally streamline Group back office operations

## Expanding women's roles

- Stepping up efforts as part of diversity commitment as a key management strategy
- Group initiatives to expand women's roles
  - Fostering career development
    - Efforts including providing management training and conducting seminars for female section managers to exchange information as network leaders
  - Helping women to balance work and family commitments
    - Initiatives including offering childcare leave and a return-to-work program
  - Establishing numerical targets
    - More than 55 female managers by FY2015 and 75 by FY2018 and at least one director by FY2018
    - New female graduates representing more than 35% of annual office worker hires and more than 10% of engineering hires
- Selected as a Nadeshiko Brand (a Tokyo Stock Exchange designation to certain companies for excellence in providing work environments that are conducive to women)

Nadeshiko Brand mark



# Improving Manufacturing Capabilities: Setting Up IHI “Tsunagu” Lab.(IHI Innovation Centre)

- We set up IHI “Tsunagu” Lab. at the Yokohama Works on October 28, 2014, as an open innovation hub

## Purpose and role of facility

- Foster innovation with domestic and overseas partners
- A vehicle for creating new value by leveraging ideas stemming from collaboration between the IHI Group and customers
- Provide opportunities for customers to see, hear, touch, and consider IHI Group products and technologies
- Be a vehicle for exploring new ideas and co-creation

## Facility overview

- Exhibit area
  - Allowing people to see and learn about IHI Group products and technologies, showcasing the foundations and applications of the Group's technologies, and presenting new approaches with advanced technologies, enabling people to try them and providing hints at customer solutions
- Co-creation area
  - Hosting in-depth discussions about solutions that the IHI Group can provide to address customer issues and needs
  - A one-stop source of technical information about IHI
- Café area
  - Enabling people to relax, leading to more flexible thinking



IHI “Tsunagu” Lab. exhibit area



# Progress in Large Overseas Projects (1)

## Dominion Cove Point LNG Expansion project



(image of completed 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.



(location map)

### 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
May 2014:	FERC issues favorable environmental assessment
September 2014:	FERC Order received & accepted (provisional permission to start construction)
Late 2017:	Substantial Completion and commencement of operations

### Current status (September 2014)

- Engineering is approximately 65% complete
- Procurement of equipment is 90+% complete
- Equipment deliveries will start in Q4 2014
- Key bulk materials contracts have been awarded
- Subcontracts for early site activities have been awarded
- Ready to mobilize to the site once FERC authorization to commence construction is received

# Progress in Large Overseas Projects (2)

## Izmit Bay Crossing Bridge in Turkey



Artist's impression of Izmit Bay Crossing Bridge



Location of Izmit Bay Crossing Bridge



Erecting lower horizontal beam of south tower

We erected the lower beam of the south main tower on September 21. We will continue with construction on the north and south towers through the end of 2014, starting cable installation in early 2015.

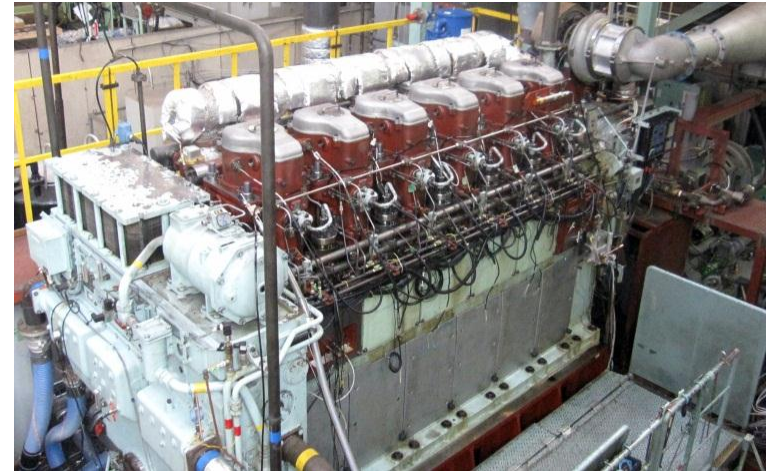
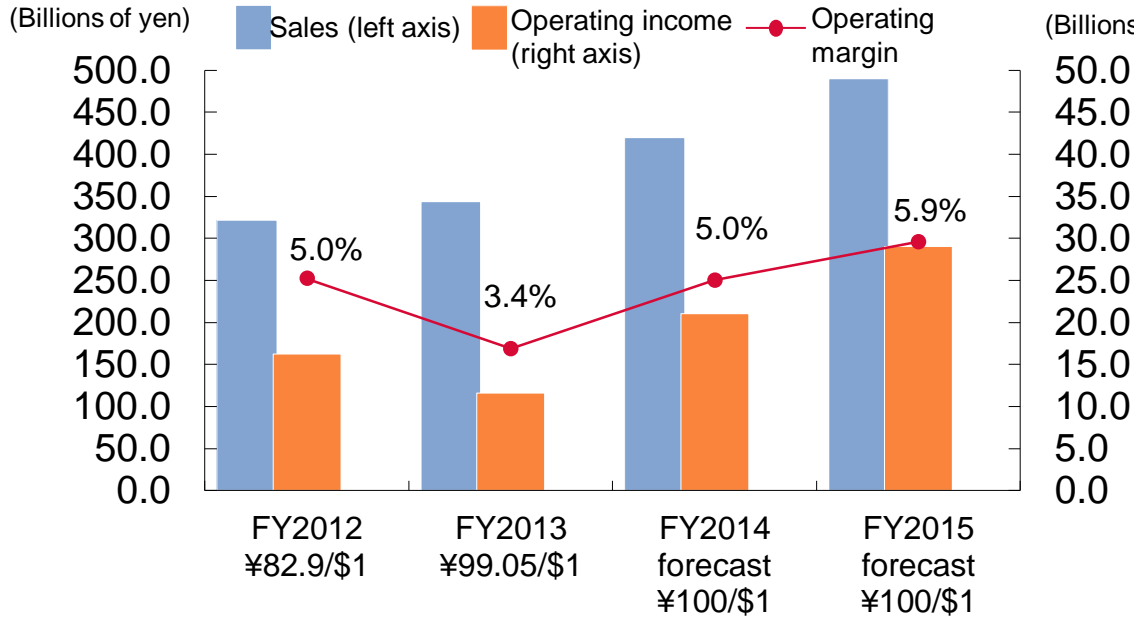
### Principal Processes

- 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 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

# Resources, Energy and Environment (1)



28AHX-DF medium-speed dual-fuel marine engine

## Boosting orders for natural gas operations in line with demand expansion

- Commenced LNG tank construction for the Soma LNG Receiving Terminal, one initiative approved by the Reconstruction Agency following the Great East Japan Earthquake.
- Received orders for a large Australian power plant using three large gas turbines derived from jet aero engines, including combined cycle unit.

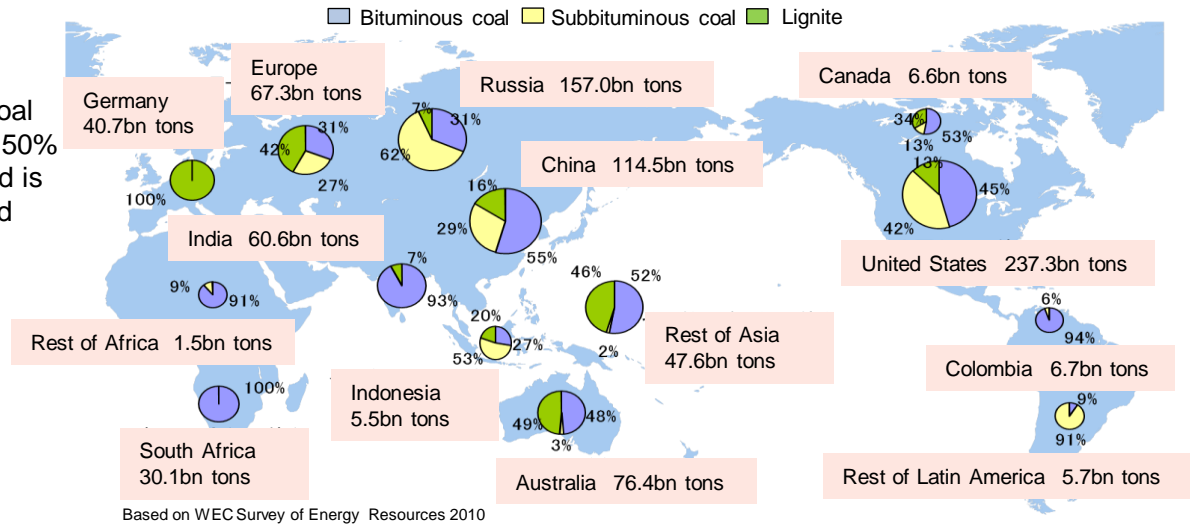
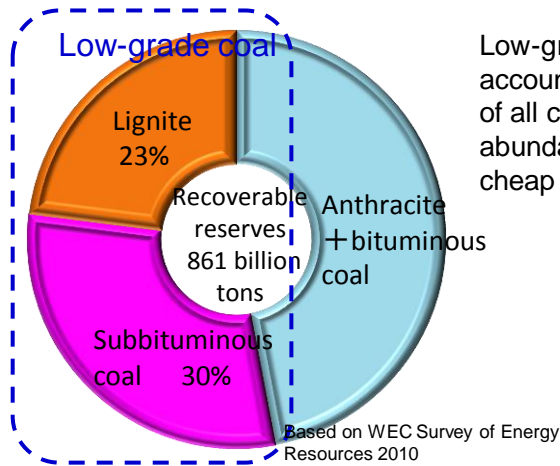
## Developing eco-friendly, energy efficient products

- Niigata Power Systems developed and received order for 28AHX-DF dual-fuel medium-speed marine engine, which meets the International Maritime Organizations's Tier III regulations and reduces NOx emissions by 75%.
- Acquired Steinmuller Engineering of Germany to accelerate the development and commercialization of lignite-fueled boilers.
- Signed EPC contract for 2,000MW ultra super-critical coal-fired power plant in Jimah East, Malaysia.

■ Growth factors for this business

## IHI's development of technologies to use lignite and other low-grade coal

### World coal reserves by grade



### IHI's initiatives

#### Electric power field

##### Lignite pre-drying technique



Started drying tests in January 2014 at Aioi Works, and working to swiftly commercialize technology through demonstration operations.

##### Lignite combustion technology

In June 2014, acquired Steinmuller Engineering, a pioneer in lignite-fired boilers, to secure technologies to accelerate our development of such boilers.

#### Chemicals field

##### TIGAR® twin gasifier



Applicable raw materials

Low-grade coal

Biomass

Shift

Hydrogen

· Fertilizer production  
· fuel cells

Improve

Methane

· Natural gas alternative

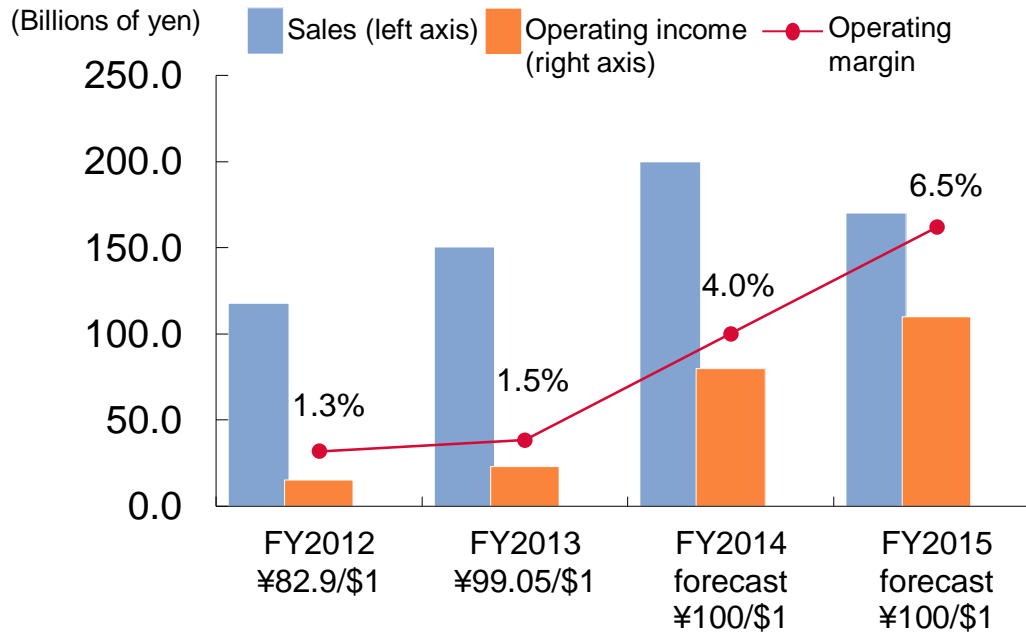
Synthesize

Liquid raw materials and fuels

· Chemical materials  
· Transportation fuels

Constructing pilot facility in Indonesia. Planning to start demonstration operations from 2015 with a daily output of 50 tons. Aim to launch commercial production once confirming performance.

# Social Infrastructure and Offshore Facilities (1)



(Billions of yen)

25.0  
20.0  
15.0  
10.0  
5.0  
0.0



Constructing Tsukiji Bridge

## Full-scale involvement in marine businesses

- Won order for two IHI-SPB tanks for Floating LNG Storage and Regasification Unit from China's Wison Group.
- Received order from BW Offshore to build FPSO hull.

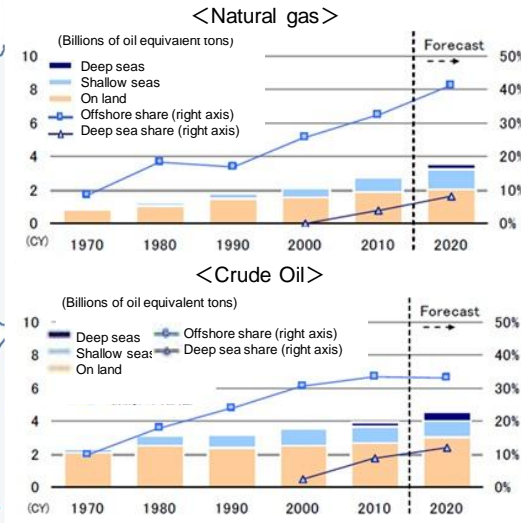
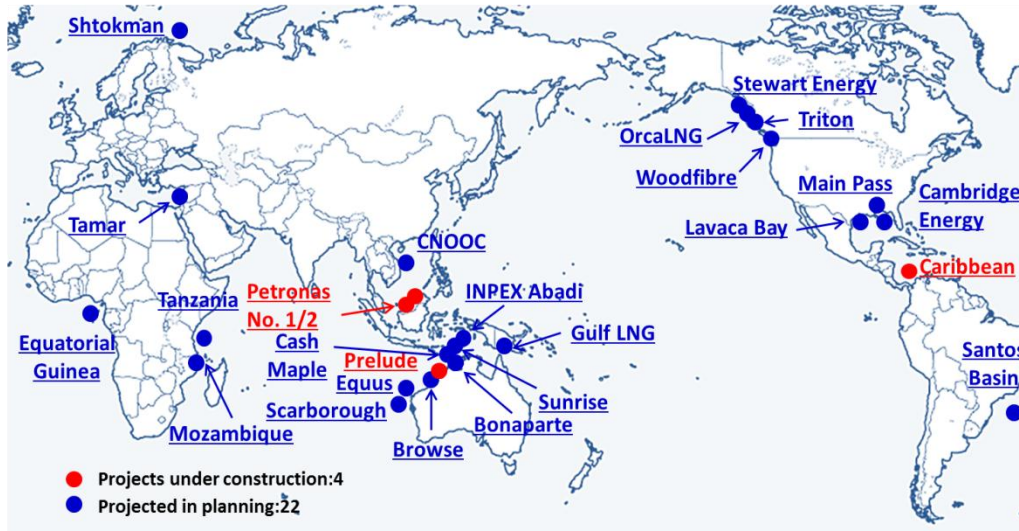
## Smart social and urban infrastructure initiatives

- Joint venture of IHI Infrastructure Systems and Kawada Industries constructed the Tsukiji Bridge, connecting central Tokyo with a new Tokyo waterfront subcenter at the mouth of the Sumida River.
- Completed and opened Toyosu Foresia, a large anti-seismic office complex with diverse disaster prevention capabilities constructed as part of a Toyosu area redevelopment project.

# Social Infrastructure and Offshore Facilities (2)

## ■ Growth factors for this business

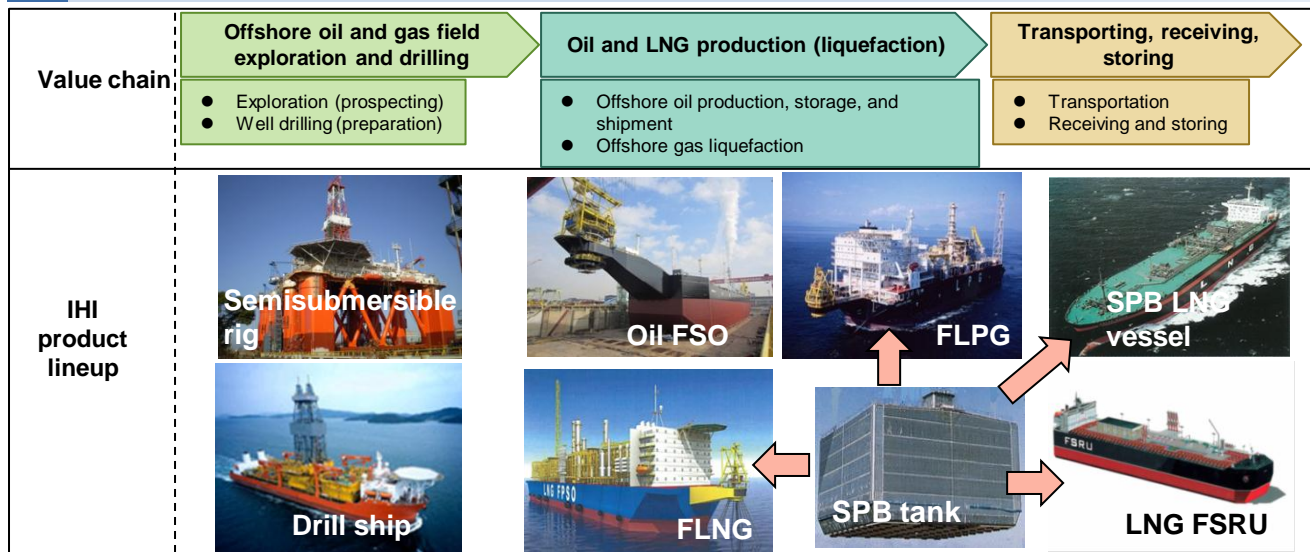
### Floating LNG unit and offshore structure projects around the world



World LNG and oil production trends on land and at sea

Source: Mizuho Bank Industry Research Division based on information from IEA, World Energy Outlook 2013, BP Statistical Review of World Energy, website of Ministry of Land, Infrastructure and Industry (<http://www.mlit.go.jp/>)(as of July 31, 2014)

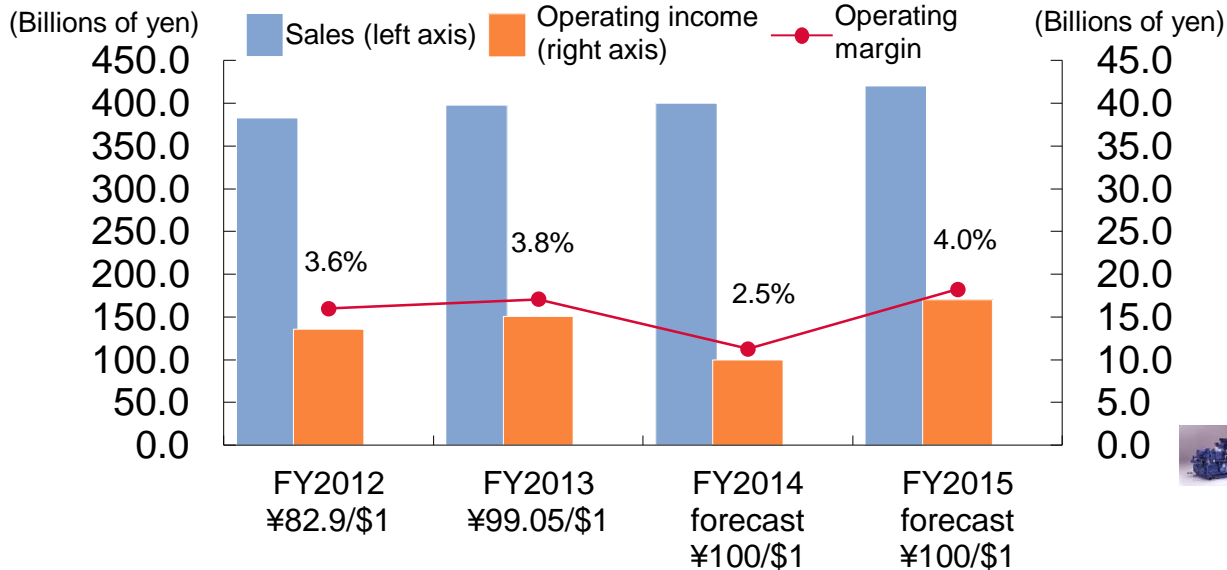
### IHI's floating LNG unit and offshore structure operations



- Aichi Works features
- Japan's sole large offshore unit dock
  - Strong record in offshore structure construction and project management
  - Capital investments in SPB tank aluminum production line



# Industrial Systems and General-Purpose Machinery (1)



T3 series and other turbo compressor models

## Full-scale entry into vehicular turbocharger aftermarket

- Established Clover Turbo to enter aftermarket for vehicular turbochargers.

## Expanded vacuum heat treatment facilities business

- Established joint venture with Jiangsu Fengdong Thermal Technology to manufacture and sell vacuum heat treatment facilities and expand business in China.

## Cultivated compressor operations

- Developed and launched T3 series oil-free turbo compressor, which saves space and energy and offers improved serviceability, increasing lineup of IHI turbo compressors to eight models.

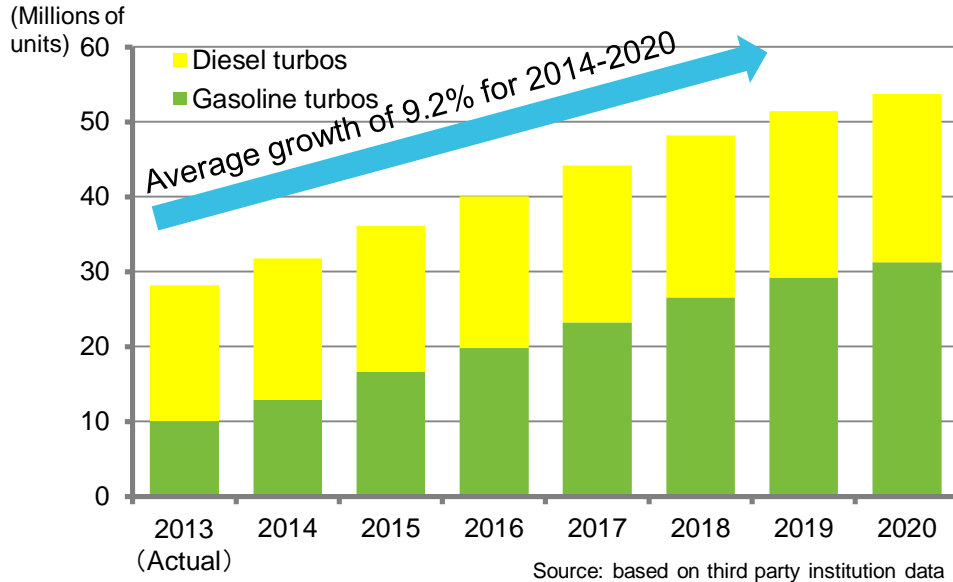
## Global deployment pa

- IHI Transport Machinery participated in mechanical multi-story parking operations in Singapore as manufacturer of mechanical parking systems.

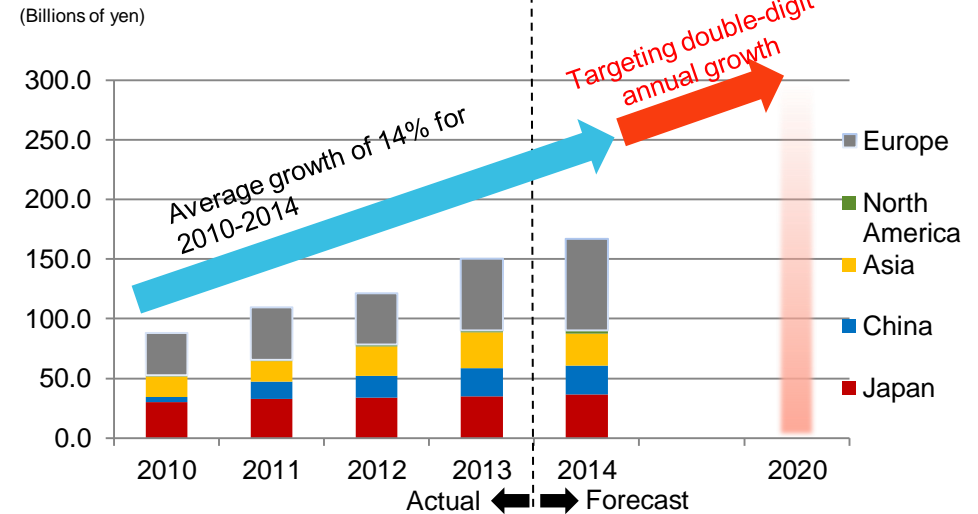
# Industrial Systems and General-Purpose Machinery (2)

## Growth factors for this business

### World turbocharger market



### Consolidated sales forecast



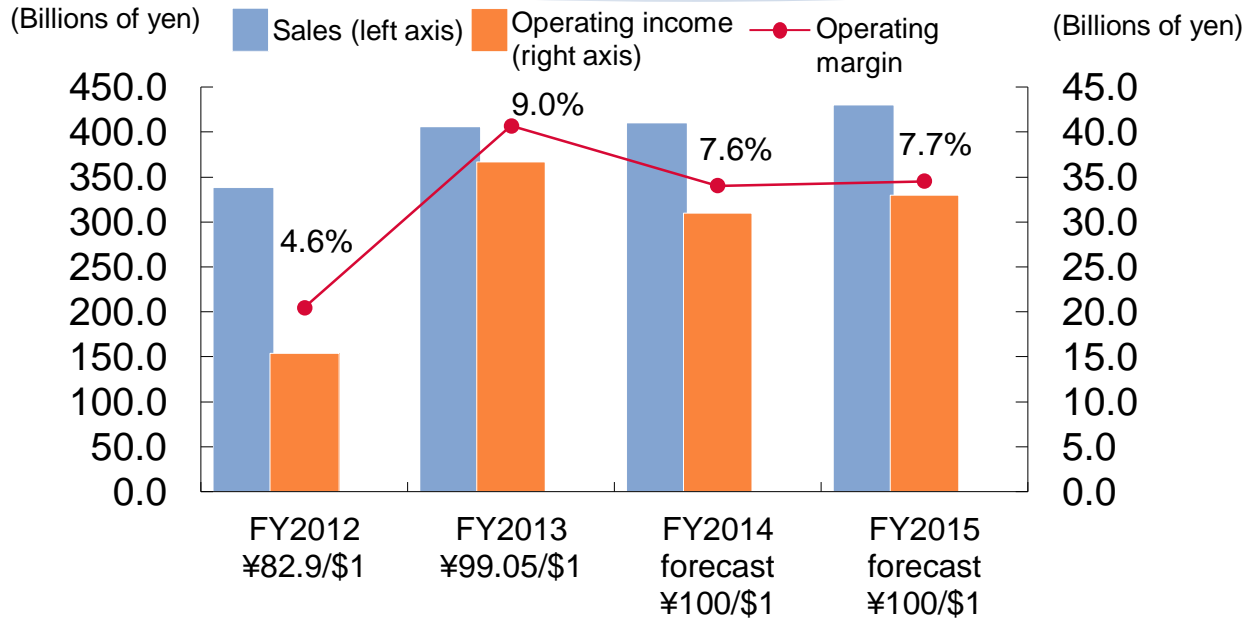
### Globally accelerating parking business



- Cultivated Southeast Asian market
- Established subsidiaries ● in Malaysia (2011) and Indonesia (2012)
- Orders received by country and area (★)
  - Thailand: Two orders from local property developer
  - Malaysia: Order from domestic property developer
  - Singapore: Order from national government institution
  - Vietnam: Two orders from state-run entity
- Looking to set up production unit



# Aero Engine, Space and Defense (1)



IHI will participate in developing and mass producing the GE9X engine for the Boeing 777X

## Robust civil aero engine demand

- Built new plants for aircraft engine composite components at IHI Aerospace in Tomioka and IHI Soma Aero Engine Works.
- Decided to participate in development and mass production of GE9X engine for Boeing 777X.
- Posted cumulative shipments of 4,000 units for CF34 regional jet engine.

## Expansion in aerospace

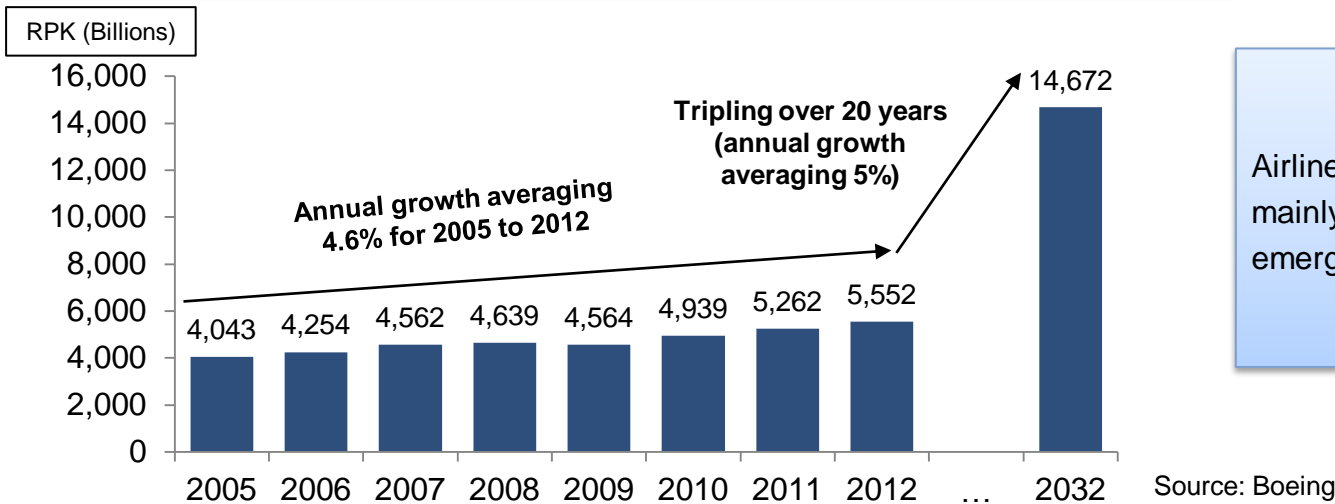
- For a new backbone rocket being developed to succeed H-IIA and H-IIB from this fiscal year, IHI Group was chosen to oversee key technologies. IHI Aerospace will participate in developing solid rocket motor and IHI will develop turbo pump.

# Aero Engine, Space and Defense (2)

## Growth factors for this business

### Global airline passenger traffic expanding solidly

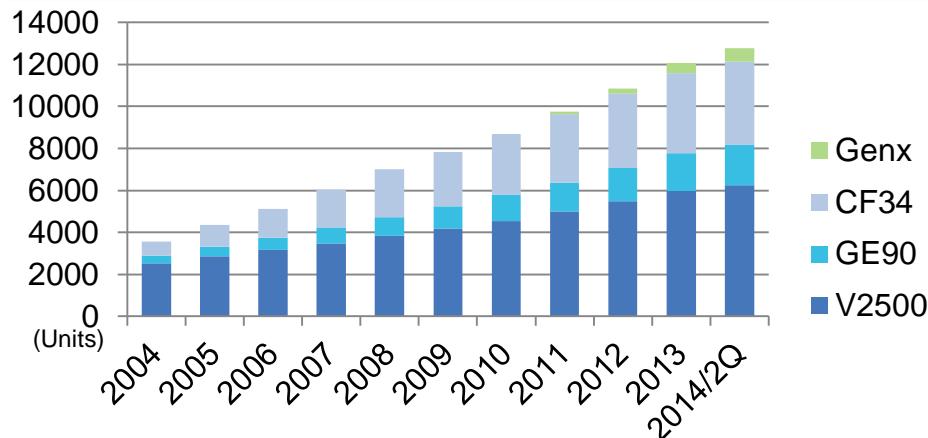
Global revenue passenger kilometers (RPK): 2005 to 2032



Airline passenger volume to remain solid, mainly because of economic growth in emerging nations and rising populations.

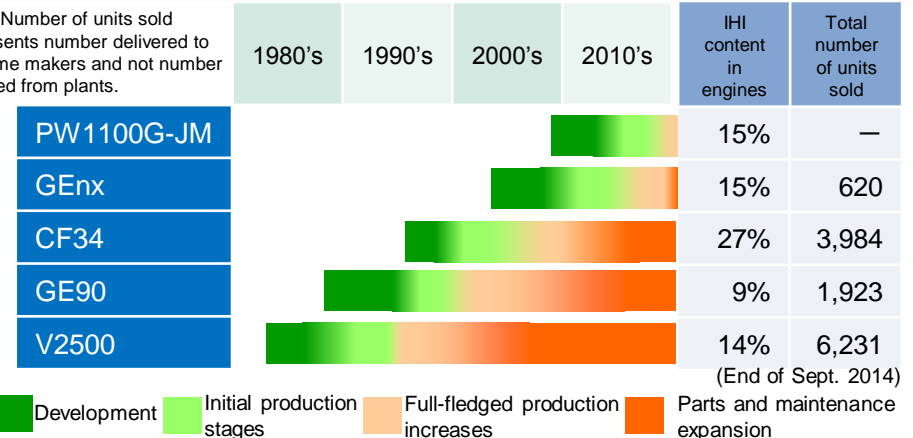
### Solid demand for civil aero engine programs involving IHI

Aggregate civil aero engine sales



Development and deliveries of engines from programs involving IHI

Note: Number of units sold represents number delivered to airframe makers and not number shipped from plants.



# 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.