

# Kawasaki Heavy Industries Group Business Plan

April 25, 2013

Kawasaki Heavy Industries, Ltd.

 **Kawasaki**  
Powering your potential

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# **I. The Position of the FY2013-2015 Medium-Term Business Plan “MTBP2013”**

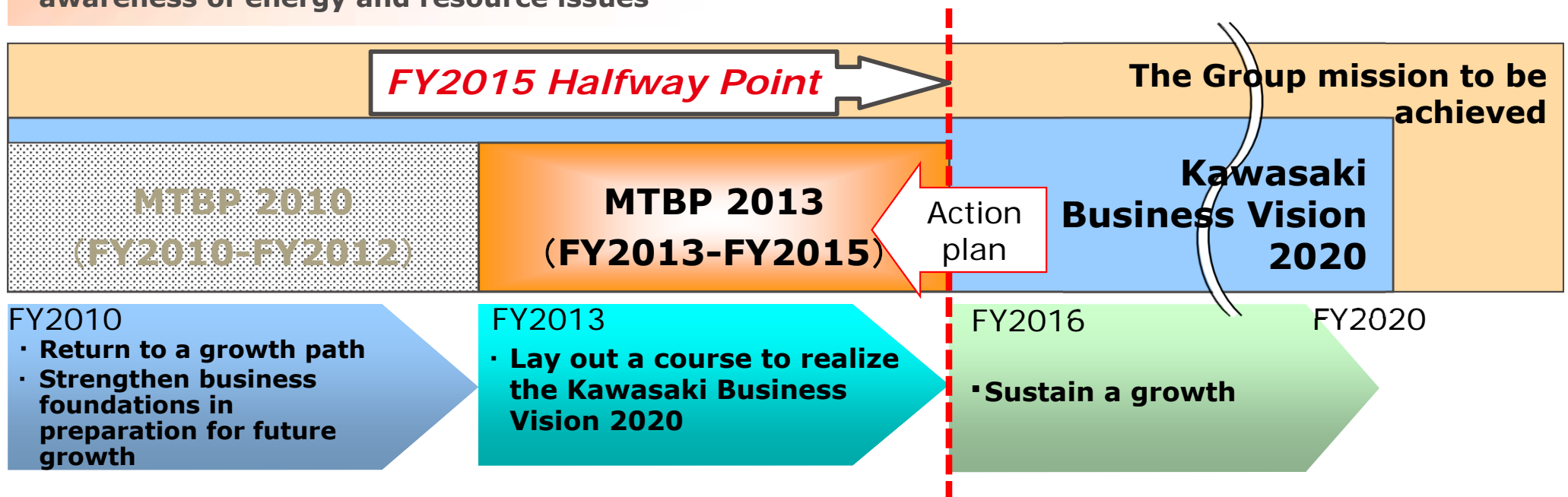
# I. The Position of the FY2013-2015 Medium-Term Business Plan "MTBP 2013"

## Environmental Changes During the MTBP 2010

- The yen rose to and stayed at a higher level than projected
- Developed countries, especially in Europe, had prolonged economic stagnation
- Emerging economies enjoyed remarkable growth
- The Chinese economy had rapid growth followed by deceleration
- The Great East Japan Earthquake and the growth of emerging economies boosted awareness of energy and resource issues

## Basic Objectives of the MTBP 2013

- Ensure efficient business management to survive the severe business environment
- Implement measures to reflect changing business environments
- Implement specific measures to realize the Vision
- Promote earlier commercialization of new products and businesses
- Aim to be a corporate group that enjoys sustainable growth, while contributing to the growth of society



# **II. Kawasaki Business Vision 2020**

**- Strategic Moves toward the Future -**

- 1. Business Vision**
- 2. Business Visions of Respective Business Sectors**
- 3. Quantitative Vision**

# II. Kawasaki Business Vision 2020

## 1. Business Vision

### Group Mission

**Kawasaki, working as one  
for the good of the planet**

### Business Vision

The KHI Group aims to be a corporate group that swiftly supplies the products and services that fulfill a diverse range of needs of people worldwide by utilizing its innovative and advanced technological capabilities in the principal business sectors of Land, Sea and Air Transportation Systems, Energy & Environmental Engineering and Industrial Equipment, thereby opening up the potential of its customers and society

**Transportation Systems**

**Energy & Environmental  
Engineering**

**Industrial Equipment**

#### **Profitability and growth investment**

Secure high adaptability to changing business environments and high profitability with continuous investment for future growth

#### **Emphasis on *monozukuri* (manufacturing) and global business development**

Actively promote overseas business development from production to sales, while upgrading domestic plants as mother factories

#### **Co-existence and co-prosperity with society**

Contribute to solving social issues and fulfilling stakeholders' expectations through business activities

#### **Improvement of the global environment**

Secure comfortable living and a better global environment by providing products featuring the most advanced low environmental impact technologies, and systems composed of those products

#### **Greater job satisfaction**

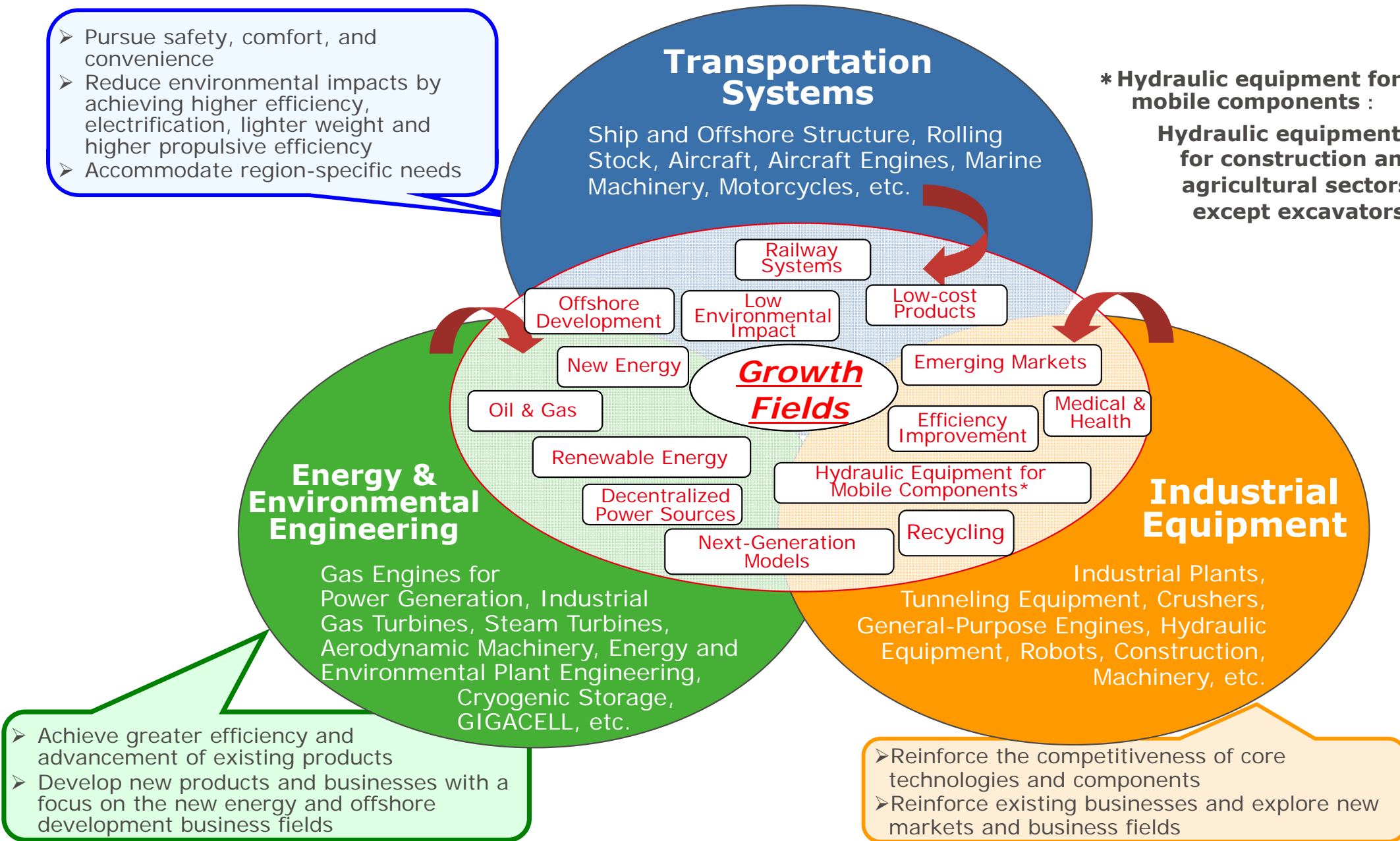
Ensure a safe and pleasant working environment where employees can have greater job satisfaction with hopes and ambitions for their future

# II. Kawasaki Business Vision 2020

## 2. Business Visions of Respective Business Sectors (a)

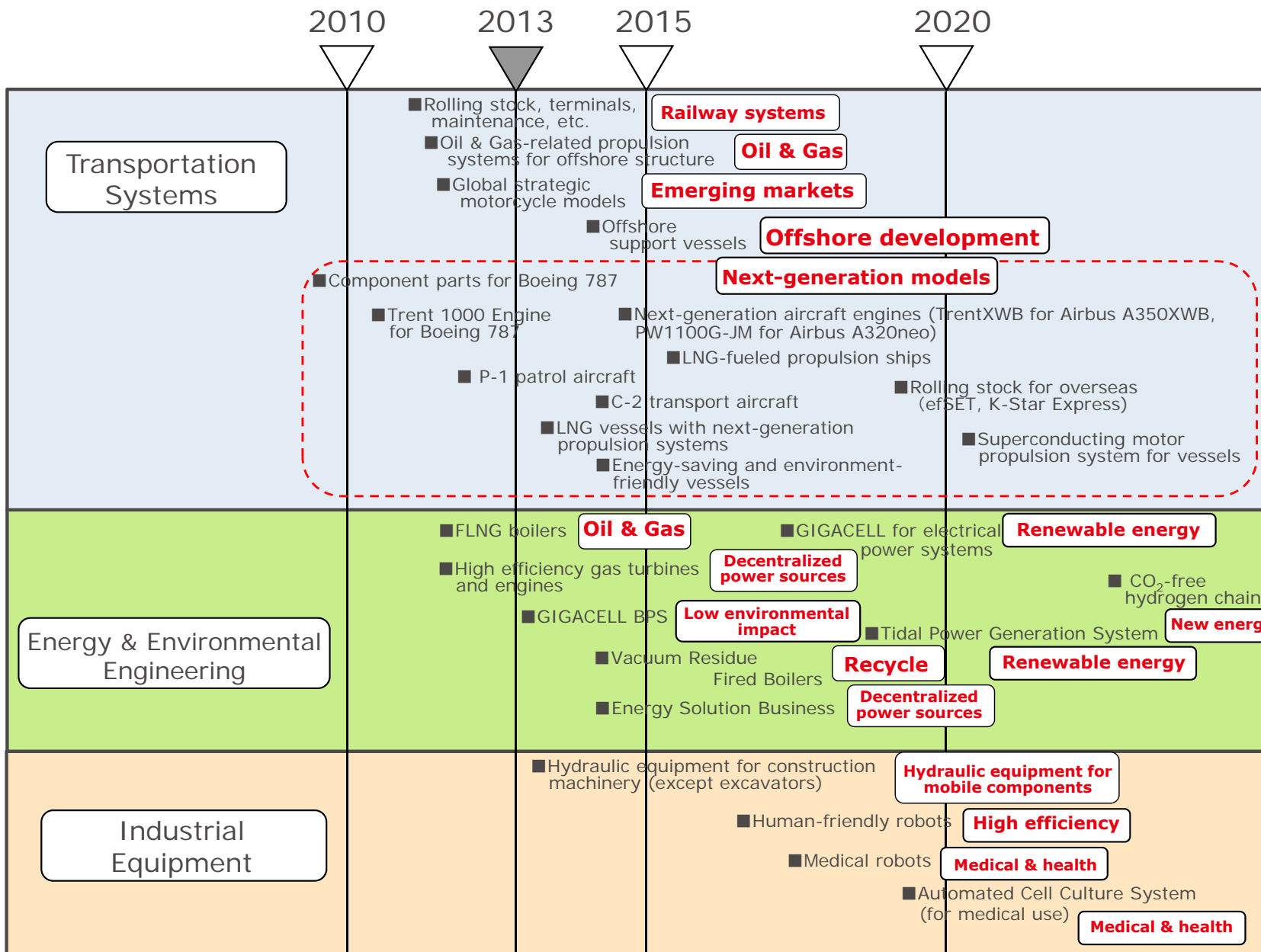
- Pursue safety, comfort, and convenience
- Reduce environmental impacts by achieving higher efficiency, electrification, lighter weight and higher propulsive efficiency
- Accommodate region-specific needs

**\* Hydraulic equipment for mobile components :  
Hydraulic equipment for construction and agricultural sectors, except excavators**



# II. Kawasaki Business Vision 2020

## 2. Business Visions of Respective Business Sectors (b)



**Products related to multiple business sectors**

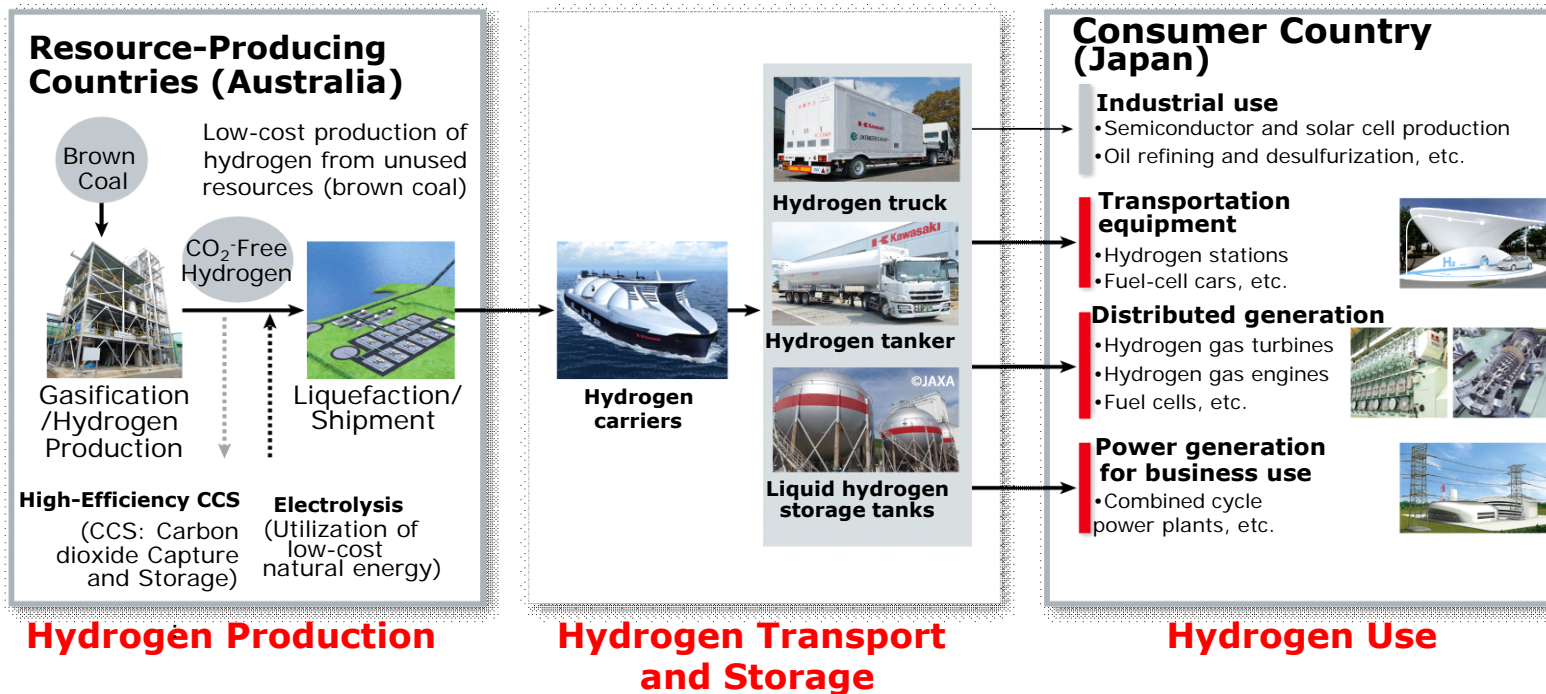
- *CO<sub>2</sub>- free hydrogen chain*
  - Liquid hydrogen carriers
  - Liquid hydrogen loading arm
  - Hydrogen gas turbines
  - Hydrogen gas engines
  - Water electrolysis hydrogen producing systems
- *Energy Solution Business*
- *Automated cell culture System*
- *Energy-saving and environment-friendly vessels (propulsion systems for marine)*
- *Gigacell for electrical power systems*



# II. Kawasaki Business Vision 2020

## 2. Business Visions of Respective Business Sectors (c)

### CO<sub>2</sub>-Free Hydrogen Chain



### Tidal Power Generation System



- Toward the start of a demonstration test in 2015
  - Secured a testing field in the sea off the coast of Scotland
  - Working on detailed design

- Toward the realization of a demonstration hydrogen chain in 2017
  - Strengthen alliances with partners
  - Front-End Engineering Design started since 2012
- Commercialization in 2025 is envisaged
  - Accelerate technological developments to enable a larger scale chain and differentiation

### Automated Cell Culture System (for iPS cells, etc.)

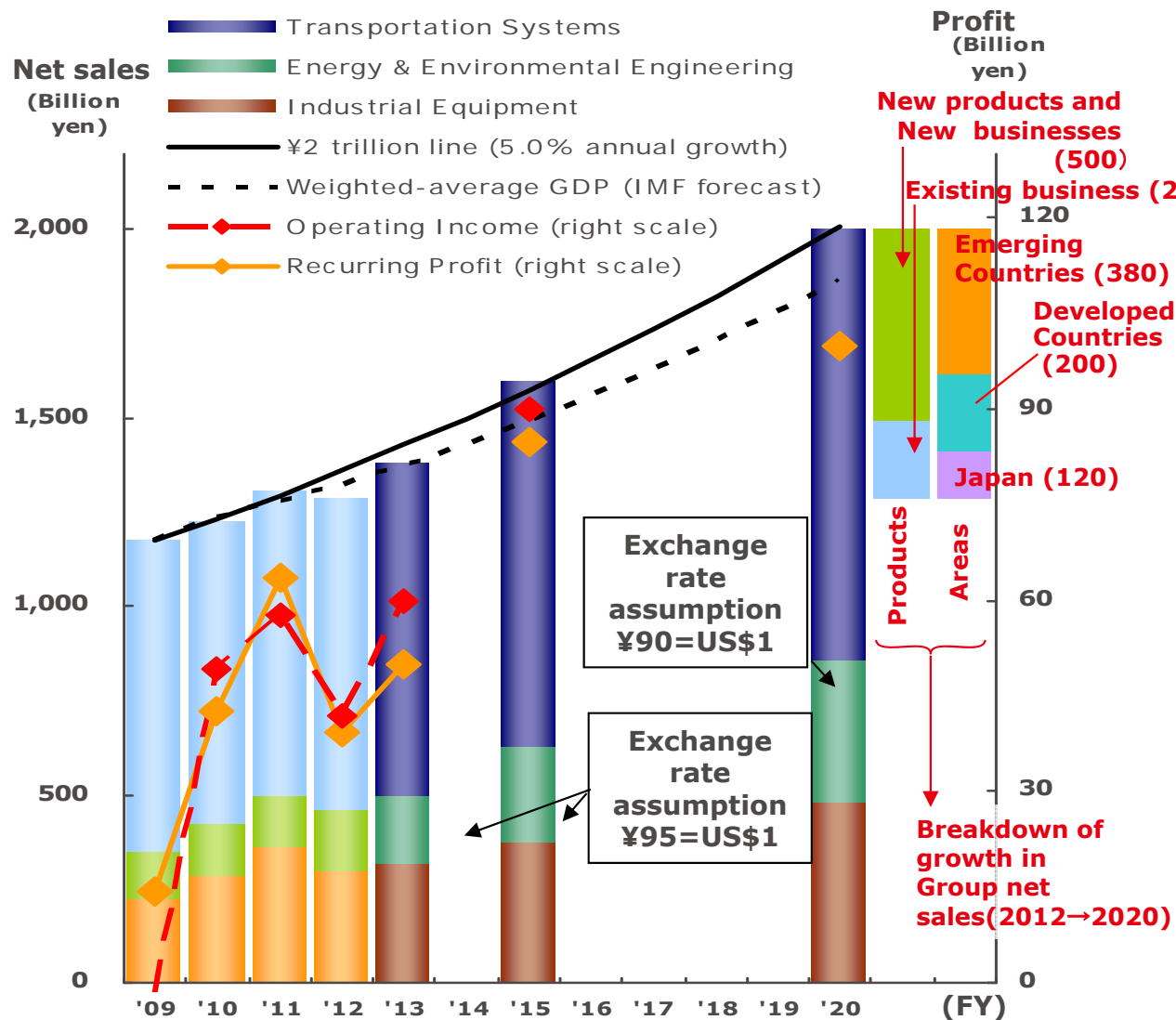


- To increase the use of regenerative medicine, starting around 2020
  - Start clinical trials in 2013 in Japan and abroad
  - Quickly acquire the world's first certification for medical use
  - Accelerate the advancement of the technology for high-quality, larger-volume cell culture, and its the commercialization thereof

# II. Kawasaki Business Vision 2020

## 3. Quantitative Vision (a)

### Net Sales by Business Sectors



### Quantitative Vision (FY2020) (Exchange rate assumption: ¥90=US\$1)

- Consolidated net sales ¥2 trillion or higher
- Ratio of recurring profit to sales 5.0% or higher
- ROIC (before-tax) 12.0% or higher

### Net Sales

- Aim for net sales growth of the world's GDP growth rate +  $\alpha$

### Capital Investment

- Conduct flexible investments worth 3% - 5% of net sales

### R&D investment

- Conduct flexible investments worth 3% - 5% of net sales

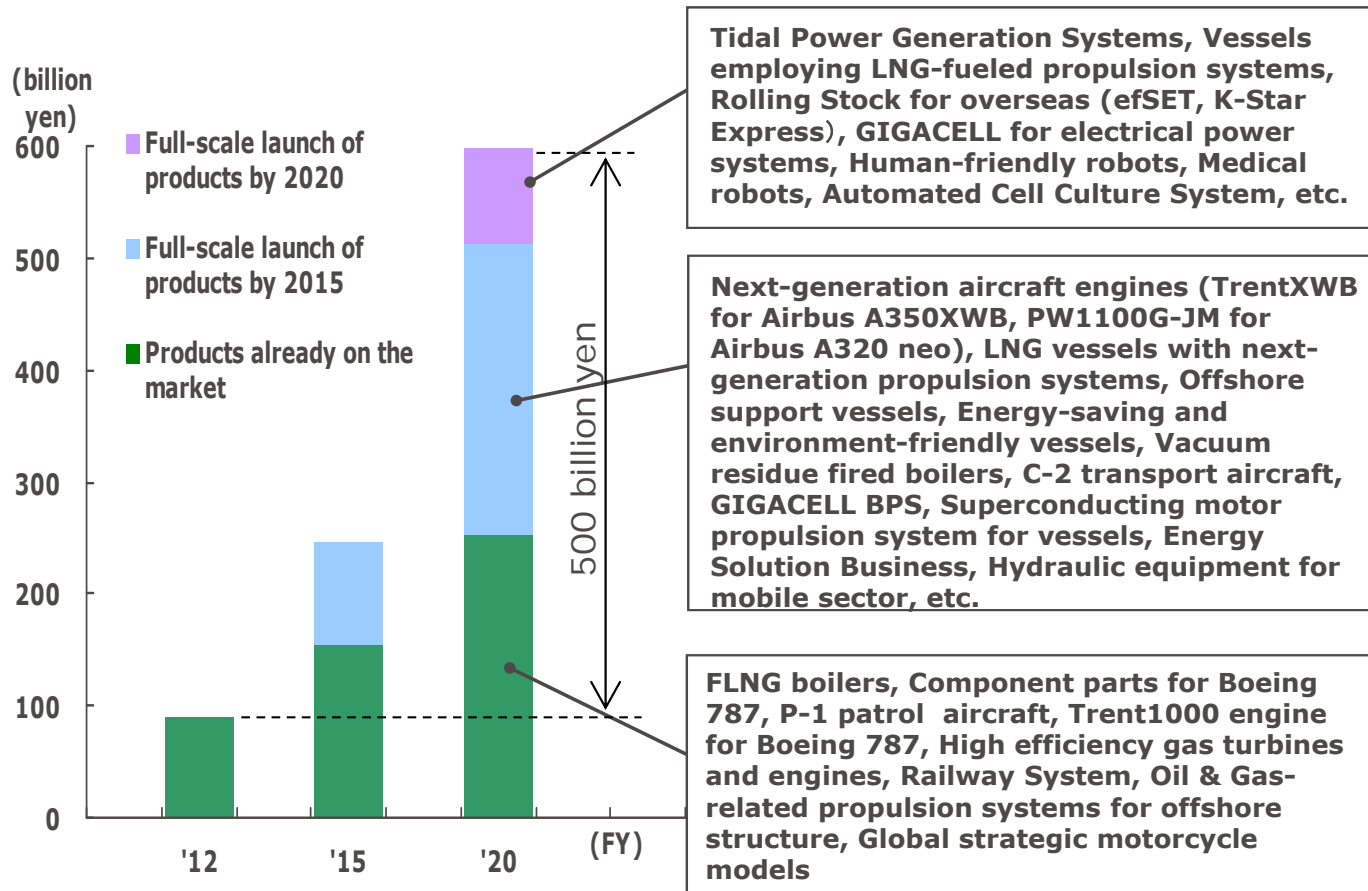
# II. Kawasaki Business Vision 2020

## 3. Quantitative Vision (b)

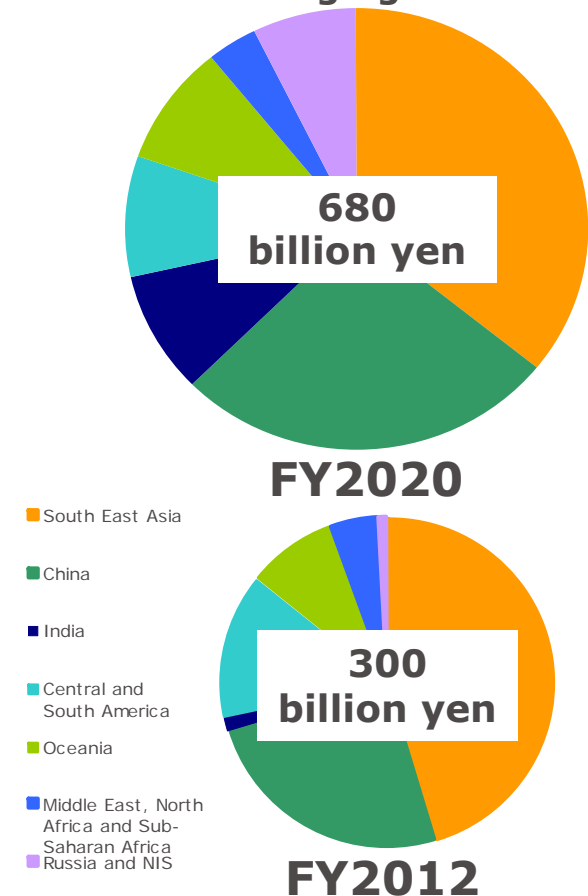
- Nurturing new products and new businesses in anticipation of societal needs until around 2030
- Utilize the Group's overall intellectual assets to create products and services

- Promote global business development in coordination with the government's growth strategies
- Respond to the demand in emerging markets

### Breakdown of sales by type of new product and business



### Breakdown of sales by region of emerging countries



# **III. Medium-Term Business Plan “MTBP 2013”**

**- Laying out a course to realize the Kawasaki Business Vision 2020 -**

**1. Review of the Previous Medium-Term Business Plan “MTBP 2010”**

**2. Medium-Term Business Plan  
“MTBP 2013”**

**2-1. Company Section**

**2-1-1. Key Policies and Measures**

**2-1-2. Quantitative Plan**

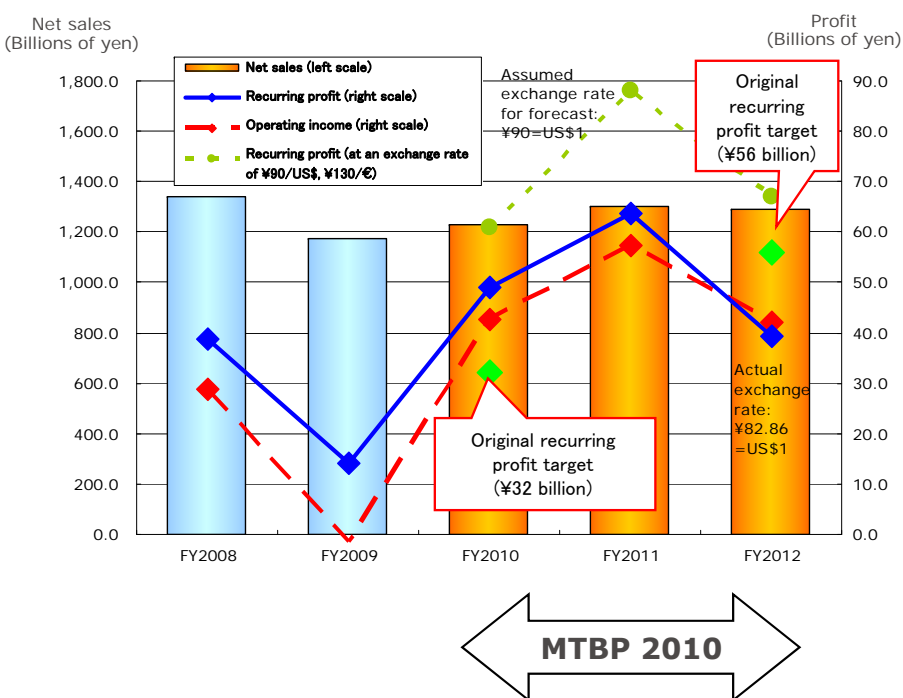
**2-1-3. Road Map**

# III. Medium-Term Business Plan "MTBP 2013"

## 1. Review of the Previous Medium-Term Business Plan "MTBP 2010"

### Objectives

- Return to a growth path
- Strengthen business foundations in preparation for future growth



### Results

#### Achieved the MTBP 2010 target one year earlier

- Responded to demand in the rapidly growing Chinese market (Ship & Offshore Structure, Plant & Infrastructure and Precision Machinery business)
- Received railway system orders (Rolling Stock business)
- Achieved mass production of large aircraft for Japan Ministry of Defense and Boeing 787 component parts (Aerospace business)
- Participated in commercial-sector aviation projects; Expanded gas turbine/gas engine businesses (Gas Turbine & Machinery business)
- Promoted differentiation strategies and sales expansion in emerging markets, mainly the ASEAN countries (Motorcycle & Engine business)

#### Aggressive investments for future growth

- Newly set up, enlarged and refurbished production facilities in Japan and abroad
- Participated in joint ventures (Ship & Offshore Structure and Precision Machinery business)

### Issues

- Create more competitive business models less subject to exchange fluctuations
- Accelerate business development in the growth markets of emerging countries other than China



# III. Medium-Term Business Plan "MTBP 2013"

## 2-1-1. Key Policies and Measures (Summary)

**We aim for sustainable growth of the Group by expanding its business foundations, securing future revenue basis and solidifying management system**

### ■ Efforts to expand business foundations

#### a. Provide solutions

Secure market superiority and higher added value by providing optimal solutions

#### b. Expand the range of existing businesses

Achieve differentiation in the global markets by exploring business opportunities in upstream and downstream of existing businesses

#### c. Accelerate global business development aimed at growth markets

Accelerate global business development, including partnerships and joint ventures, to achieve greater dominance in growth markets

#### d. Encourage early commercialization of new products and businesses

Encourage earlier commercialization through in-house development, M&As and business alliances to acquire the first-mover advantage

#### e. Enhance the competitiveness of existing businesses

Secure market superiority through advancement and differentiation, optimize the global production network by upgrading the domestic plants as mother factories and enhance cost competitiveness by promoting global procurement

### ■ Efforts to secure future revenue basis

- Promote R&D efforts and capital investments on a continuous basis
- Promote the sharing of intellectual properties and education to develop globally minded personnel, etc.

	Transportation Systems	Energy & Environmental Engineering	Industrial Equipment
a. Solutions	Railway System	Decentralize power sources	Comprehensive packages for emerging nations
	Various plants		
Advancement/Differentiation/Higher Added Value			
b. Business Range Expansion	Long-term maintenance	EPC	
	Business management		
Differentiation			
c. Global Strategies	Brazil		
	India	Oceania	India
		Russia	
Japan • Western countries • China • South East Asia			
Reinforcement of business through partnerships and joint ventures			
d. Encourage earlier commercialization of new products and businesses	Hydrogen-related		Mobile hydraulics
	Development of ocean resources	Renewable energy	Medical & Health
		Oil & Gas	
Advancement/Differentiation/Higher Added Value			
e. Enhance the competitiveness of Existing businesses	Higher efficiency and performance		
	Energy conservation and low environmental impacts		
	Reinforcement of monozukuri capabilities		
	Global production/Global procurement		
	Advancement/Differentiation/Higher Price Competitiveness		

### ■ Efforts to solidify the management system

- Reinforce the financial structure
- Increase the efficiency of the execution of common duties

# III. Medium-Term Business Plan "MTBP 2013"

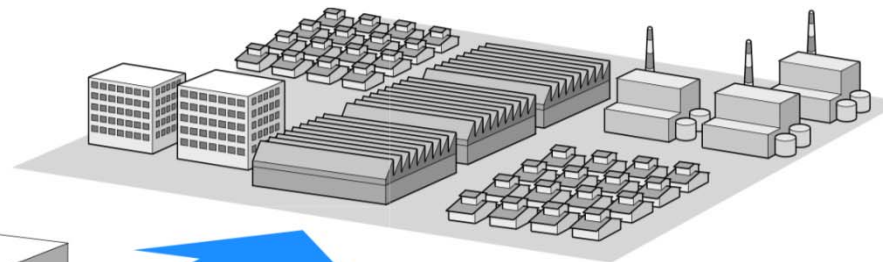
## 2-1-1. Key Policies and Measures (Efforts to Expand Business Foundations)

### Provide Solutions

- With a focus on energy-related products in which we have an advantage, we provide superior system solutions

### ~Energy System Solutions~

Provide solutions that fulfill customer needs in emerging counties and local cities in Japan



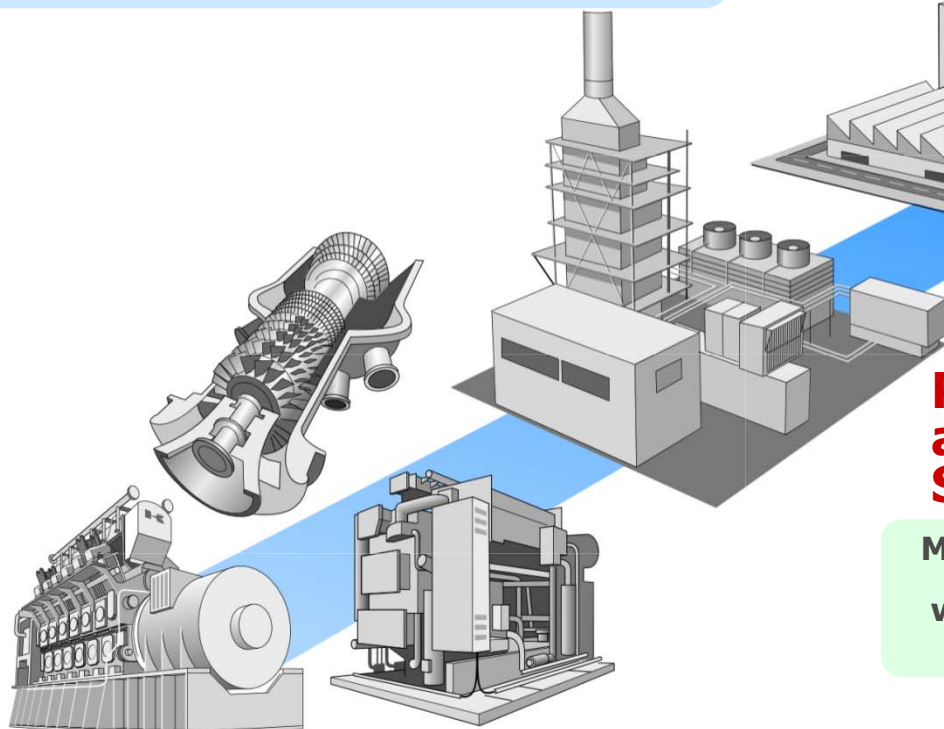
### Power Generation & Heat Supply Systems for Community

Low-cost and energy-conserving infrastructure suited to the needs of emerging nations and local cities in Japan

### Power Generation and Heat Supply Systems for Factory

Minimize energy consumption, exhaust gas, and heat, while meeting the production capacity of the factory

Decentralized infrastructure which is safe and secure, and ensures lifelines in case of a natural disaster



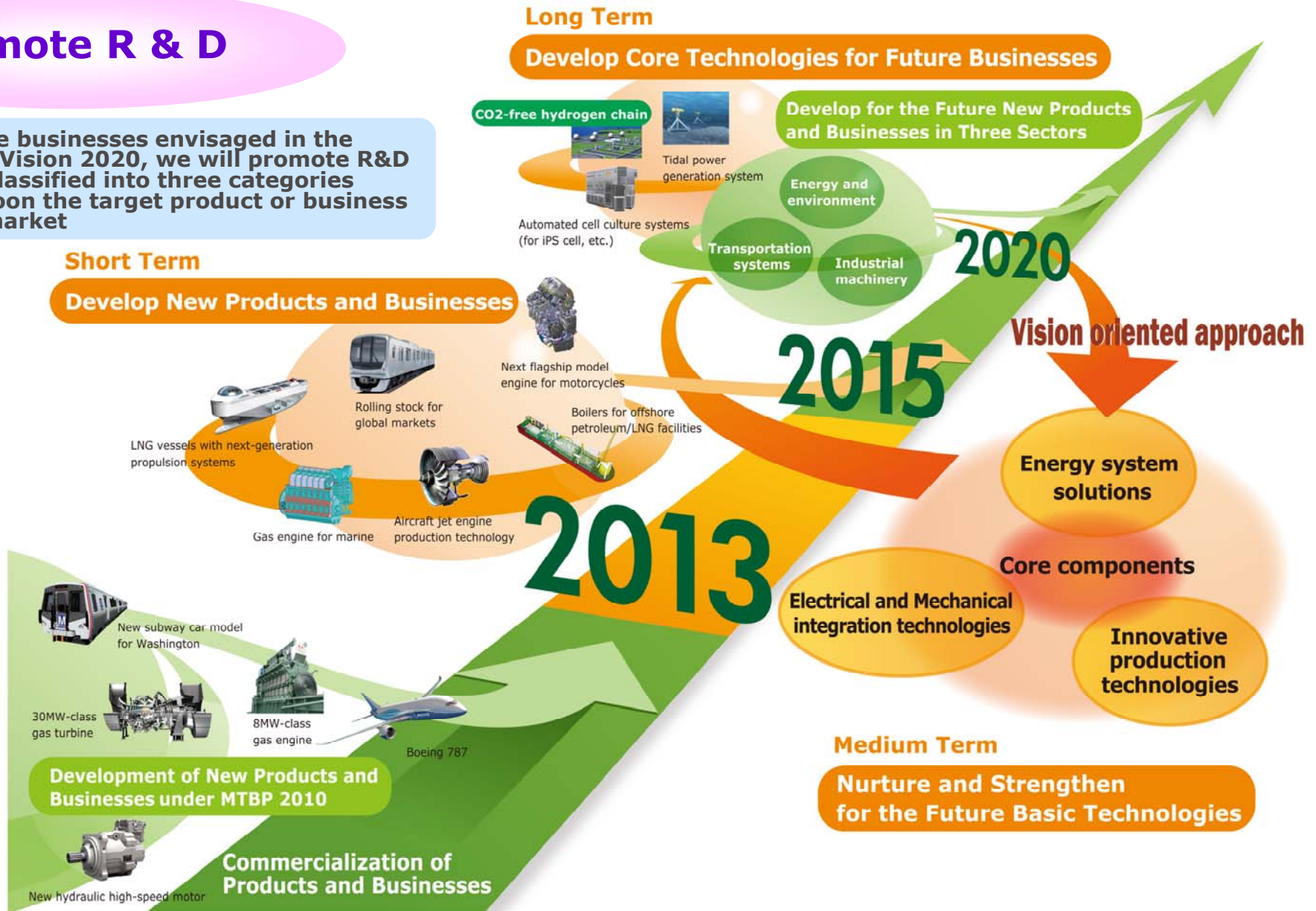
### Energy-Related Products

# III. Medium-Term Business Plan "MTBP 2013"

## 2-1-1. Key Policies and Measures (Efforts to Secure Future Revenue Basis)

### Promote R & D

To realize the future businesses envisaged in the Kawasaki Business Vision 2020, we will promote R&D efforts, which are classified into three categories according to how soon the target product or business will be put on the market





# III. Medium-Term Business Plan "MTBP 2013"

## 2-1-1. Key Policies and Measures (Efforts to Solidify the Management System)

### Increase the Efficiency of Executing Common Duties

■ Streamline services at the headquarters and reinforce their functions

- Streamline the duties and reduce the workforce
- Sophisticate the duties and improve the productivity of individuals

■ Increase the efficiency of conducting of services common throughout the Group

Review the duties and services to be done Group-wide from the viewpoint of global and consolidated business management

Communalize systems throughout the Group, including associated companies, and increase the efficiency and reliability of services through concentrated management

#### ● Personnel and payroll services

- Manage personnel information Group-wide
- Consolidate payroll services
- Manage and file personnel-related information

#### ● Financial and accounting services

- Consolidate accounting services
- Consolidate financing and cash management services
- Other support services

#### ● IT services

- Operate business systems
- Consolidate servers

Associated Companies

Regulations/  
Business Processes

Headquarters  
Concentrated  
Management  
Divisions

Master Codes

■ Increase the efficiency of conducting the core corporate functions

Consider communalizing business process and systems regarding sales, procurement, production control, etc.

■ Maximize the use of managerial information

Consider sharing information on marketing, procurement, management finance and human resources for their effective application

# III. Medium-Term Business Plan “MTPB 2013”

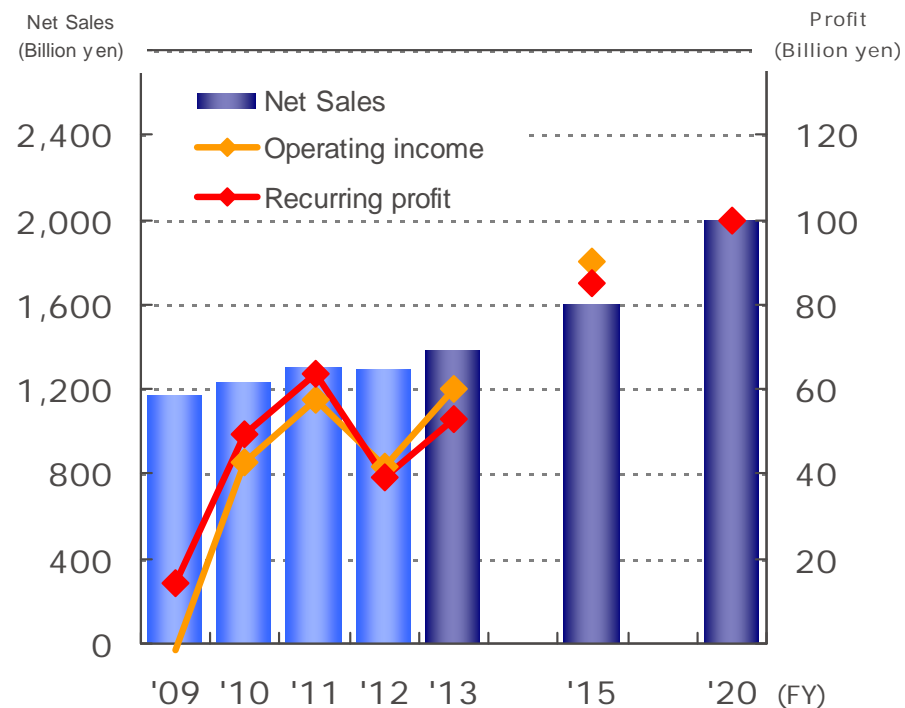
## 2-1-2. Quantitative Plan (a)

### <Consolidated Quantitative Targets>

(Unit: Billion yen)

	FY2012 (actual)	FY2013 (forecast)	FY2015 (target)
Net sales	1,288.8	1,380.0	1,600.0
Operating income	42.0	60.0	90.0
(Ratio to sales)	3.3%	4.3%	5.6%
Recurring profit	39.3	53.0	85.0
(Ratio to sales)	3.0%	3.8%	5.3%
Before-tax ROIC	6.1%	7.4%	11.0%
Net debt-to-equity ratio	131.9%	130%	110%
Equity ratio	23.0%	22.1%	23.4%
Exchange rate assumption	—	¥95 = US\$1	¥95 = US\$1

Through the continued sustainable growth of the Group, secure the realization of the Kawasaki Business Vision 2020



# III. Medium-Term Business Plan “MTBP 2013”

## 2-1-2. Quantitative Plan (b)

### <Management Resource Allocation Plan>

(Unit: Billion yen)

	FY2010- FY2012 average (actual)	FY2013- FY2015 (plan)
<b>Capital investment</b> (purchase order basis)	71/year	70/year
<b>R&amp;D investment</b>	40/year	46/year

	FY2012 (actual)	FY2015 (plan)
<b>Japan</b>	25,222	26,000
<b>Overseas</b>	8,788	9,400
<b>No. of employees</b>	34,010	35,400

### <Management Resource Allocation Policy>

#### ● Capital investment

- Curtail additional investments by effectively using existing facilities
- Make appropriate investments to prepare future business foundations

#### ● R&D investment

- Develop new products and businesses centering on system solutions
- Develop high value-added products using concurrent engineering
- Develop fundamental and core technologies that become essential in the future

#### ● Number of employees

- Japan: Maintain stable employment
- Overseas: Increase the workforce especially in North America and Asia

# III. Medium-Term Business Plan “MTBP 2013”

## 2-1-3. Road Map (a)

### A Road Map to Achieve Our Profit Targets

**FY2013**

#### 《Performance Outlook》

Operating income ¥60 billion  
Recurring profit ¥53 billion

- ◆ Thoroughly employ risk management regarding orders already received
- ◆ Improve operating cash flows and reduce interest-bearing debt
- ◆ Continue R&D and capital investments

**FY2015**

#### 《Profit Targets》

Operating income ¥90 billion  
Recurring profit ¥85 billion

- ◆ Accelerate business development in emerging countries and resource-producing countries
- ◆ Enhance the added value of system products, etc.
- ◆ Manage indirect costs by enhancing the efficiency of back-office functions

#### a) Lay out a clear course to realize the Kawasaki Business Vision 2020

Tap into growth markets

Realize new products and businesses

Increase the competitiveness of existing businesses

#### b) Remain on a path to sustainable growth

Evaluate the profitability of businesses

Perform through risk management efforts

Continue R&D and capital investments

#### c) Reinforce the managerial culture

Reduce interest-bearing debt and improve cash flows

Curtail fixed costs

Decrease susceptibility to exchange rate fluctuations

# III. Medium-Term Business Plan “MTBP 2013”

## 2-1-3. Road Map (b)

Toward the Achievement of ¥90 Billion in Operating Income in Fiscal 2015

**[FY2012]**

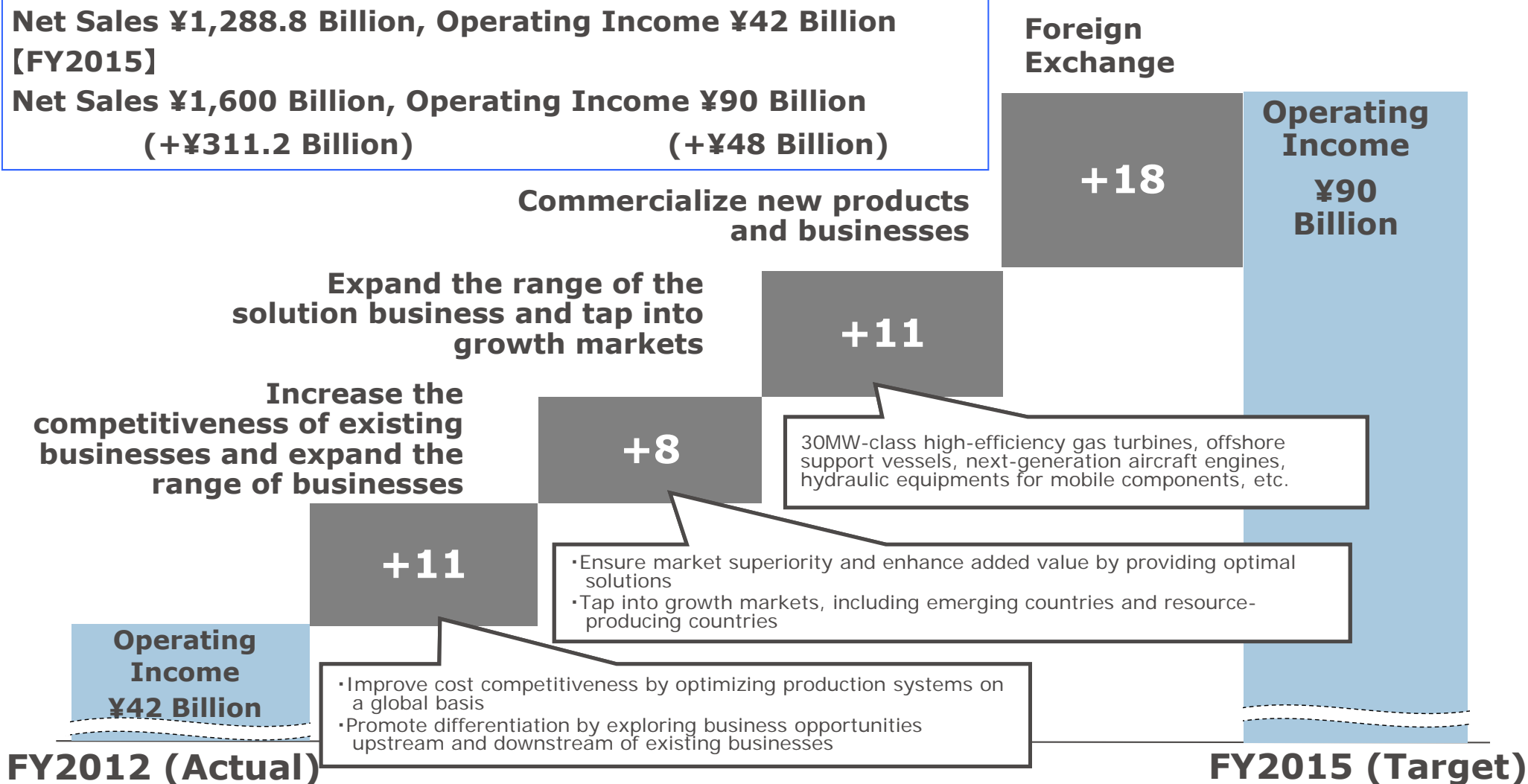
**Net Sales ¥1,288.8 Billion, Operating Income ¥42 Billion**

**[FY2015]**

**Net Sales ¥1,600 Billion, Operating Income ¥90 Billion**

**(+¥311.2 Billion)**

**(+¥48 Billion)**



## **2-2. Business Segment Section**

- 2-2-1. Review of the “MTBP 2010” Achievements**
- 2-2-2. Ship & Offshore Structure Business**
- 2-2-3. Rolling Stock Business**
- 2-2-4. Aerospace Business**
- 2-2-5. Gas Turbine & Machinery Business**
- 2-2-6. Plant & Infrastructure Business**
- 2-2-7. Motorcycle & Engine Business**
- 2-2-8. Precision Machinery Business**
- 2-2-9. By-Segment Quantitative Plan**

# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-1. Review of the “MTBP 2010” Achievements (a)

	Results	Issues
<b>Ship &amp; Offshore Structure</b>	<ul style="list-style-type: none"> <li>✓ Expanded the revenue base of the Chinese business</li> <li>✓ Prepared for entry into businesses related to offshore development</li> <li>✓ Enhanced LNG carriers technologies and reduced costs</li> </ul>	<ul style="list-style-type: none"> <li>✓ Define the functions of domestic shipyards in worldwide shipbuilding bases</li> <li>✓ Reinforce the revenue base of the Chinese business to prepare for the deterioration of market conditions</li> <li>✓ Promote a smooth launch of the joint venture business in Brazil</li> <li>✓ Make a full-scale entry into the offshore structures business</li> </ul>
<b>Rolling Stock</b>	<ul style="list-style-type: none"> <li>✓ Reinforced cost-cutting efforts by working on a project team basis</li> <li>✓ Increased the profitability in Asian markets, including China</li> <li>✓ Organized business bases in North America</li> <li>✓ Received orders for railway systems</li> </ul>	<ul style="list-style-type: none"> <li>✓ Acquire orders in North America</li> <li>✓ Improve the capability of project management</li> </ul>
<b>Aerospace</b>	<ul style="list-style-type: none"> <li>✓ Completed the development of the next-generation patrol aircraft XP-1, and initiated mass production of P-1 patrol aircraft and C-2 transport aircraft</li> <li>✓ Proceeded with the Boeing 787 project</li> <li>✓ Reinforced production by enhancing technologies, introducing new production systems, etc.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Complete the development of next-generation transport aircraft XC-2, and proceed to mass production of P-1 patrol aircraft and C-2 transport aircraft, and expand to develop their derived aircraft</li> <li>✓ Cope with increased production rate of Boeing 787 component parts, and expand to their derivative aircraft</li> <li>✓ Promote research on future prime projects and enhance productivity</li> </ul>
<b>Gas Turbine &amp; Machinery</b>	<ul style="list-style-type: none"> <li>✓ Participated in new commercial aeroengine projects</li> <li>✓ Prepared for increased production of the Trent XWB</li> <li>✓ Promoted the development of new gas turbine for power generation</li> <li>✓ Launched the gas engine business</li> <li>✓ Expanded the after-sales service business</li> <li>✓ Promoted the development of gas engines for marine</li> </ul>	<ul style="list-style-type: none"> <li>✓ Expand orders from industrial customers by proposing energy solutions</li> <li>✓ Increase the profitability of new commercial aeroengine projects</li> <li>✓ Maintain the foundations of Japan Ministry of Defense business and explore new opportunities</li> <li>✓ Reinforce efforts to acquire orders</li> <li>✓ Reinforce overseas promotion of the after-sales business</li> <li>✓ Maintain the foundations for the orders from Japan Ministry of Defense and explore new opportunities</li> </ul>

# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-1. Review of the “MTBP 2010 ” Achievements (b)

	Results	Issues
<b>Plant &amp; Infra-structure</b>	<ul style="list-style-type: none"> <li>✓ Strengthened competitiveness of the existing technologies through standardization and improvement</li> <li>✓ Promoted collaboration with domestic and foreign companies</li> <li>✓ Accomplished the projects in hand by building internal cooperation beyond the boundaries of existing business units, and secured orders for projects in new businesses areas</li> </ul>	<ul style="list-style-type: none"> <li>✓ Develop human resources with the ability of project management</li> <li>✓ Accelerate the commercialization of new-generation core products</li> </ul>
<b>Motorcycle &amp; Engine</b>	<ul style="list-style-type: none"> <li>✓ Reinforced business foundations in emerging markets and enhanced the brand image</li> <li>✓ Refined systems for global production and procurement</li> <li>✓ Improved the breakeven point</li> </ul>	<ul style="list-style-type: none"> <li>✓ Enhance profitability of the businesses in developed countries</li> <li>✓ Maintain and enhance competitiveness in emerging markets</li> <li>✓ Promote the globalization of R&amp;D, production and procurement activities</li> </ul>
<b>Precision Machinery</b>	<ul style="list-style-type: none"> <li>✓ Boosted production capacity</li> <li>✓ Responded properly to an increase in demand for construction machinery in China</li> <li>✓ Increased the five core bases to six for optimized production on a global basis</li> <li>✓ Enhanced the competitiveness of products for vehicle assembly</li> <li>✓ Enlarged the market share of products for semiconductors</li> <li>✓ Developed new business fields</li> </ul>	<ul style="list-style-type: none"> <li>✓ Diversify the business structure</li> <li>✓ Enhance the competitiveness of products by improving systemization technologies</li> <li>✓ Accelerate business development in global markets</li> <li>✓ Reinforce cost competitiveness</li> <li>✓ Enlarge the market share for existing business fields</li> <li>✓ Promote global business development</li> </ul>



# III. Medium-Term Business Plan “MTBP 2013”

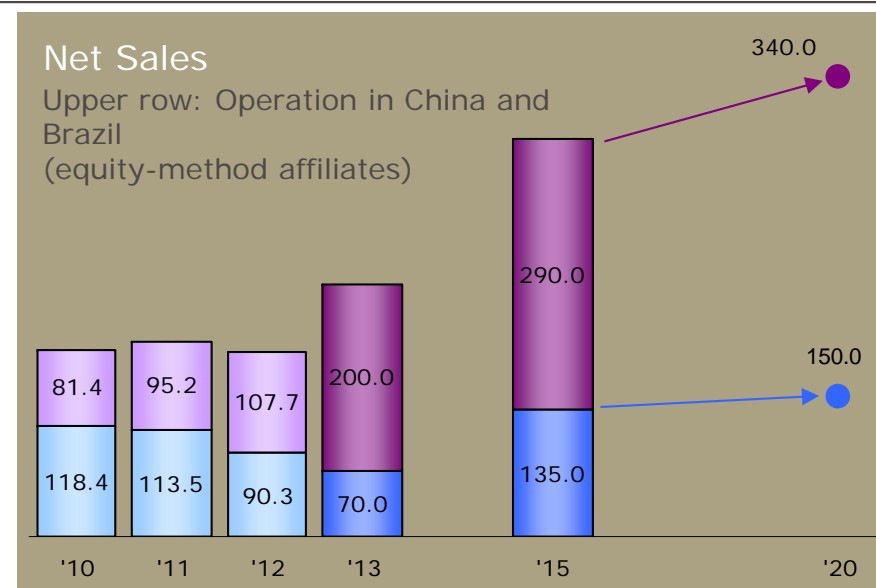
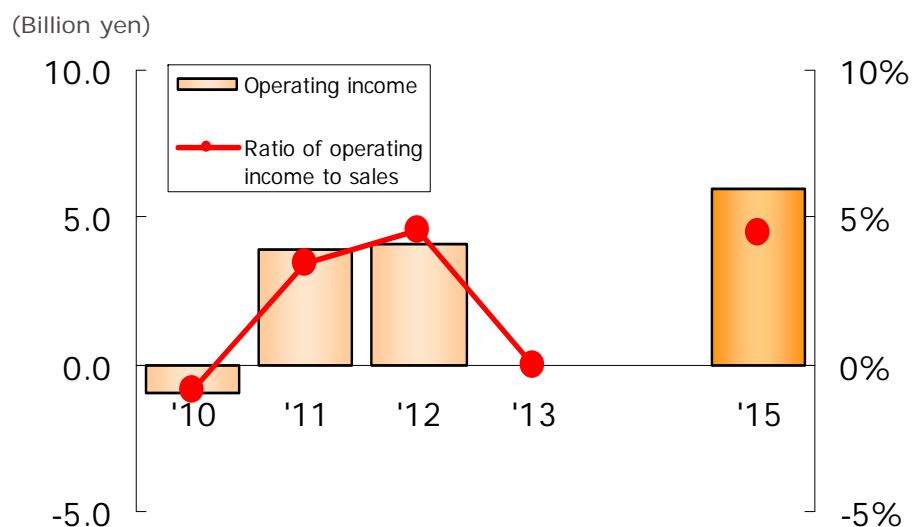
## 2-2-2. Ship & Offshore Structure

### <Business Vision>

The world’s leading shipbuilding and marine engineering group by performing businesses along the lines of the Gas-Offshore-Overseas-Defense (GOOD) strategy

### MTBP 2013 (Priority Issues and Quantitative Plan)

- |   |  |
|---|--|
| <p><b>1. Gas</b></p> <p><b>2. Offshore:</b></p> <p><b>3. Overseas<br/>Joint Venture:</b></p> <p><b>4. Defense, Naval:</b></p> | <ul style="list-style-type: none"> <li>➤ Develop new propulsion plants for next-generation LNG carriers</li> <li>➤ Expand the LNG carrier business and reinforce its profitability</li> <li>➤ R&amp;D, receive orders for and construct LNG-fueled propulsion ships</li> <li>➤ Enter into the offshore development business market</li> <li>➤ Maintain and reinforce profitability of the Chinese business</li> <li>➤ Promote a smooth launch of the joint venture business in Brazil</li> <li>➤ Prepare the business foundations to accommodate the government’s policy of increasing submarines, while ensuring profit growth</li> </ul> |
|---|--|



# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-2. Ship & Offshore Structure (Product Development)

### For Greater Energy Conservation and Lower Environmental Impacts

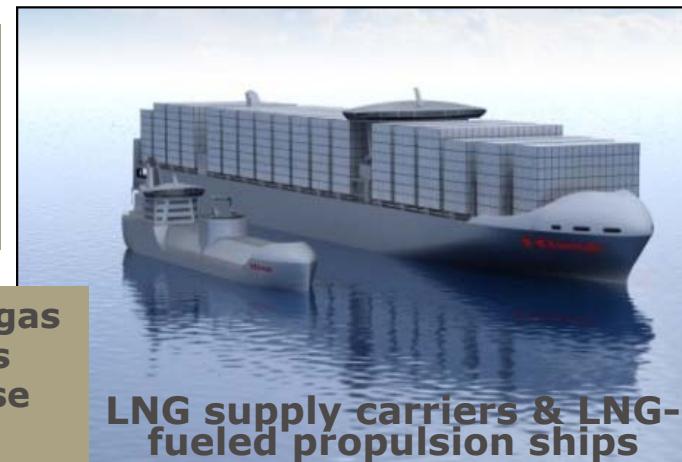


LNG\*1 carrier equipped with next-generation propulsion plant

- Reheat cycle steam turbine plant (REHEAT)
- Dual fuel diesel electric propulsion system (DFDE)
- Electronically-controlled slow speed two cycle engine (ME-GI)

- Promote the use of natural gas to deal with the exhaust gas control regulations and a rise in heavy oil prices

Note: \*1 LNG:Liquefied natural gas



LNG supply carriers & LNG-fueled propulsion ships

### Marine Resource Development Sector



Drill Ship

- EEP, a joint-operated shipyard in which the Company has a stake, received orders for six drill ships from PETROBRAS.

- Efforts are under way to acquire orders for offshore support vessels (OSVs), including PSVs\*2 and CSVs.\*3

Note: \*2 PSV:Platform Supply Vessel  
\*3 CSV:Construction Support Vessel



OSV: Offshore Support Vessel

# III. Medium-Term Business Plan “MTBP 2013”

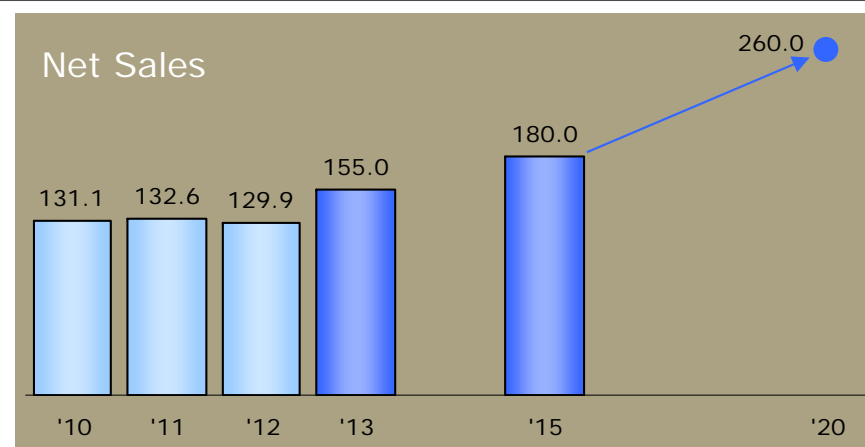
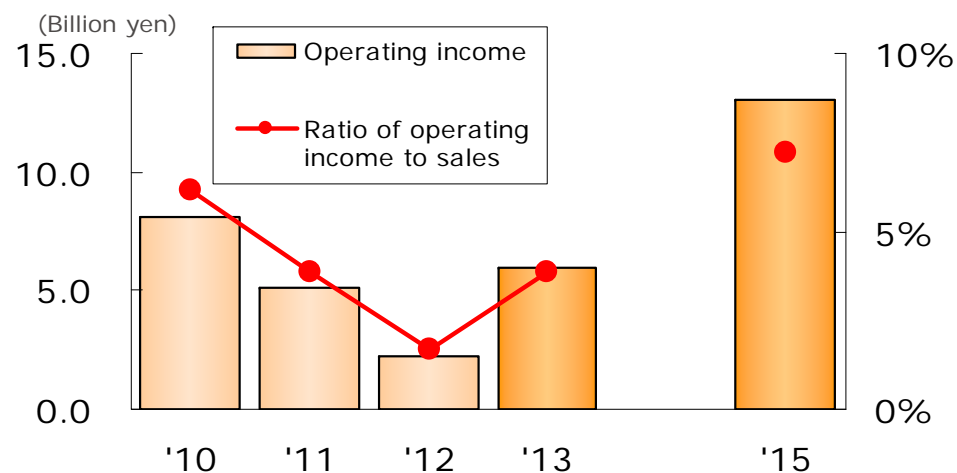
## 2-2-3. Rolling Stock

### <Business Vision>

To become a global rolling stock systems manufacturer that takes advantage of its world-class technologies and quality to engage in a broad spectrum of businesses that range from high speed rail (HSR) to light rail transit (LRT)

### MTBP 2013 (Priority Issues and Quantitative Plan)

- 1. Domestic Market** ➤ Enhance competitiveness by developing cutting-edge technologies and new rolling stock models to accommodate customer needs
- 2. North American Market** ➤ Steadily implement the projects for which orders have already been received  
➤ Enhance the readiness to meet the demand for new construction and updated high-speed rail cars and intercity transportation
- 3. Asian Market** ➤ Enhance project management abilities to handle railway system projects  
➤ Optimize project implementation through partnerships with local companies



# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-3. Rolling Stock (Product Development)

### Railway System

Responsible for system integration



Railway system for the Taichung City Government

### Railroad Truck

Significant weight reduction was achieved by using CFRP solebars



efWING®

### Rolling Stock for Overseas Customers

The most advanced systems



WMATA Series 7000 subway car

### Gigacell®

Greater energy conservation and lower environmental impact



Gigacell systems that reduce power system frequency fluctuation (subsidized by NEDO)

# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-4. Aerospace

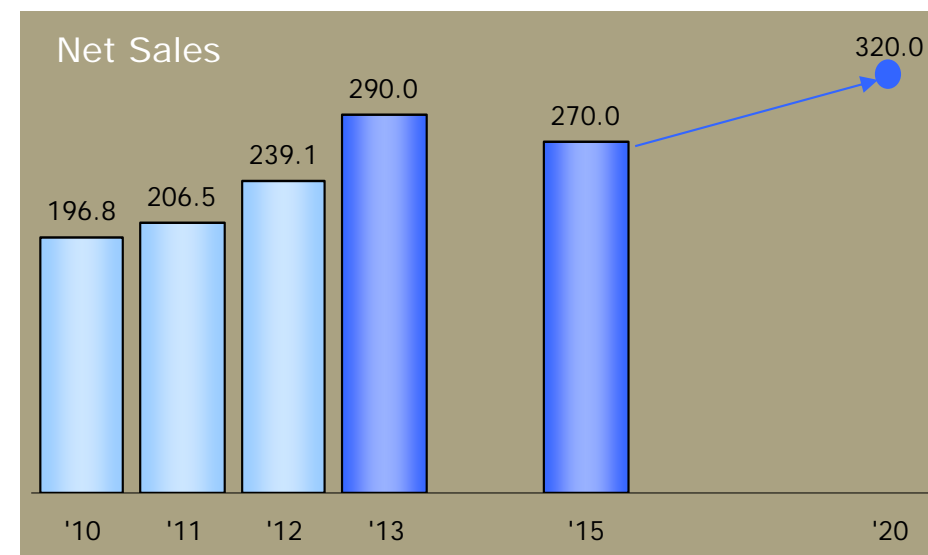
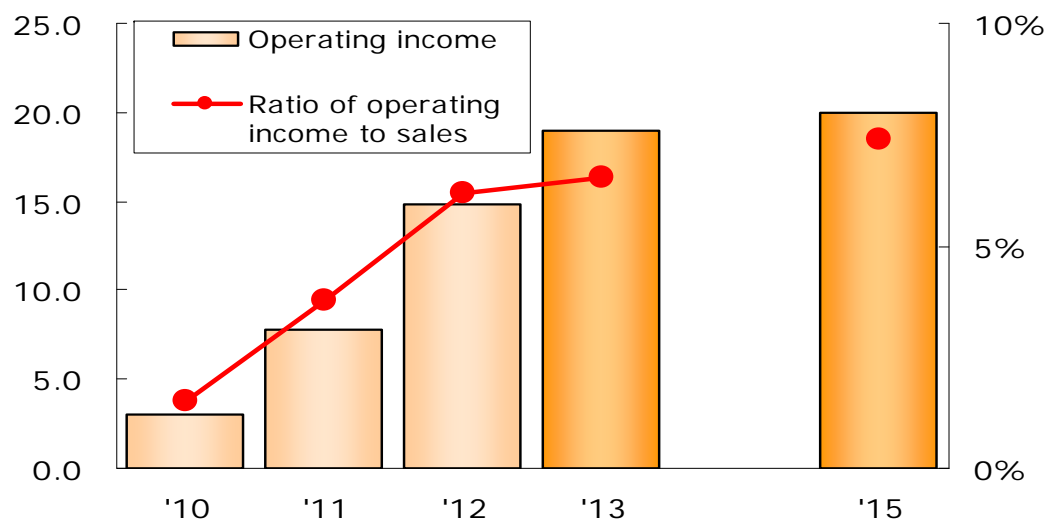
### <Business Vision>

A leader in Japan’s aerospace industry and an aircraft manufacturer with international competitiveness in terms of quality, cost, and delivery speed

### MTBP 2013 (Priority Issues and Quantitative Plan)

- 1. Defense**
  - Establish a system of mass production for P-1 patrol aircraft and C-2 transport aircraft, and expand to develop their derived aircraft
  - Acquire orders for new projects by taking advantage of the capabilities as a system integrator, thereby increasing market share
- 2. Commercial**
  - Cope with increased production rate of Boeing 787 component parts and enhance the profitability thereof, and expand to their derivative aircraft
  - As a Tier 1 partner responsible for both design and production, achieve greater international competitiveness

(Billion yen)



# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-4. Aerospace (Product Development)

### Commercial Sector

**Component parts for Boeing 787**  
(responsible component: forward fuselage, etc.)

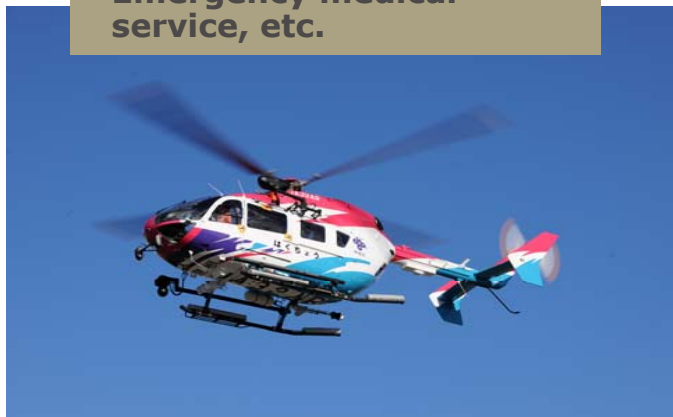
Scheduled flights began in November, 2011

Fuel consumption efficiency improved 20% through the use of composite materials, etc.



### BK117

Fire-fighting anti-disaster,  
Emergency medical  
service, etc.



### Defense Sector

#### P-1 patrol aircraft

The first mass produced P-1 aircraft was delivered to Japan Ministry of Defense in March, 2013



#### XC-2 transport aircraft

The first mass produced C-2 is scheduled to be delivered to Japan Ministry of Defense in March 2015





# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-5. Gas Turbine & Machinery

### <Business Vision>

Global equipment and system manufacturer in the transport system and energy & environment sector

### MTBP 2013 (Priority Issues and Quantitative Plan)

#### 1. Aero Engines

➤ Ensure a smooth launch of the PW1100G-JM and Passport20 and increase the profitability of the Trent1000 and TrentXWB

#### 2. Marine

➤ Continuous participation in new development projects as a module supplier

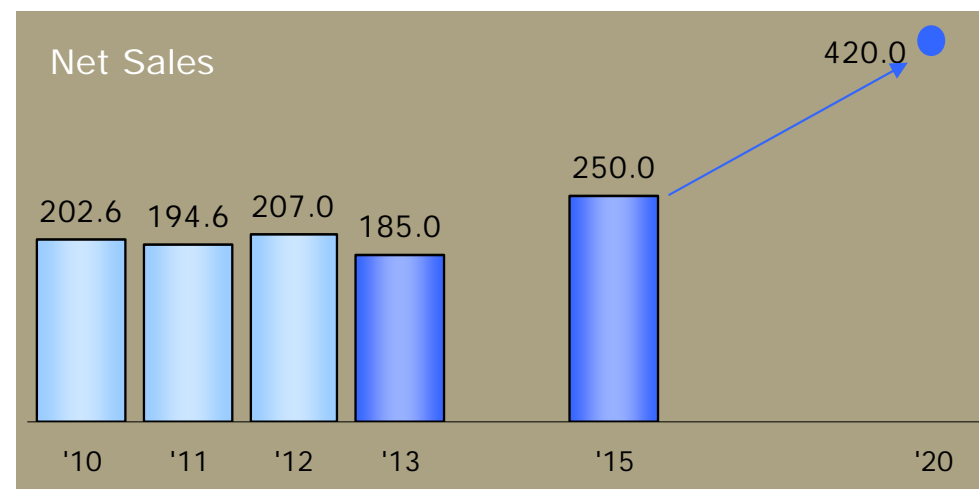
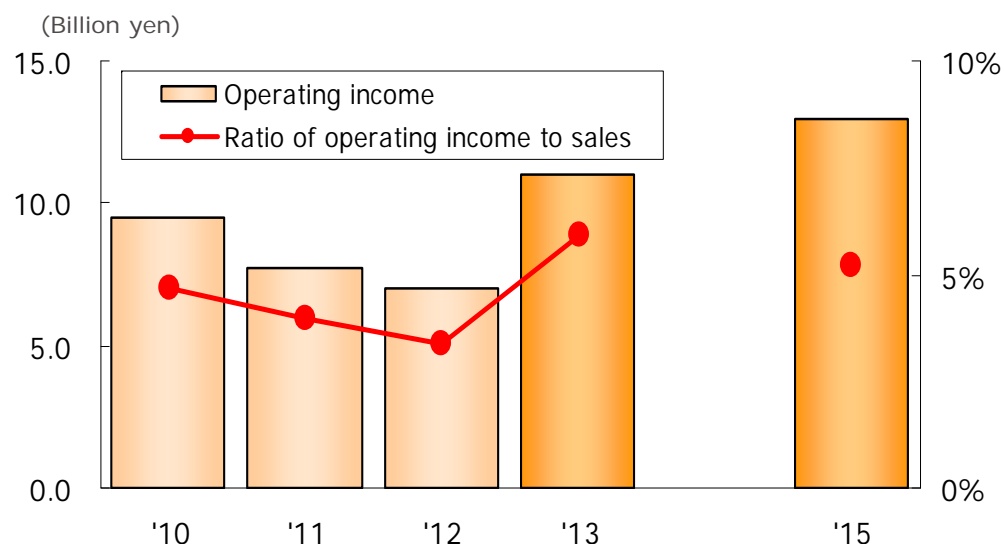
➤ Expand the businesses by strengthening sales to overseas, especially in Oil & Gas-related offshore markets

#### 3. Energy & Environmental Engineering

➤ Develop and commercialize the next-generation equipment and systems for marine

➤ Strengthen solution business through the establishment of the Energy Solution Division

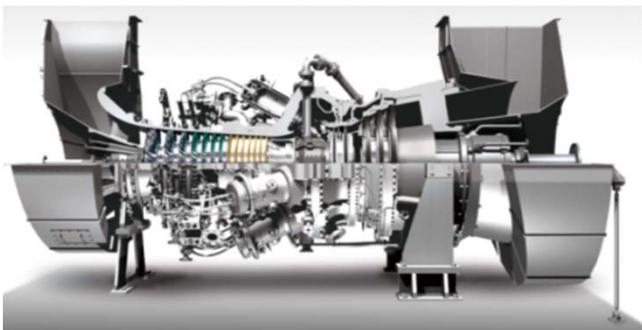
➤ Capture domestic demand for decentralized power sources utilizing industrial gas turbines and gas engines, and seek international business development



# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-5. Gas Turbine & Machinery (Product Development)

### Baseload Power Generation Facility



30MW-class gas turbine

- Maintaining highest efficiency in its class(measured as a single unit)
- Enhance efficiency by heat utilization system



8MW-class gas engine

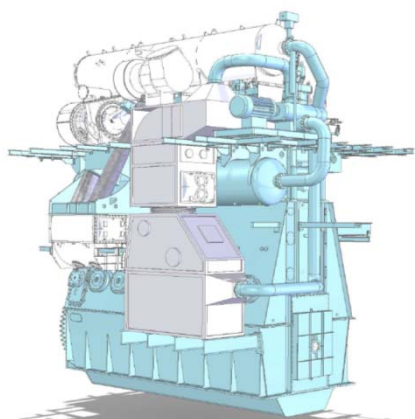
### Energy-Saving and Environmentally-Friendly Aircraft Jet Engines



Modules for  
Rolls-Royce  
Trent1000/XWB

- Continue participation in new development projects, through design and manufacture of IPC(Intermediate Pressure Compressor) modules.
  - Trent 1000 for Boeing 787
  - Trent XWB for Airbus A350 XWB

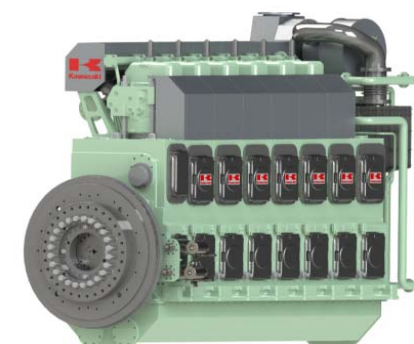
### Next-Generation Equipment and Systems for Marine



Environment-friendly  
diesel engines for marine

- Gas engines for marine
  - Develop these engines based on the economical and environment-friendly gas engines for power generation
- Environment-friendly diesel engines for marine
  - Develop the technology for combining water-emulsion fuel and the EGR\*<sup>1</sup> system to enhance fuel efficiency and reduce NOx emissions

Note \*1: Exhaust Gas Recirculation



Gas engine for marine



# III. Medium-Term Business Plan “MTBP 2013”

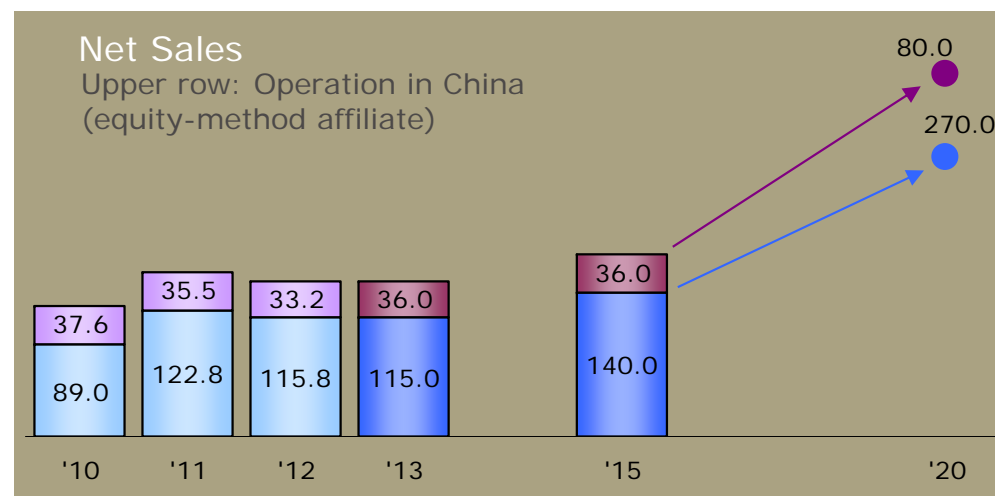
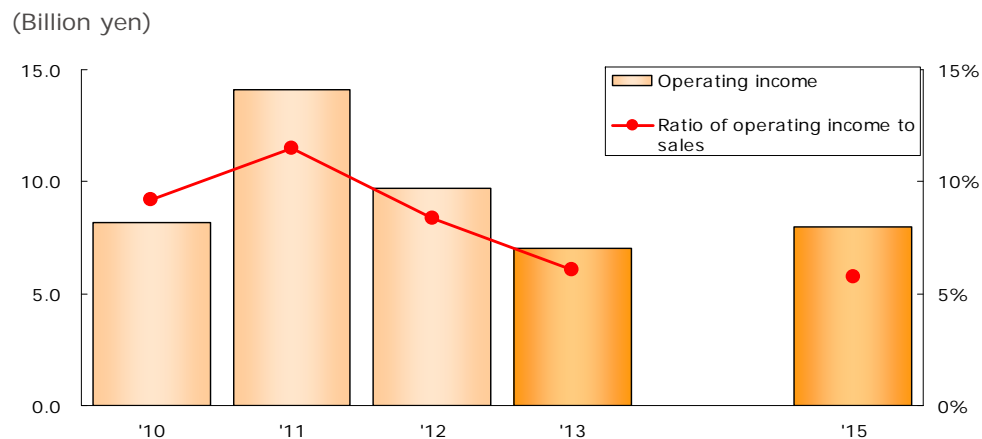
## 2-2-6. Plant & Infrastructure

### <Business Vision>

Focus on energy and environment and be an EPC contractor with distinctive features to contribute to the conservation of the global environment

### MTBP 2013 (Priority Issues and Quantitative Plan)

1. Achieve stable sales and profit while enhancing comprehensive project execution capabilities to cover every phase of the EPC project
2. Improve and standardize the existing technologies and accelerate to launch new-generation core products
3. Advance into overseas markets with proven technologies and cross-border collaboration
4. Upgrade Harima Works to be a mother factory
5. Maintain stable profitability

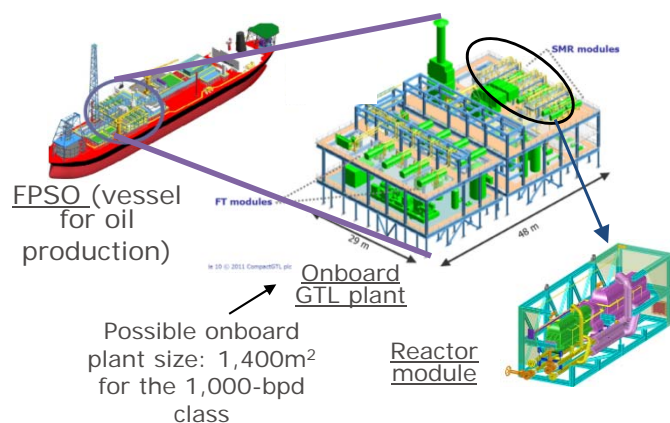


# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-6. Plant & Infrastructure (Product Development)

### Development of Next-generation Technologies regarding Energy and Environmental Engineering Sector

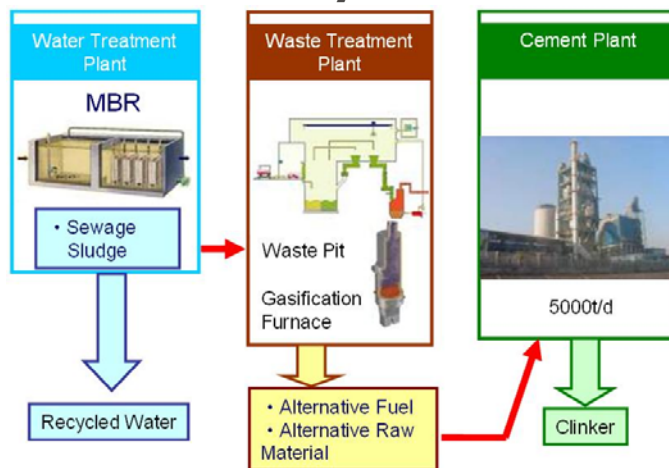
#### Compact GTL\*1 Plant



Note\*1: Gas To Liquid  
The GTL technology converts the associated gas released from oil drilling into liquid fuel using a reactor to reform and synthesize the gas

- The GTL technology is essential to meet tighter environmental regulations
- Downsizing the reactor modules enable:
  - Offshore and onboard processing of associated gas
  - Optimization of facility capabilities according to the size of the oilfield

#### ZEET\*2 System



Note\*2: Zero-Emission Eco Town  
The ZEET system conducts hygienic treatment of waste and sludge, while using them as the energy and material for producing cement, thereby eliminating waste to zero

- The ZEET system achieves zero emission at a minimum cost
  - Reduce the cost of waste disposal facilities and their operation

#### Liquefied Hydrogen Container for Marine Transport



- Ensure higher efficiency of transporting hydrogen to prepare for a society where hydrogen use is prevalent
  - Advanced heat sealing technology
  - Wide experience in liquefied hydrogen-related facilities

# III. Medium-Term Business Plan “MTBP 2013”

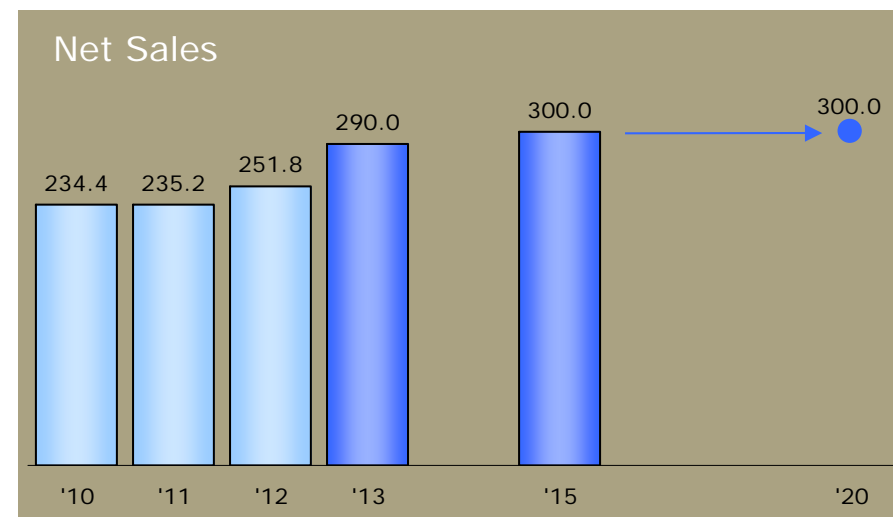
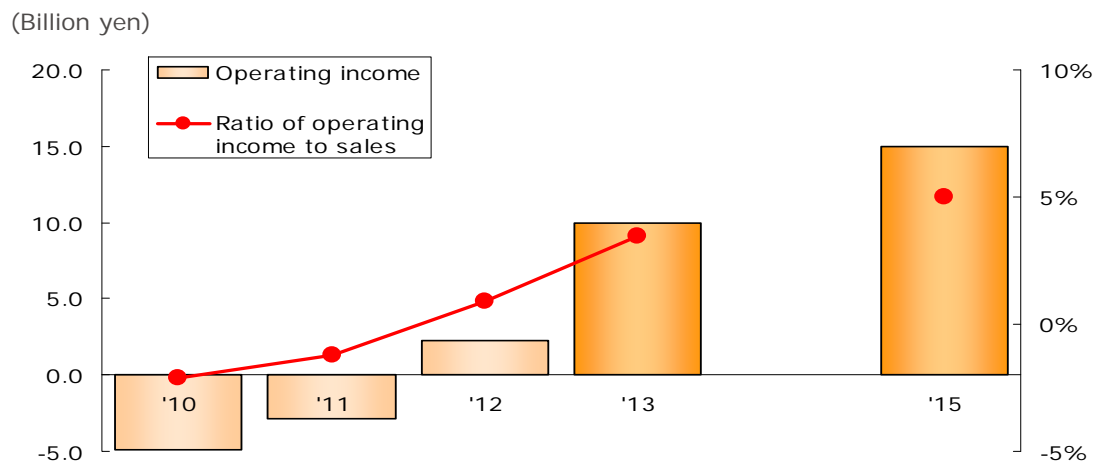
## 2-2-7. Motorcycle & Engine

### <Business Vision>

A world-class personal vehicle and engine manufacturer focused on motorcycles that can further appeal Fun to Ride, supported by advanced environmental technologies

### MTBP 2013 (Priority Issues and Quantitative Plan)

- |  |  |
|--|--|
| <b>1. Improve the profitability of businesses in developed countries</b>     | <ul style="list-style-type: none"><li>➤ Reinforce non-price competitiveness through branding efforts</li><li>➤ Reduce the fixed costs for production by enhancing the globalized production structure</li></ul>  |
| <b>2. Expand the businesses in emerging countries</b>                        | <ul style="list-style-type: none"><li>➤ Establish the premium brand for leisure motorcycles</li><li>➤ Accommodate the growing demand by boosting production capacity</li></ul>   |
| <b>3. Reinforce the earning base for the general-purpose engine business</b> | <ul style="list-style-type: none"><li>➤ Explore new markets through business alliances</li><li>➤ Enhance the performance and quality of products to ensure continuation of existing businesses and develop new businesses</li><li>➤ Reduce the fixed production costs and variable costs by establishing a global production system centering on the United States and China</li></ul> |



# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-7. Motorcycle & Engine (Product Development)

### Motorcycles & Off-Road Four-Wheel Vehicles

**Development of products unique to Kawasaki along the key concepts: Fun to Ride, Ease of Riding and Environment**



#### Improve the profitability of businesses in developed countries

- Enhance the brand value by boosting product strengths
- Update the top priority models in important product categories
- Promote development of advanced technologies to achieve higher fuel efficiency, electrification, etc.

#### Expand the businesses in emerging countries

- Enlarge the model lineup
- Develop strategic models at lower cost
- Reinforce the R&D facilities in Asia

### General-Purpose Engine Business

**Development of high-value-added engines for professional use**



#### Reinforce the earning base

- Reinforce the relations with existing OEM suppliers through the development of new engine models
- Reduce costs and acquire new customers through business operations centering on the United States and China

Products shown are currently available models.

# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-8. Precision Machinery

### <Business Vision>

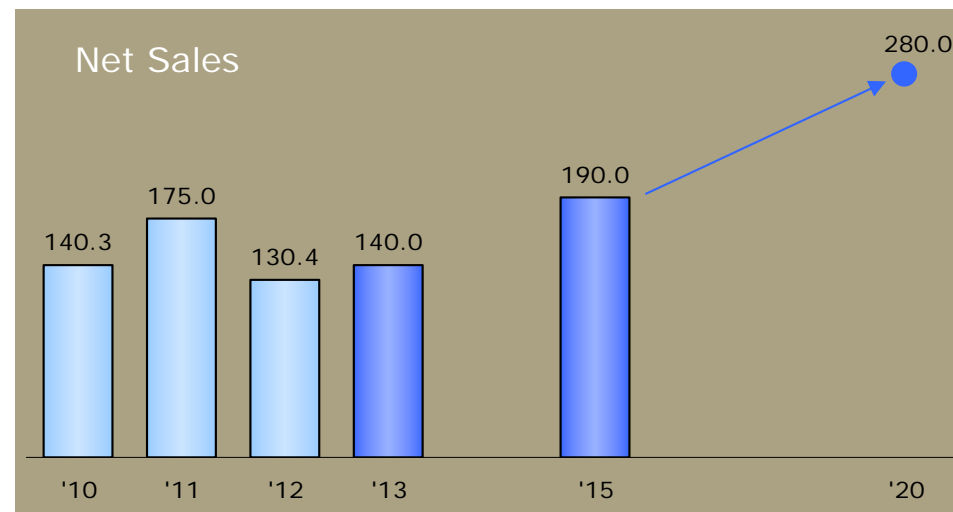
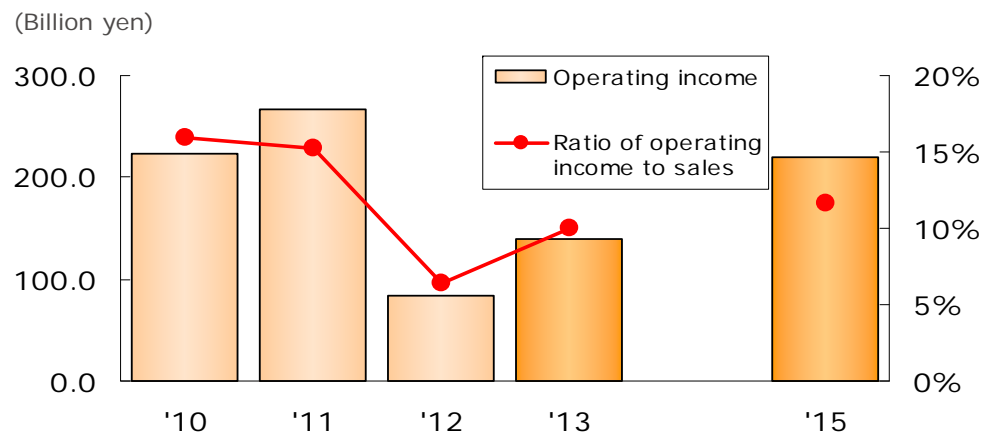
A manufacturer of top brands in the motion control sector that provides customers around the world with drive and control systems, engineering, and services centered on hydraulics technologies

### (Robots)

A manufacturer of robots that establishes the industry’s leading position in various fields of application, such as automobiles and semiconductors by providing the advanced level of quality and total solutions, while addressing emerging needs for automation

## MTBP 2013 (Priority Issues and Quantitative Plan)

- |   |   |
|---|---|
| <p><b>1. Hydraulic Equipment Business</b></p> | <ul style="list-style-type: none"> <li>➢ Ensure a continuing high share of the excavator market and step up efforts for other construction and agricultural machinery</li> <li>➢ Establish an optimal production system on a global basis centering on the mother factory in Japan</li> </ul>                       |
| <p><b>2. Robots Business</b></p>              | <ul style="list-style-type: none"> <li>➢ Develop robots for emerging markets to prepare for globalization of the business</li> <li>➢ Expand market share in the automotive and semiconductor fields</li> <li>➢ Explore and commercialize business opportunities in the medical and pharmaceutical fields</li> </ul> |



# III. Medium-Term Business Plan "MTBP 2013"

## 2-2-8. Precision Machinery (Product Development)

### High-Performance Hydraulic Equipment



New swash-plate type pump for excavators



Controller for excavators

- Maintain an overwhelming share in the excavator field
- Increase orders by enhancing the ability of systemization

### Industrial Robots/Automation Equipment



Steel FSJ\*2 Robot

- Develop robots for emerging countries
- Introduce innovative welding technologies

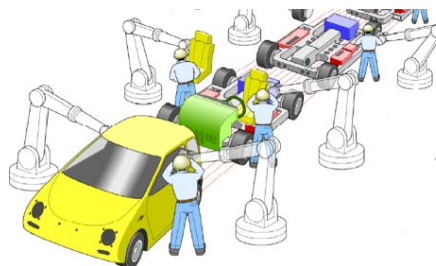
### Envisaging New Applications and Next-Generation Production Technologies



HST\*1 swash-plate type pumps/motors



Robots for medical and pharmaceutical applications



Next-generation production line (Human-friendly robots)

- Expand sales of hydraulic equipment for construction machinery and agricultural machinery
- Promote medical and healthcare applications
- Develop human-friendly robot technologies

Note\*1 : HST:Hydro Static Transmission  
\*2 : FSJ:Friction Spot Joining



# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-9. By-Segment Quantitative Plan (a)

(Unit: billion yen)

	Net sales			Operating income, Ratio of operating income to sales					
	FY2012 (actual)	FY2013 (forecast)	FY2015 (target)	FY2012 (actual)		FY2013 (forecast)		FY2015 (target)	
Ship & Offshore Structure	90.3	70.0	135.0	4.1	4.5%	0.0	0.0%	6.0	4.4%
Rolling Stock	129.9	155.0	180.0	2.2	1.7%	6.0	3.9%	13.0	7.2%
Aerospace	239.1	290.0	270.0	14.8	6.2%	19.0	6.6%	20.0	7.4%
Gas Turbine & Machinery	207.0	185.0	250.0	7.0	3.4%	11.0	5.9%	13.0	5.2%
Plant & Infrastructure	115.8	115.0	140.0	9.7	8.4%	7.0	6.1%	8.0	5.7%
Motorcycle & Engine	251.8	290.0	300.0	2.3	0.9%	10.0	3.4%	15.0	5.0%
Precision Machinery	130.4	140.0	190.0	8.4	6.4%	14.0	10.0%	22.0	11.6%
Other	124.2	135.0	135.0	-6.8	-5.5%	-7.0	-5.2%	-7.0	-5.2%
<b>Total</b>	<b>1,288.8</b>	<b>1,380.0</b>	<b>1,600.0</b>	<b>42.0</b>	<b>3.3%</b>	<b>60.0</b>	<b>4.3%</b>	<b>90.0</b>	<b>5.6%</b>

Exchange rate assumption: 95 yen=US\$1

# III. Medium-Term Business Plan “MTBP 2013”

## 2-2-9. By-Segment Quantitative Plan (b)

	Before-tax ROIC		
	FY2012 (actual)	FY2013 (forecast)	FY2015 (target)
Ship & Offshore Structure	17.3%	0.0%	10.0%
Rolling Stock	4.6%	7.5%	15.3%
Aerospace	15.9%	12.9%	12.7%
Gas Turbine & Machinery	5.3%	4.7%	7.5%
Plant & Infrastructure	21.2%	16.0%	15.0%
Motorcycle & Engine	3.4%	3.8%	14.3%
Precision Machinery	14.0%	17.1%	26.3%
<b>Total</b>	<b>6.1%</b>	<b>7.4%</b>	<b>11.0%</b>



# Kawasaki, Working as one for the good of the planet

Figures recorded in the business forecasts are forecasts that reflect the judgment of the Company based on the information available at the time of release and include risks and uncertainties. Accordingly, the Company cautions investors not to make investment decisions solely on the basis of these forecasts.

Actual business results may differ materially from these business forecasts due to various important factors resulting from changes in the external environment and internal environment. Important factors that may affect actual business results include, but are not limited to, economic conditions, the yen exchange rate against the U.S. dollar and other currencies, the tax system, and laws and regulations.