

# Medium-Term Business Plan Outline “FY2019 MTBP” (FY2019 - FY2021)

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**Kawasaki Heavy Industries, Ltd.**

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# FY2016 MTBP: Evaluation of Major Measures (Summary of Actions to Promote ROIC Operation)

- ① Profitability significantly decreased in several businesses. It is urgently required to strengthen financial bases
- ② Harvest times are arriving, after continuous investments in growing businesses

## 【Results】

**Action 1** Plan/implement growth strategies through enforcement of core competence per BU

**Action 2** Set appropriate financial indicators (primarily with ROIC) while developing achievement scenarios

**Action 3** Pursue synergy effects through integrated operation to create new value

**Action 4** Clear reduction/withdrawal strategies with detailed breakdowns per Sub-BU/product

**Action 5** Build business portfolios placing importance on profitability, stability, and growth potential

**Action 1:**  
Harvest times are arriving after continuously devoting resources to growing fields

- Completed a new plant for 777X / Started shipment
- Made one round for new product development of aircraft engine
- Medical robots are being developed (currently in the final phase)

**Action 2:**  
Marked deficits from big projects with several businesses. Also due to other factors, most quantitative goals (including ROIC) were not achieved

**Action 3:**  
“Contrivances” for the synergy effects of growing businesses goes smoothly in part. However, need to unlock its potential throughout the organization

- The CO2-free hydrogen supply chain is moving towards demonstration tests in FY2020
- Organizations were integrated to create synergies in aerospace-related businesses

**Action 4:**  
Insufficient priority criteria/speed to “select and concentrate” on certain businesses

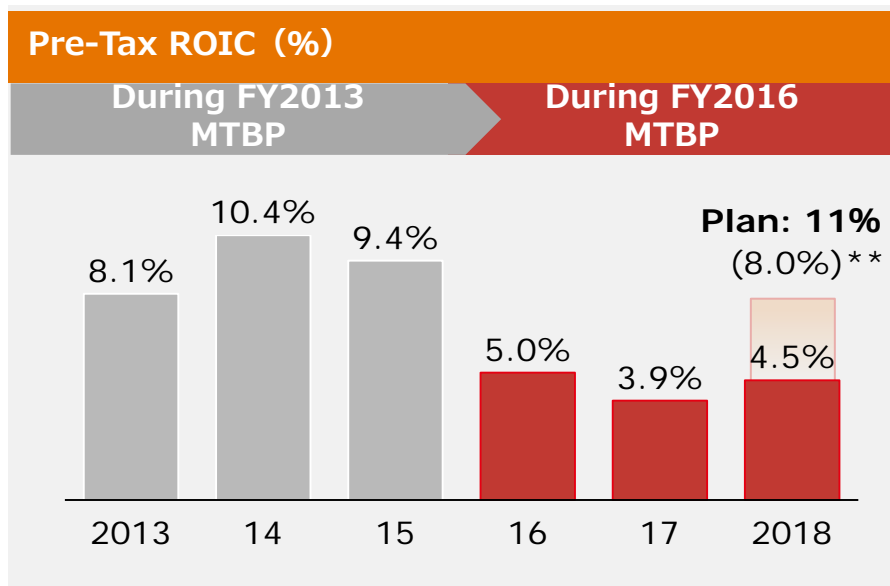
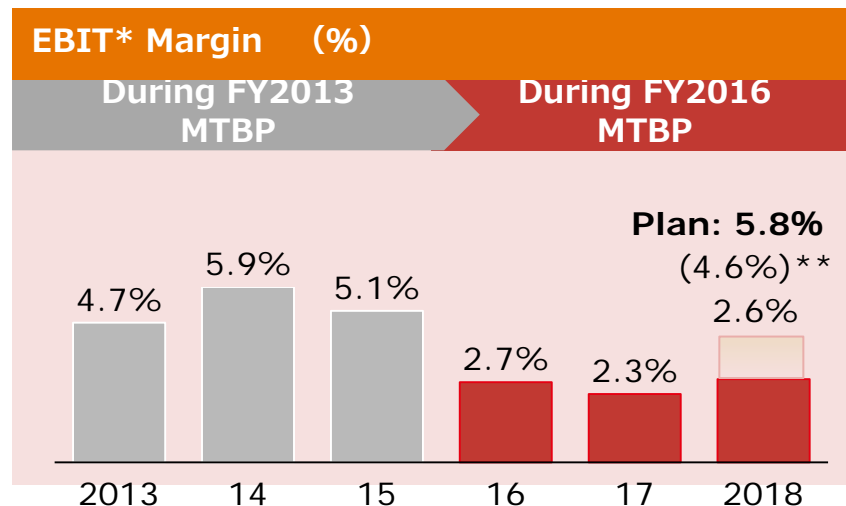
- Already withdrew from offshore vessels

**Action 5:**  
Insufficient organizational functions/systems to implement “total optimization”

# Achievement Status: Quantitative Goals

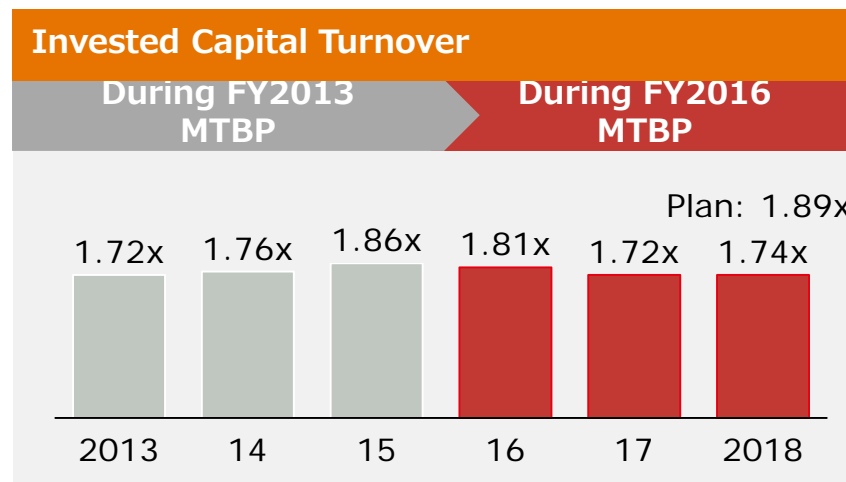
The primary cause of failure to achieve pre-tax ROIC targets: decline in profitability

	Goal in FY2018	Result in FY2018
Pre-Tax ROIC	11.0%	4.5%
Operating Profit (100 million yen)	1,000	640
Cash flow from operation (100 million yen)	1,400	1,097
Net D/E Ratio	70~80%	76.6%



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×



\*EBIT (earnings before interest and taxes) = Pre-Tax Interest Income + Interest Expenses

\*\*When there were no losses in big projects (FY2018 shown as an example)

# Primary Causes of Low Profitability

We must resolve the following issues. Business growth scenarios towards FY2030 have been kept almost unchanged from the FY2016 MTBP.

## Loss from big projects

- Marked deficits in the offshore vessel business, the rolling stock business in North America, overseas plant contracts, and commercial aircraft engine
- Insufficient risk control on risk asset

## Unclear positioning of business portfolios

- Due to limited understanding on individual businesses from the view point of mega-trends, most of business conducted investment for expansion
- Management resources could not be shifted efficiently/speedily due to partial organization restructure, resulting in limited synergy effects
- Insufficient set up for cross organizational functions such as organization structure, management system and mindset to achieve total optimization

## Insufficient development/growth of new businesses

- Could not escape from a low-profitable business domain (sales of goods) / Insufficient business model innovations
- Slow development of new businesses due to sticking to in-house development and production

# Achievement of FY2016 MTBP and issues for FY2019 MTBP (By business segment①)

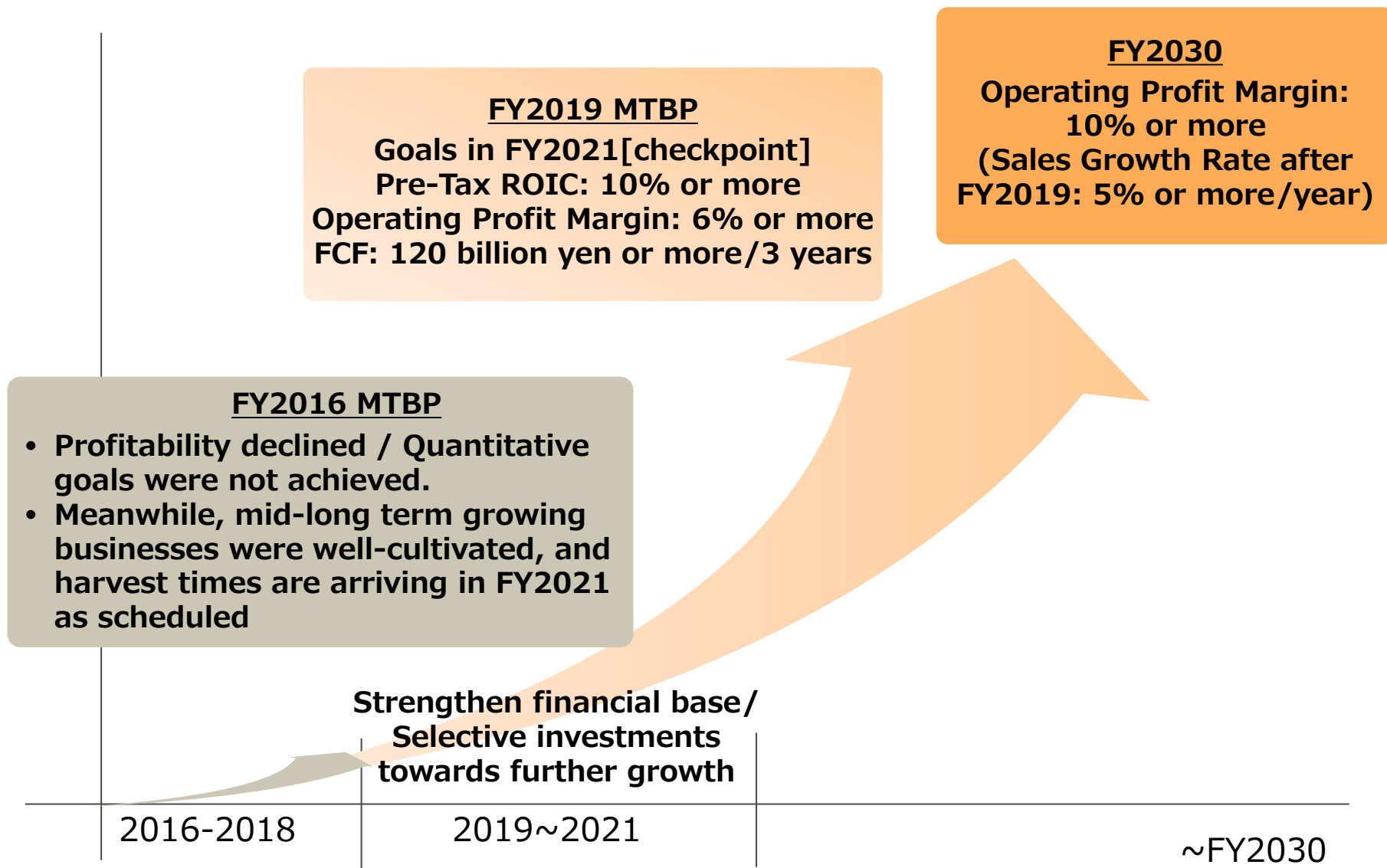
Business segment	FY2018 actual vs target	Factors not to achieve the target	Challenge to achieve goals for FY2019 MTBP
Aerospace system	5.0% Target × Hurdle ×	Had to bear the initial deficient costs for a commercial aircraft jet engine due to initial malfunction and amortized R&D cost Meanwhile, the after-business J-curve is going smoothly.	Harvest previous investments (commercial aircraft / commercial aircraft engines) Selection and concentration of new investments Expand business revenue bases (MRO: Maintenance, Repair and Overhaul, Peripheral equipment etc)
Energy/ Environmental plant	9.3% Target × Hurdle ○	Loss from overseas projects. Delayed recovery in the natural resource/energy-related market. Shifted the timing to receive orders in overseas energy.	Concentrate management resources on the energy/hydrogen business Strengthen project risk management Expand profit pool(after service etc)
Precision machinery	19.8% Target ○ Hurdle ○	—	Obtain supply capacity to meet increased demand in a timely manner Obtain stable cashflow Expand business revenue bases (non-excavator hydraulics and new area robots) Commercialize surgical robots (Medicaroid)

# Achievement of FY2016 MTBP and issues for FY2019 MTBP (By business segment②)

Business segment	FY2018 actual vs target	Factors not to achieve the target	Challenge to achieve goals for FY2019 MTBP
Ship & Offshore	3.2% Target × Hurdle ×	Even with on-going restructuring on track, the profit from commercial vessels and gas-related vessels was not maximized due to the delayed market recovery.	Continuously monitor business reconstruction progress and market conditions Secure orders and optimize producing location integrated operations of the *three shipyards jointly operated by Japan and China Expand business revenue bases by fully exploiting new businesses (SOPass, AUV, engineering, etc.)
Rolling Stock	▲26.4% Target × Hurdle ×	Losses from big projects in North America and Japan. Delayed full-scale deployment in the stock business (parts, modification, monitoring, etc.).	Continuously monitor business reconstruction progress Improve project risk management When receiving orders, select proper prices/amounts corresponding to implementation capacity Expand business revenue bases by exploiting the stock business at an early stage Respond to industry power balance changes
MC&E	8.4% Target × Hurdle ○	Improved product capabilities. Profits did not increase due to high development/operational costs.	Pursue premium brands and generate cash Expand business revenue bases through widening base for BtoB and stabilize business

\* Sakaide, NACKS, DACKSS

# Long-Term Vision and Positioning of the FY2019 MTBP





## Basic FY2019 MTBP Policies

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### Strengthen financial bases

Return to the philosophy of “Emphasizing Quality over Quantity” to improve operational quality (including project risk management), and strengthen financial bases towards future growth

### Total optimization of business portfolios

Implement carefully-selected investments with labor, resources, and budgets, from the viewpoint of total optimization. Consider mega-trends and SDGs. Clarify each business’s role, optimal scale, and form

### Business model innovation

(“KAWA-ru, SAKI-e: Changing Forward”)

Make good use of core competencies to increase the enterprise value through business innovations (without sticking to in-house development and production)

### Innovate company organization / culture

(“KAWA-ru, SAKI-e: Changing Forward”)

Construct cross organizational functions and management systems for total optimization, and a company culture to face changing challenges

## Major Subjects of FY2019 MTBP

### Strengthen Business Bases and the Company Culture Towards FY2021

- A** Improve earning capacity and free cash flow
  - Review management indexes / Plan and implement programs to improve profits
- B** Strengthen project risk management/quality control systems
- C** Clear and reconstruct positioning with business portfolios
- D** Innovate business models
- E** Innovate company organization / culture
  - Build a management system to implement a culture to face changing challenges, select & concentrate (management resources shift between organizations) for maximizing synergy effects.

### Achieve Quantitative Goals with FY2021 as a Checkpoint

- F** Achieve goals through profit & loss/cash flow quantity models

### Clarify Long-Term Policy Until FY2030

- G** Growth image towards FY2030
- H** Mega-trends of our business domains/SDGs
- I** Implement discontinuous innovations

# A1 Improve Earning Capacity/Free Cash Flow:

## Review Management Indexes / Plan and Implement Profit-Improvement Programs

### Measures to Improve Profit/Strengthen the Financial Profile

- Strengthen strategy-planning functions/company-wide management functions
  - Shift to business management, focusing on operating profit margins/cash flow from operation to increase ROIC
  - Set business targets through benchmark comparisons
  - Visualize leading indexes to understand trends, according to each business's characteristics
- Cash position improvement programs
    - ~Urgent actions/structural actions
      - Sell non-operating assets / Introduce external funds
      - Upgrade overseas CMS\*
      - Improve payment conditions
  - Strengthen resistance against foreign exchange risks
    - ~Actions according to each business's characteristics
      - Flexible forex hedging to optimize currency exposure
      - Strengthen the global supply chain

\* Cash Management System

## B

# Strengthen Project Risk Management / Establish Quality Control System

## Strengthen Project Risk Management

## Establish QC System

### Previous issues and causes

Lack of group-wide control on risk asset both from financial and engineering view points, leading to a large amount of management resources to be committed to resolve confusion

Manufacturing defects on the Shinkansen trucks caused us to notice the necessity of cross organizational functions required to efficiently review / enhance quality management systems and criteria in each BU

### Measures

#### Strengthen Risk Asset Control Corresponding to Our Management Resource

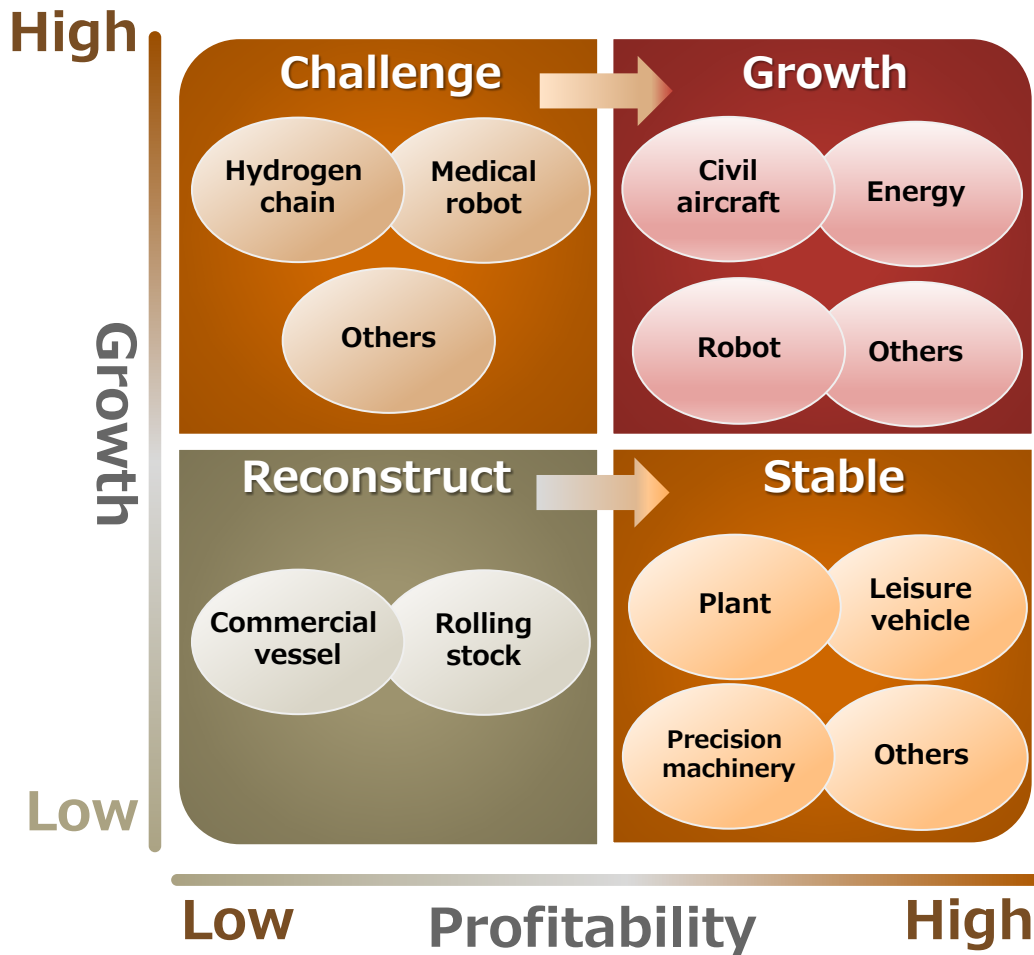
- Establish disciplines to control risk assets
- Thorough examination by experts before/after receiving orders
- Monitor major contracted projects to understand signs of deterioration at early stages (establish a project risk management committee)
- The whole group shares failure cases/lessons learned

#### Establish the TQM Department

- Monitor each BU's quality management system from a Total Quality Management (TQM) viewpoint
- Organize company-wide educational systems
- Support strengthening quality management in each BU through the company-wide quality council (newly organized)

# C1 Clarify Business Portfolio Positioning and Reconstruct

(Pattern A) "Revitalize" individual business through clarifying role and targets



- Re-organize BU and grouping without formality and revitalize to realize synergy effect and resource allocation within the group
- Set up reviewing criteria for positioning and conduct portfolio review on a regular basis with flexibility, including downsizing and withdrawal

## C2 Clarify Business Portfolio Positioning and Reconstruct

(Pattern B)

Leveraging group wide core competence to transform business from “reconstruct & stability” to “growth”

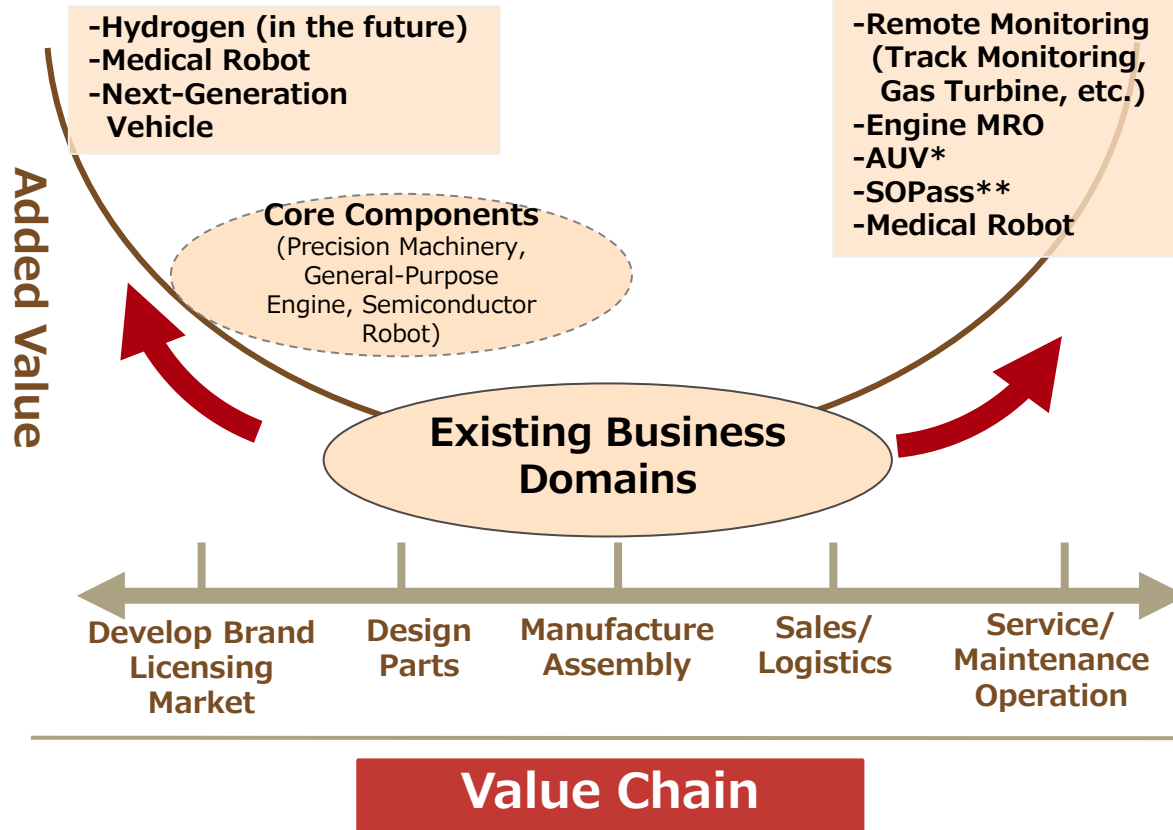


Example :

Transform reconstructing commercial vessels and stable low temperature storage technology (LNG) into growth business again through working on hydrogen supply chain

# D Business model innovation away from insourcing policies (KAWA-ru, SAKI-e: Changing Forward)

**“Continuously” Increase Values by Expanding the Value Chain not dependent internal resources only**



**Value Chain**

\*Autonomous Underwater Vehicle

\*\*Ship Operation and Performance Analysis Support System

**“Discontinuously” Create Values by Introducing Innovations from outside**

- Innovation through IoT/AI
  - Future transportation systems
  - Future robotics (autonomy)
- Innovation by combining technologies
  - Future energy system**  
(Decarbonization by combining hydrogen/ renewable energy/CCU\*\*\*)
- Seek ventures at the office in Silicon Valley and/or coworking spaces outside the office / Co-create with industrial companies

(E.g.) Develop a business linking Fintech and venture-invested mobility data

\*\*\* Carbone Capture and Utilization

# E Innovate Company Organization and Culture / Implement “K-Win Activities -Kawasaki Win Project-

## Activity Examples

### Organization transformation

#### Reconstruct cross organizational functions and management systems for total optimization

- Develop governance/company systems suited to our company
- Strengthen company-wide strategies/business management functions
- Develop succession plans for the next-generation of management leaders

### Mindset change

#### Establish a culture to face changing challenges

- Promote open-communications. Utilize human resources inside/outside the company and a wide variety of knowledge through enhancing diversity
- Establish various personnel systems, placing importance on speediness, to promote positive changes

### Operational transformation

#### Strengthen structures through efficient business operations

- Establish a total “visualized,” “seamless,” and “quality-guaranteed” management by promoting digital innovations for the entire value chain (currently working in the robot business)
- Implement standardized/concentrated businesses to improve quality/speed (currently working on tasks for human resources/accounting paperwork)



# F1 Achieve 10% ROIC in FY2021 and operating profit margin 6% or more as a Checkpoint

## Management goals in FY2021

**Pre-Tax ROIC\*** 10% or more

\*ROIC=EBIT/Invested Capital (stockholders' capital + interest-bearing debt)

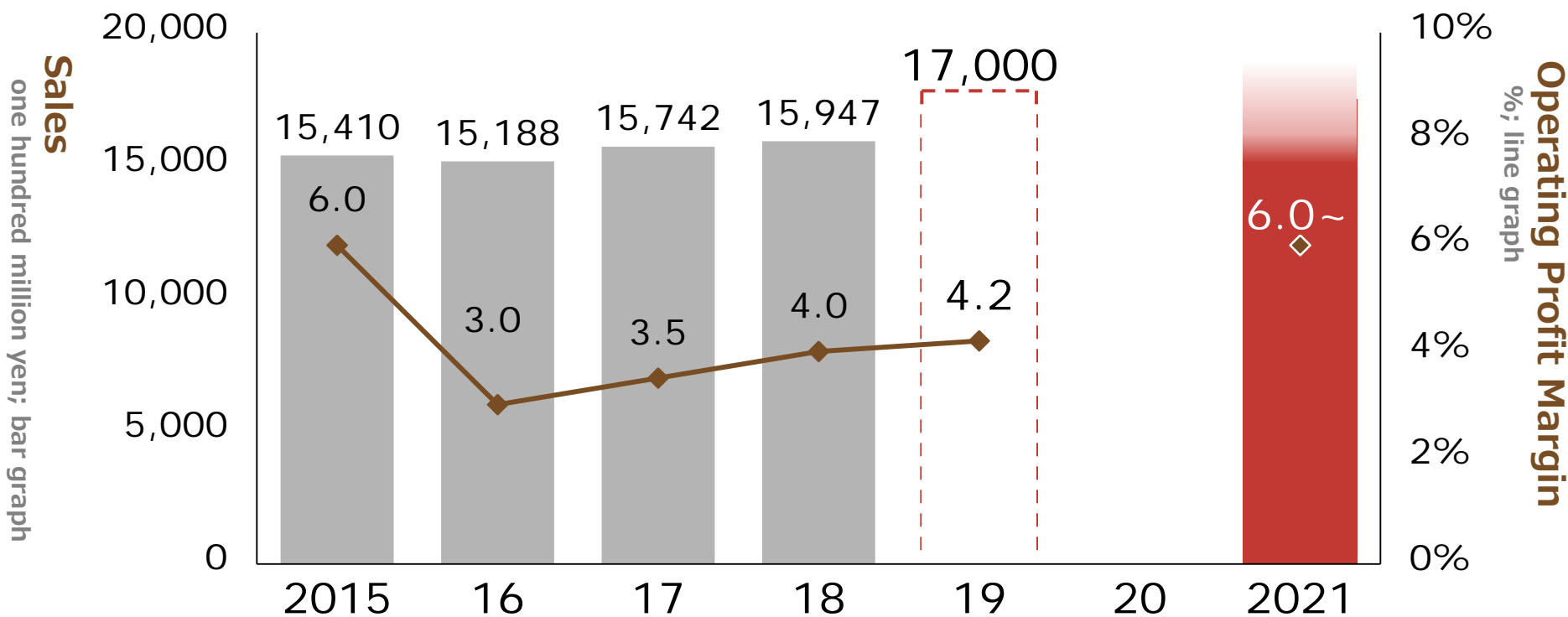
**FCF\*\***

120 billion yen or more/  
3 years

\*\*This FCF is the pre-active investment spending standard

**Operating Profit Margin**

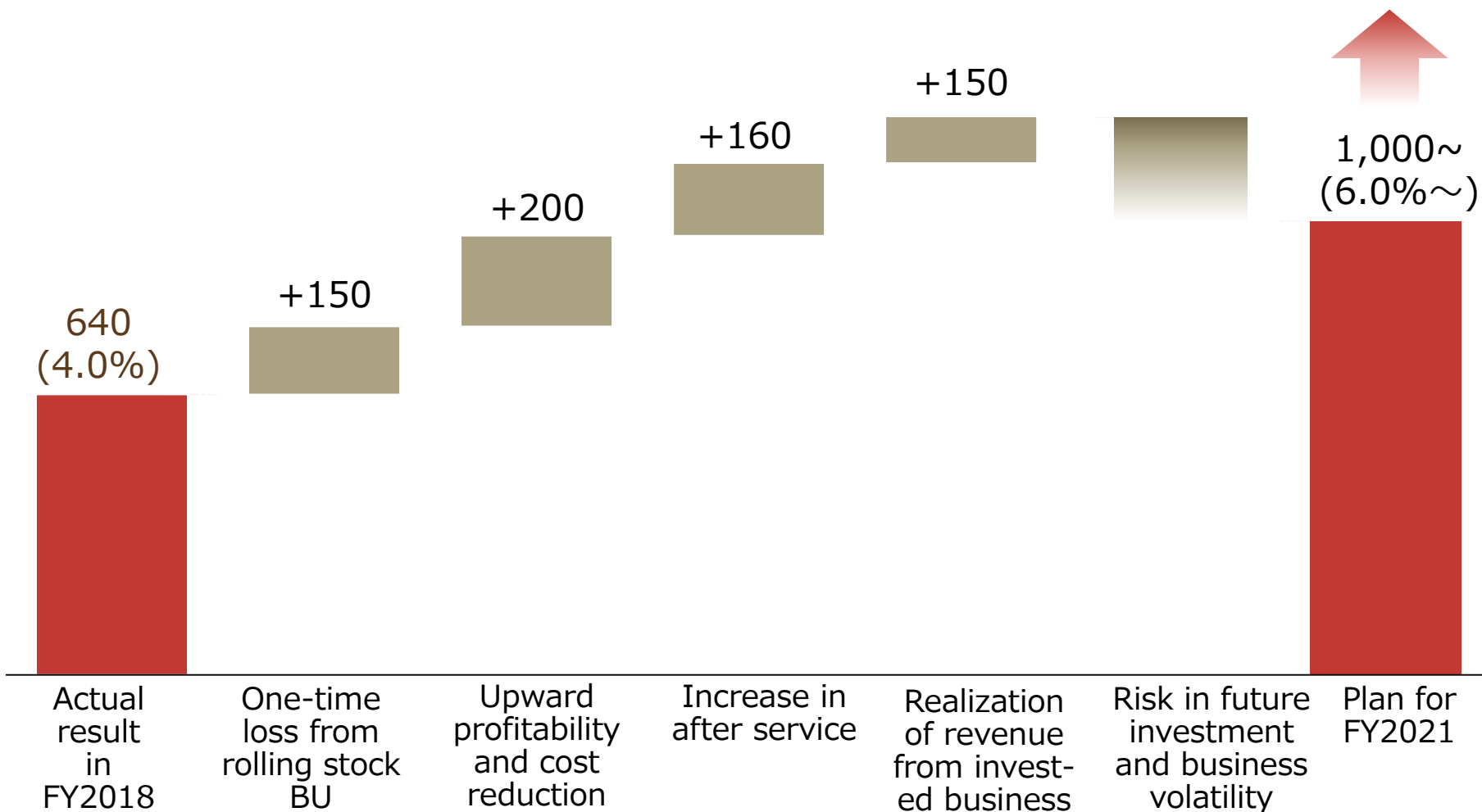
6% or more (100 billion yen or more)



## F2 Accumulate Clear Plans/Measures to Achieve the Goal: 6% of Operating Profit Margin in FY2021

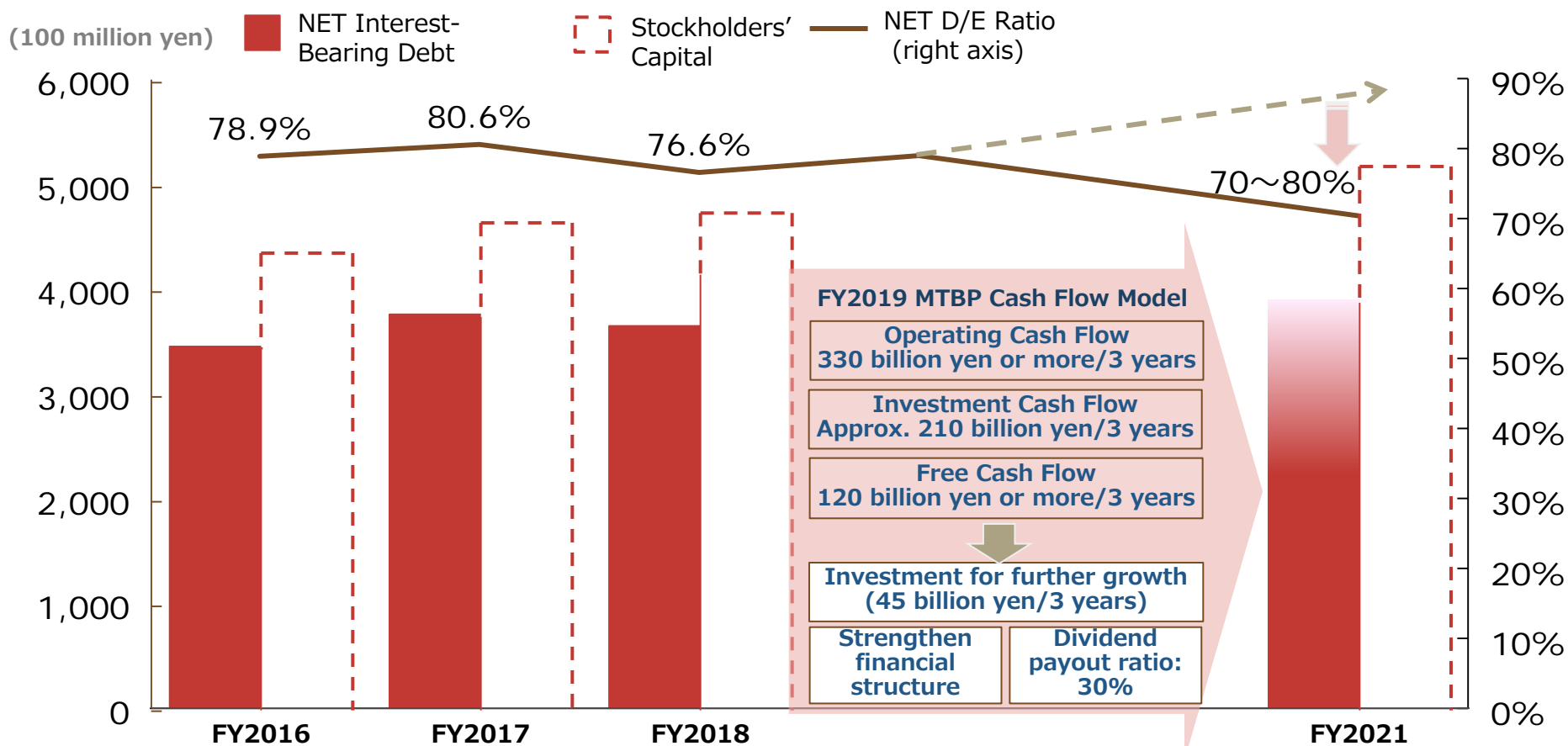
### Plan to Achieve the Operating Profit Margin Goal in FY2021

100 million yen; ( ) are operating profit margins



## F3 Modeled Cash Flow Goal for 3 Years

- During the FY2016 MTBP: Promote mid-long term growth with high-standard investment CF spending towards future growth
- During the FY2019 MTBP: Harvest previous investments while strengthening financial bases and implementing selective investments for further growth. Keep stable dividends (with a standard consolidated dividend payout ratio of 30%) for stockholder returns

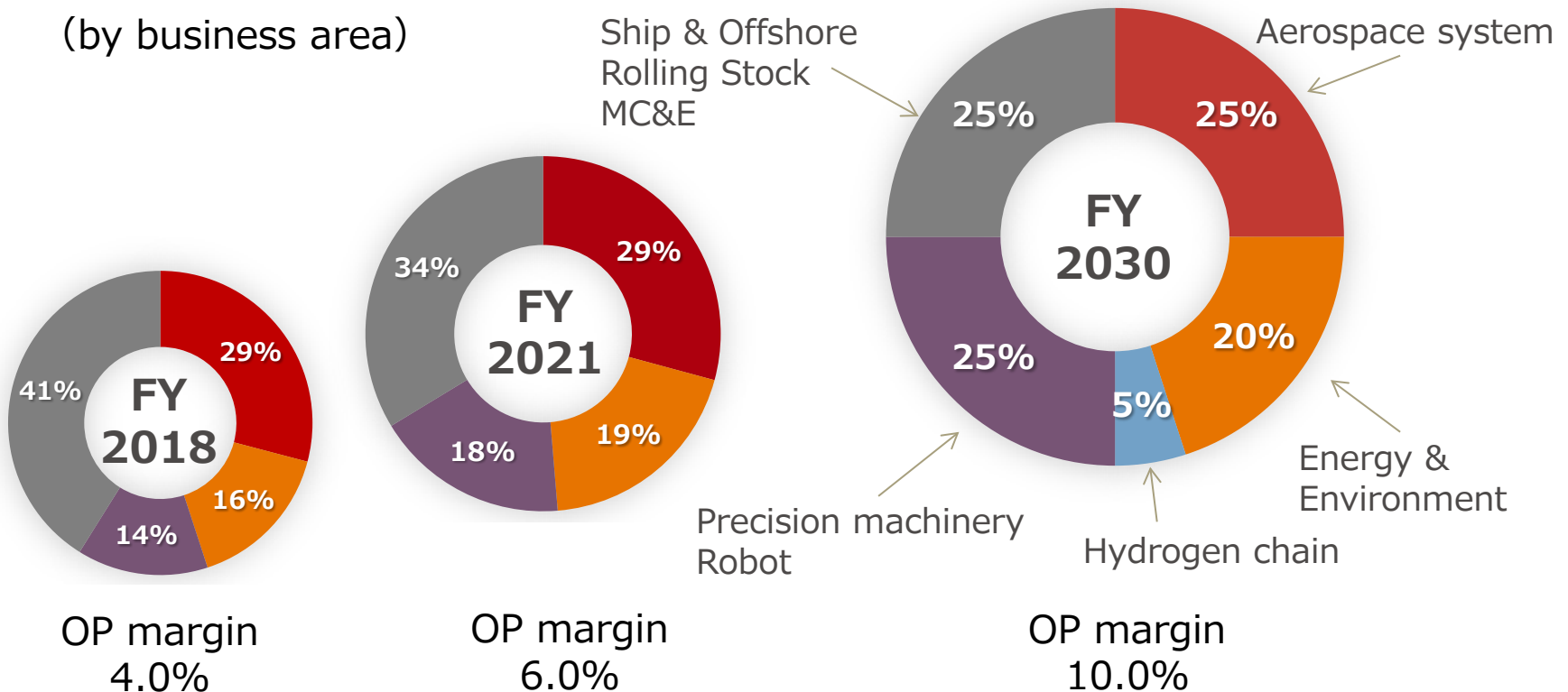


# G1 Business Portfolio Image for FY 2030

Growth led by Aerospace system, Energy & Environment, Precision machinery & Robot business  
 Demonstration of hydrogen chain as one of symbols for synergy effects in our group is becoming growth engine  
 Ship and offshore structure and Rolling Stock to be back on track. MC&E promotes Kawasaki brand in the global market

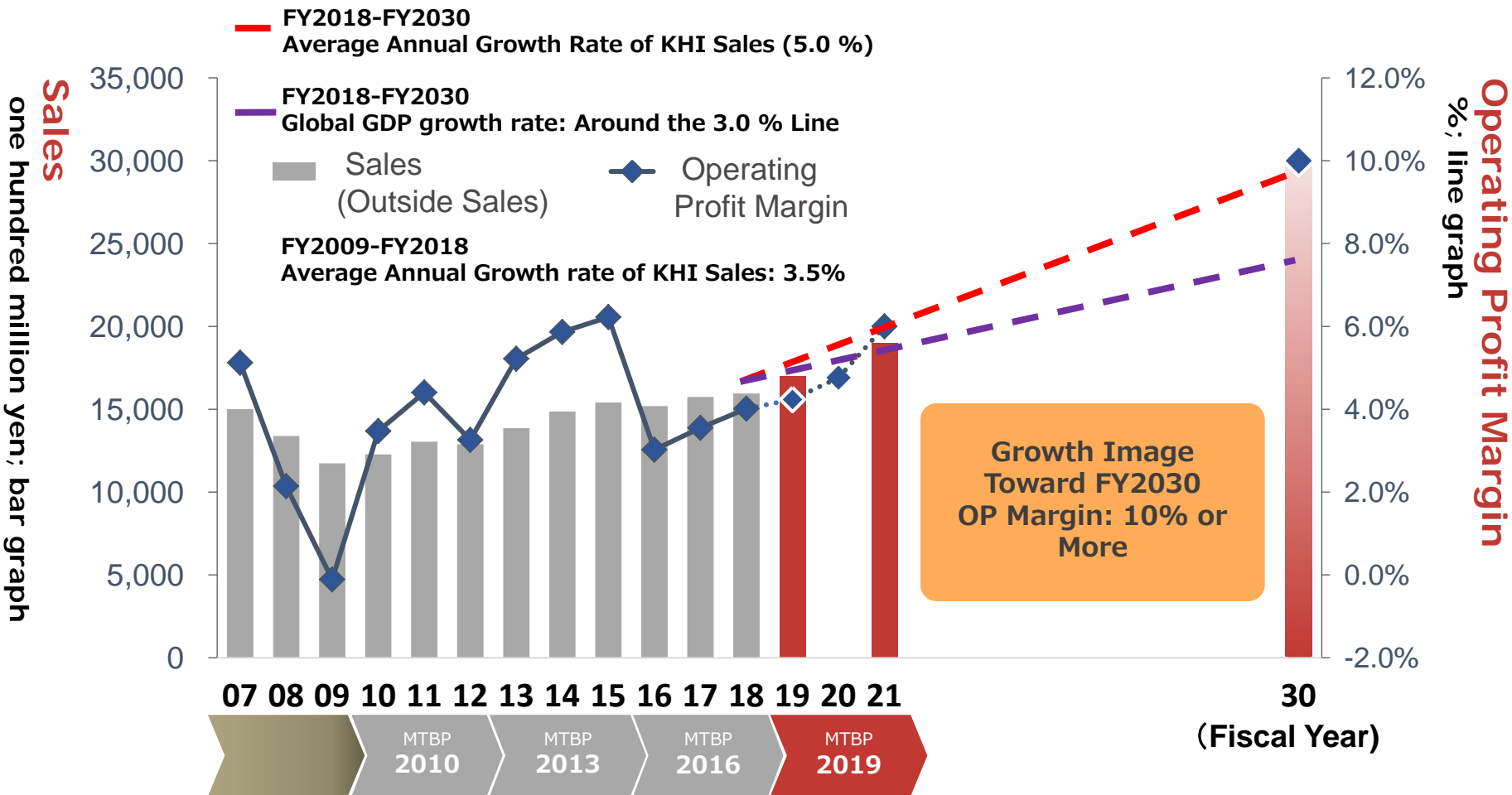
## <Sales breakdown>

(by business area)



# G2 Growth Image Towards FY2030

Steadily strengthen the financial structure for further profit and growth from FY2021



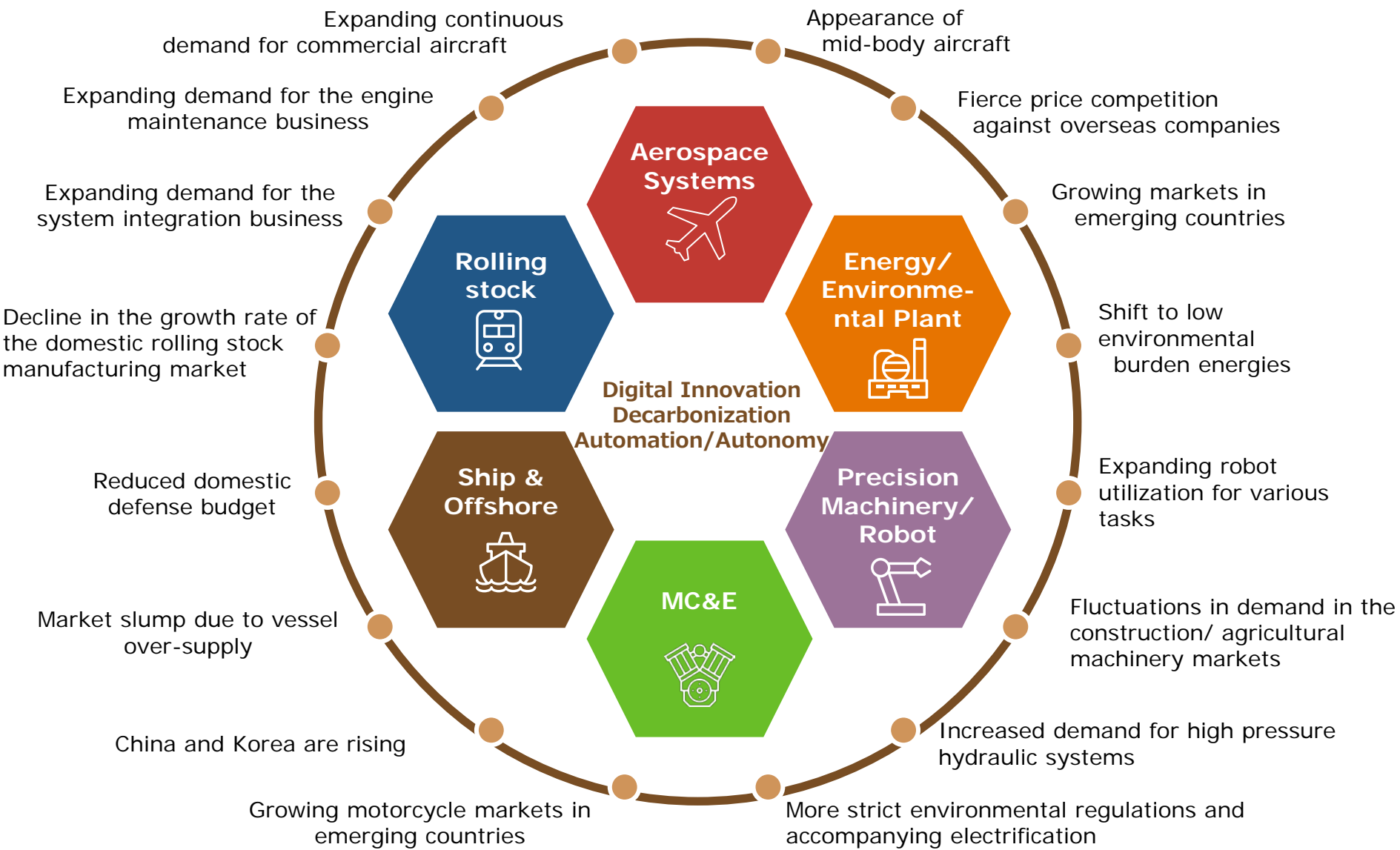
**Return to Growth Trajectory:**

Profitability declined during the FY2016 MTBP due to continuous growth investments

Strengthen financial bases towards the harvest from FY2021

# H1 Megatrends Surrounding Kawasaki Heavy Industries

## - Cannot Survive without transformation



# H2 Contribute to Achieve SDGs through Various Businesses

## Creating clean energy



- Hydrogen chain development center
- Energy & Environmental plant Company



## Providing safe and secure, clean, comfortable movement of people and transportation of goods



- Ship & Offshore Company
- Rolling Stock Company
- Aerospace System Company
- MC&E Company



## Improving social infrastructure, especially in emerging countries



- Energy & Environmental Plant Company
- Precision Machinery Business Center



## Responding to needs of aging society and shortage of labor through automation



- Robot Business Center



Goals Common to All Businesses in the company





# I1 Implement Discontinuous Innovations via Technology

## Appearance of New Values/Markets

- ✓ Society's requirements are rapidly changing
- ✓ Destructive innovations

Diversification

Take Measures against Labor Shortages

Smartification

Service (MaaS)

Electrification

## For Future Social Issues

Future Energy System

Future Robotics

Future Transportation System

## Create New Values

Remote Track Monitoring Service

Actions for Connected Transportation System

Liquid Hydrogen Carrier

## Major Next-Generation Products

Aerospace system

Energy/Environmental plant

Future helicopter

Next-generation Jet engine

Hydrogen gas turbine

Next-Generation Commercial aircraft

Autonomous Service robot

Next-generation High speed train

Precision machinery Robot

High pressure hydrogen gas valve

Future Mobility

Traffic/transportation

## More Competitive Products

AUV

Small and mid-sized Jet Engine

CO<sub>2</sub> Separation System

Continuous growth

2030

Robot with remote collaboration system

Next-Generation Flagship motorcycle

Next Generation Standard rolling stock

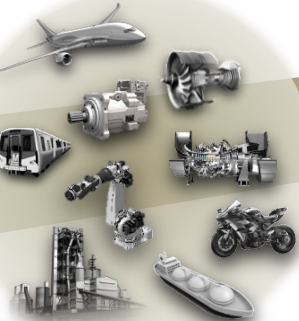
Medical robot

Next-Generation Excavator System

## Discontinuous Innovations

- Aim for low-carbon, then decarbonization
- Aim for automation, then autonomy
- Digital innovations

2020

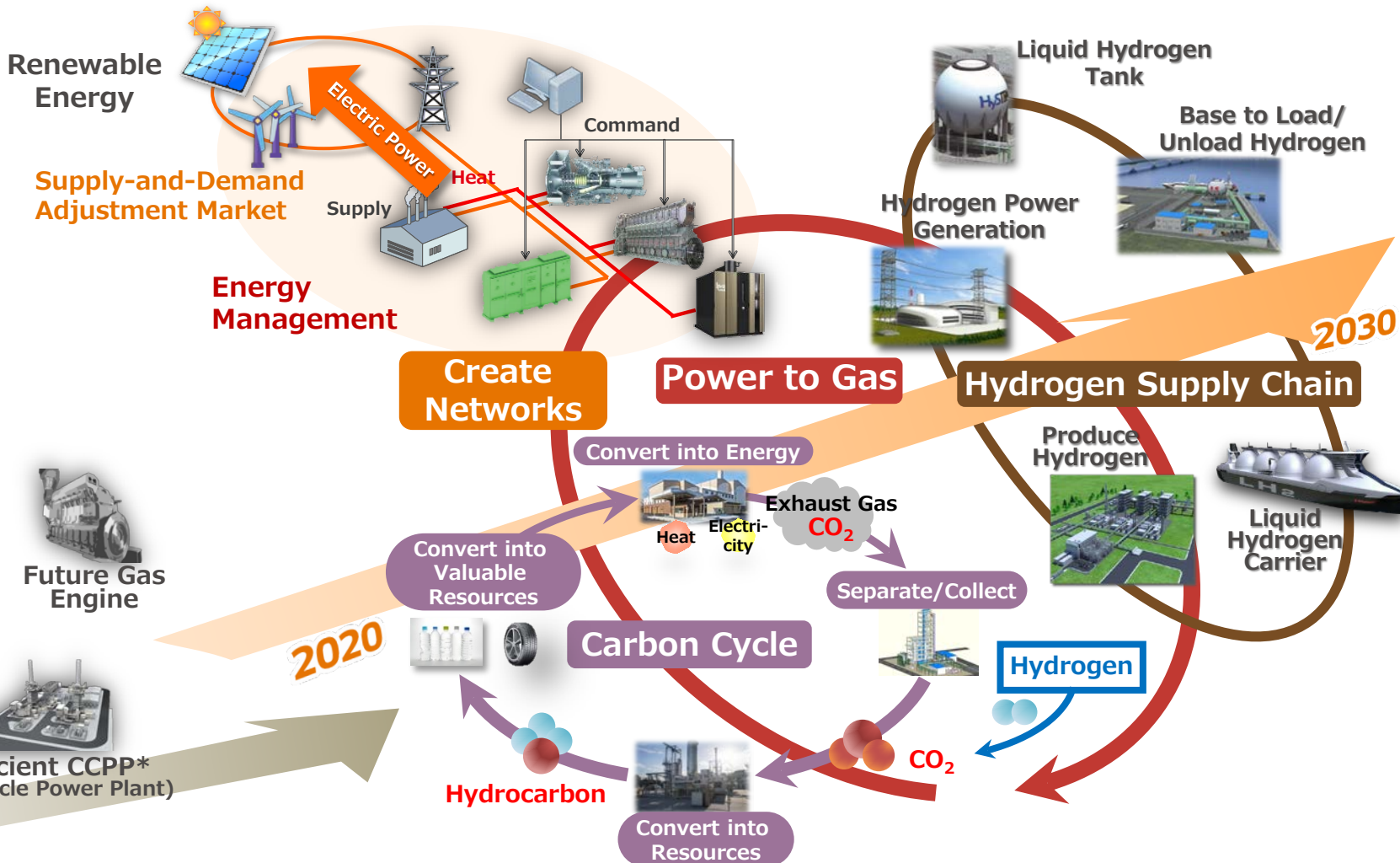




# 12 (Example 1) Create Clean De-Carbonized Energies, Primarily Through Hydrogen Technology

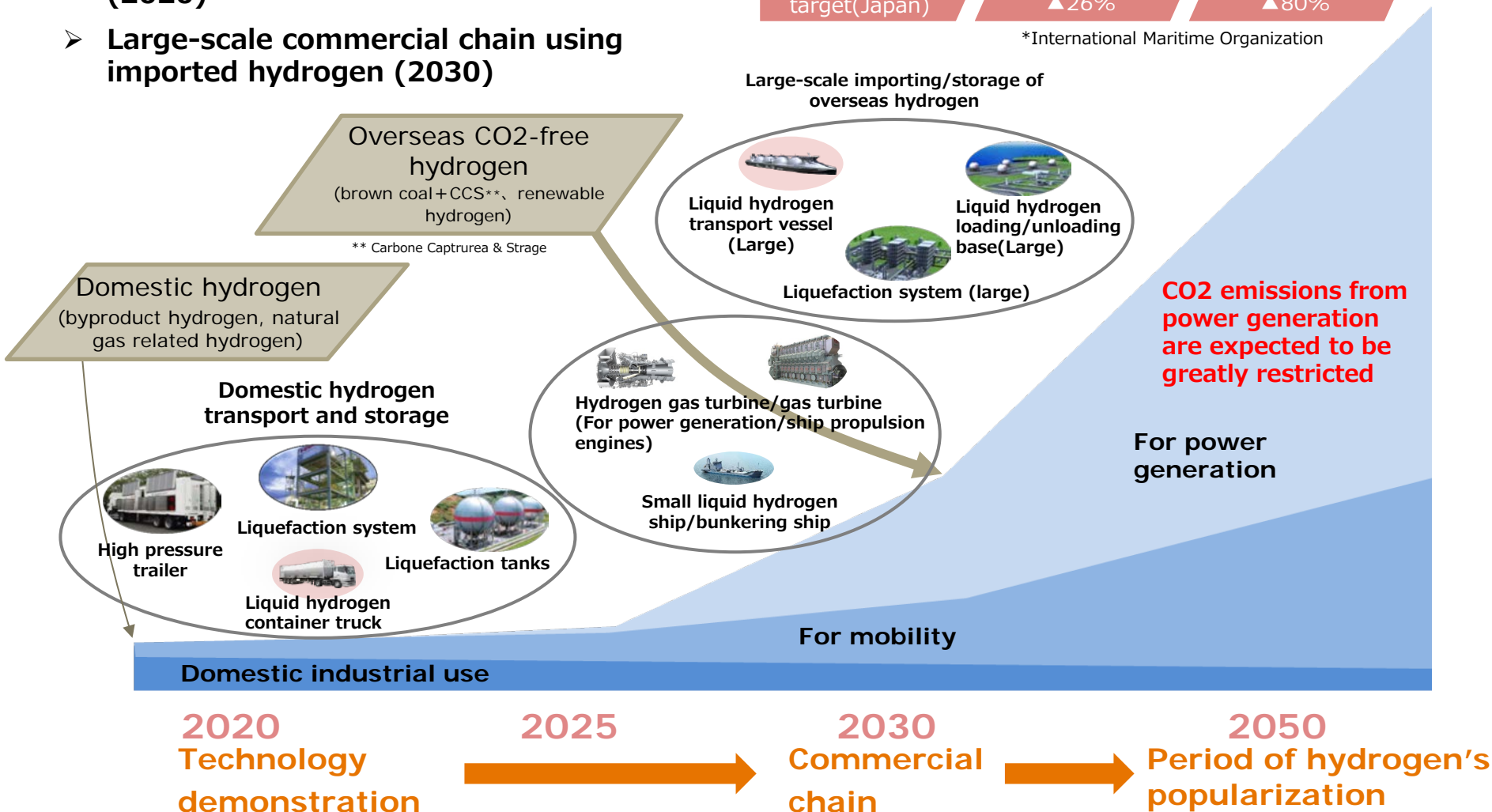
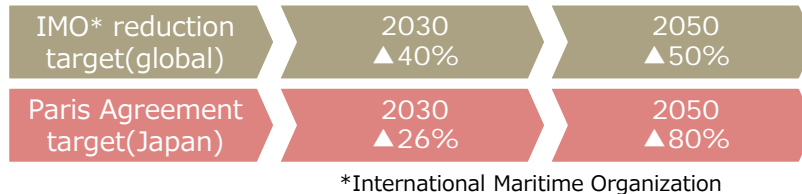
Low – Carbonization

Decarbonization  
Combine Hydrogen/Renewable Energy/CO<sub>2</sub>, etc.



# 13 (Example 2) Aiming for a clean society through hydrogen

- Start commercial demonstration (~2025)
- Supply chain technology demonstration (2020)
- Large-scale commercial chain using imported hydrogen (2030)



# 13 (Example 3) Automation – Autonomy Against Popular Aging/Labor Shortage

**Automation**  
(Repeat/Optimize)

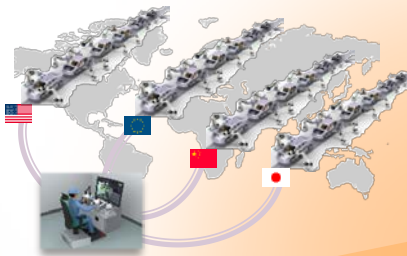
**Autonomy**  
(Learn/Environment Recognition)



Skill transfer robot



Medical robot



Autonomous robotization system based on IoT and AI

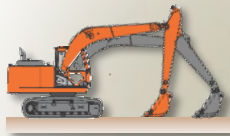


System support for robotization of various industrial equipment

2030



Automatic Operation Support System for construction machinery



Ship berthing/leaving support system



2020



Humanoid

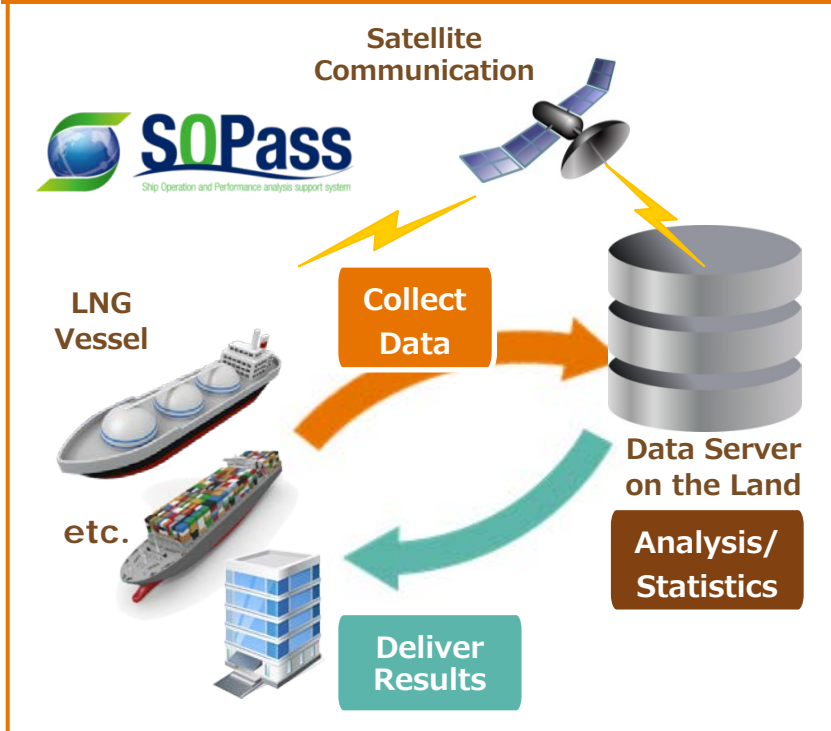


Autonomous operating vessel

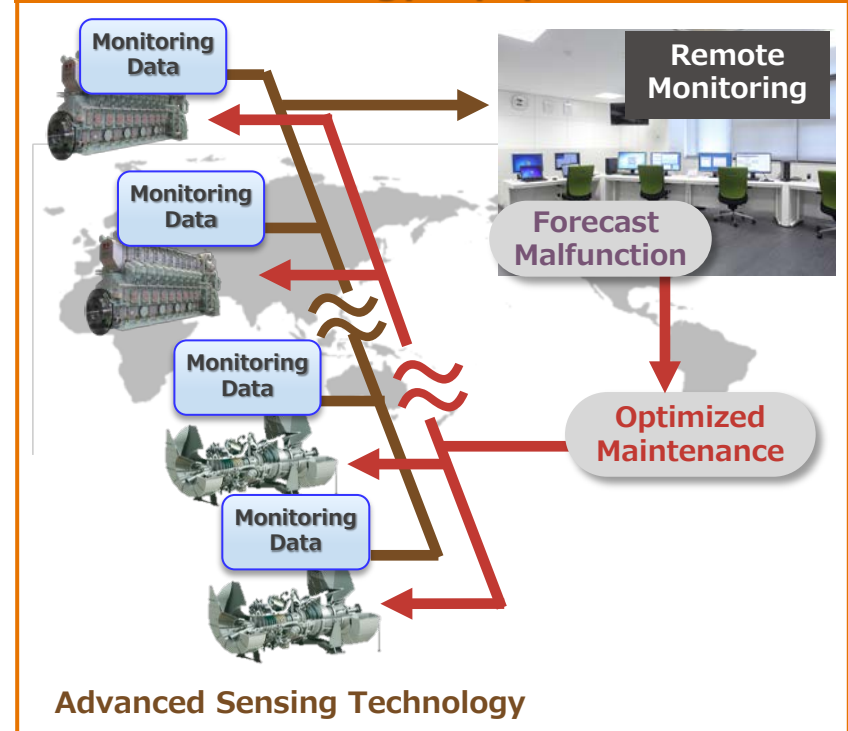
# 15 (Example 4) Create New Business Models with Digital Innovations

- ✓ Make products “connected” by fulfilling an ICT environment
- ✓ Create service businesses to shift from “selling products” to “selling services”

## Operation Control Support System for Vessels



## Maintenance Plan Support System for Energy Equipment



## Use Digital Platforms to Connect the Value Chain

- Introduce the latest technology / Collaborate with entities outside the company
- Digitally connect business processes to improve productivity

## 6. Future Reports on the Progress of FY2019 MTBP

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Following the “Outline of FY2019 MTBP” we will continuously report on our measures with details, progress, results, accuracy in accomplishing goals, etc. in an appropriate manner. The next report will take place in this autumn on the following matters.

- (1) Company-wide and segment target for FY2021
- (2) Scenario, assumptions and concrete action to achieve FY2021 targets
- (3) Updated progress regarding reconstruction of Rolling Stock and Ship & Offshore business
- (4) Updated progress regarding business portfolio optimization toward 2030
- (5) Status update to consider management system to achieve total optimization

Working as One for the Good of the Planet  
“Global Kawasaki”