

Management Overview

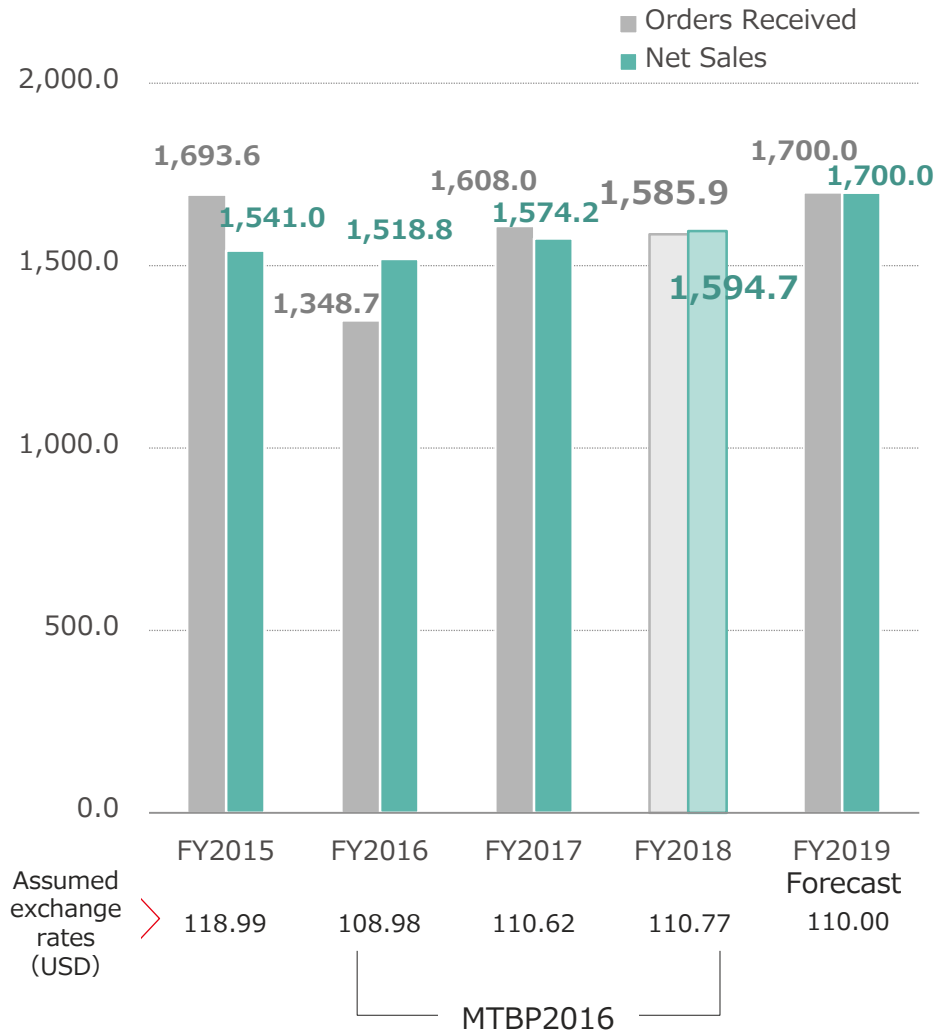
April 25, 2019

Kawasaki Heavy Industries, Ltd.

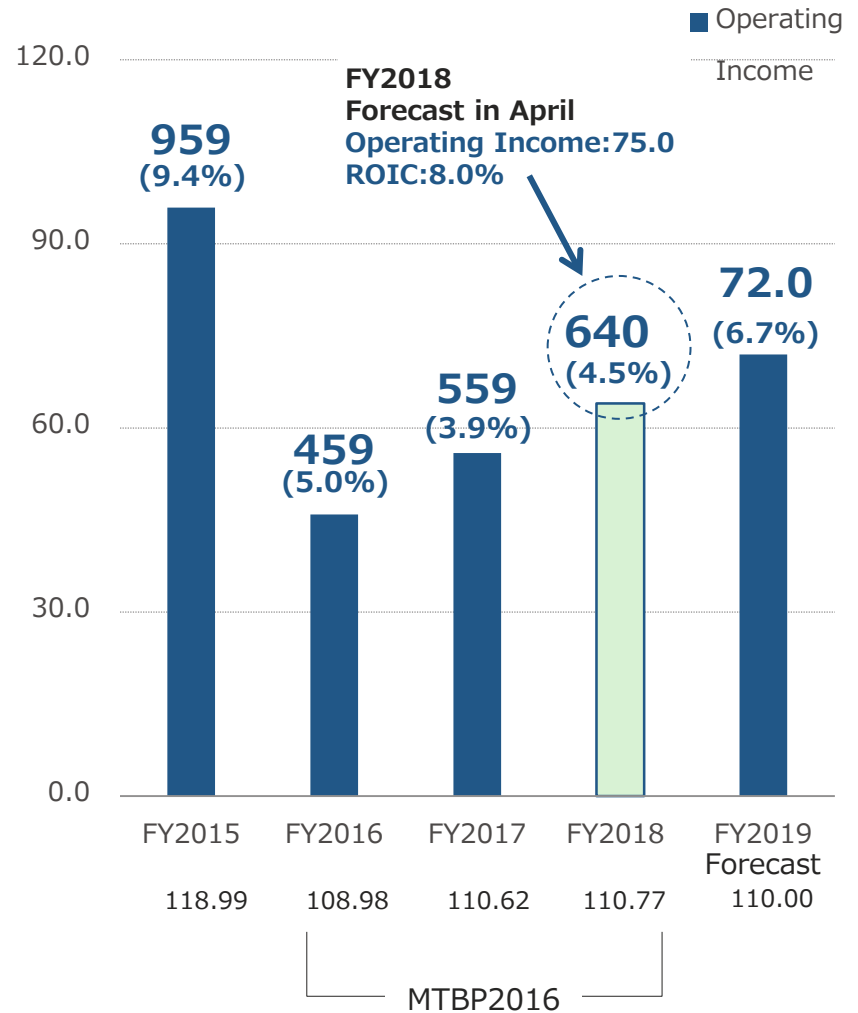


Trend of Financial results

[Billion yen]



[Billion yen]



Rolling Stock Business Restructuring Committee – Discussion Results

Reasons for recording losses in Rolling Stock Business

Inadequate risk recognition at bidding and insufficient cost, design, and quality management are the main factors

M9

- Planned cost reduction cannot be achieved based on a decrease in the final amount of delivered train cars.
- Increase in material costs due to unachieved cost reduction target and rising prices of procured products.
- Excessive time to agree on the specification interpretation with the customer, causing process delays.

Projects
in Japan

- Unachieved cost reduction target.
- Higher material costs than expected.
- Difference in specification interpretation with customers.

Other Projects
in U.S.

- Wiring installation defects found in project for WMATA*, and required repairs of the delivered cars. (Due to work procedures and training)

*Washington Metropolitan Area Transit Authority

Rolling Stock Business Restructuring Committee

– Discussion Results

Restructuring business voluntarily by executing the following policies:

Policy① Strengthen Project Management

Policy② Reform Quality Management System

Emphasis on quality over quantity

Policy③

Japan	<ul style="list-style-type: none"> • While maintaining an strong competitive environment among rolling stock manufacturers, we will receive orders at the appropriate price by maintaining and strengthening non-price competitiveness utilizing technology. • Supply high-value-added key components.
North America	<ul style="list-style-type: none"> • Develop business focused on customers whom we can demonstrate our superiority based on past delivery results. (NY subway etc.) • Promotion of new business such as track monitoring business utilizing IoT technology.
Asia	<ul style="list-style-type: none"> • While a large number of Asian yen loan projects are expected based on the promotion of railway infrastructure exports by Japanese government, dealing mainly with low risk yen loan projects and securing profitability.
Comprehensive	<ul style="list-style-type: none"> • Expansion of stock-type business with strength in increasing number of delivered cars.

Status of Projects in North America

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<Status>

As of March 2019, 14 pilot cars are under function test at KRC, Yonkers, New York and customer site.

Regarding 78 production cars, 40 of the cars are under manufacture at KMM, Lincoln, Nebraska, and an additional 20 have been sent to KRC, Yonkers, New York, and 18 cars are not yet under manufacture.

We received option order on January 2019.

<Schedule>

9/2013	Base NTP (92 cars)
1/2019	Option NTP (110 cars)
5/2019	Delivery of 1 st Car
12/2020	Delivery of Last Car

<Project Summary>

PJ : M-9 Passenger Cars for Long Island Rail Road
 Q'ty : Base 92 Cars + Option 110 Cars
 Dimension : 25.9m (length) × 3.2m (width) × 4.0m (height)
 Stainless Steel

R211



<Status>

As of March 2019, we are in the design stage and manufacturing the mock-up car at Hyogo Works.

Production of the car body shells for the Pilot Cars has been started at Hyogo Works from January, 2019, and its fitting/final assembly will be started in 2019 at KMM, Lincoln, Nebraska.

<Schedule>

2/2018	Base NTP (535 cars)
8/2021	Delivery of 1 st Car
10/2021	Begin Delivery of Production Cars
8/2023	Delivery of Base Last Car

<Project Summary>

PJ : New Subway Cars for New York City Transit
 Q'ty : Base 535 Cars + Option up to 1,077 Cars
 Dimension : 18.4m (length) × 3.0m (width) × 3.7m (height)
 Stainless Steel

Progress of Restructuring of the Ship & Offshore Structure Segment

1. Progress of restructuring

Basic policy :

Shifting merchant ship's construction (mainly gas carriers) from Japan to China

Key measures :

Reduction of construction capacity in Japan (2docks→1dock)
Expansion of construction capacity in China (3docks→4docks)

Productivity improvement (Reduction in manufacturing costs and fixed costs)

New-build orders (3-4 ships orders per year for LNG carrier, LPG carrier and gas related vessels etc.)

Progress :

○
4th Dock in China started its operation since March 2019

○
Periodical target achieved successfully as of FY 2018

×
In FY2017-2018 orders of 3 LPG carriers and a LNG bunkering vessel but no order of LNG carrier received

Summary :

Two of three key measures have been implemented successfully, but no order of LNG carrier has been received due to sluggish new-build market, the delay of expected large LNG development projects and led by aggressive price strategy by Korean shipyards. Therefore we received orders of two bulk carriers to cope with factory fixed cost.



Ship & Offshore Structure segment has made profits since the second half of FY 2017. However, in FY 2019, **it is expected to be in the red** due to temporary shortage of operations and increase of low profitable projects.

2. Business policy

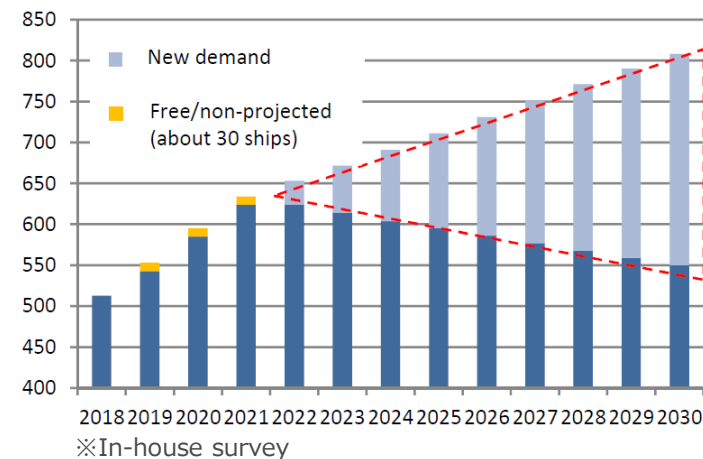
Recognition of current situation

- Demand for new-build LNG carriers is expected to increase largely based on the expanding LNG demand mainly in Asia.
- Some of large-scaled LNG development projects, such as Mozambique LNG project and Qatar's LNG Expansion project, will get move forward from this year, and activities for new-build LNG carriers are expected to brisk.
- Demand for gas-related vessels is definitely increasing due to strengthening of environmental regulations.

Business policy

- As it may take time but the new-build market will recover steady, we will deepen our integrated management with our joint venture shipyards in China, such as jointly receiving a series of order by both parties and sharing the construction each other.
- We shall continue to carry out restructuring program in order to achieve surplus in FY2020 and furthermore get to a pre-tax ROIC of over 8% thereafter.

Demand forecast of new-build LNG carriers



Schedule of environmental regulations for ships

Regulation	Sea area/ Classification	2017	2018	...2020	...2024
Sox Emission	Outside ECA	Sulfur content 3.5% or less			Sulfur content 0.5% or less
	Inside ECA	Sulfur content 0.1% or less			
Nox Emission	Inside ECA	Tier III (for new-build only)			
Ballast water Management	New-build	Ships keel-layed on or after September 8, 2017			
	Other than the above	① Ships that completed IOPP renewal inspection prior to September 8, 2014 ⇒ Compulsory on September 8, 2024 ② Ships that completed IOPP renewal inspection prior to September 8, 2017 ⇒ Compulsory on September 8, 2022			

Source: Mizuho Bank, Industry Research Dept.

(reference) DACKS second dock completed

In March 2019, the second dock of our China joint venture, Dalian Cosco KHI Ship Engineering Co., Ltd. (DACKS) was completed. We will enhance our competitiveness by strengthening our technology transfer and cooperation, and aim to expand earnings as a Ship & Offshore Structure Segment.



DACKS factory panoramic view. Right dock is the second dock.

【DACKS Company Profile】

company name

Dalian Cosco KHI Ship Engineering Co., Ltd.

location

Dalian City, Liaoning Province, China

Founding

July 2007

Beginning of operation

January 2010

number of employees

Approximately 1600 people

世界の人々の豊かな生活と地球環境の未来に貢献する “Global Kawasaki”

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