### Medium-Term Business Plan "FY2019 MTBP" (FY2019 - FY2021) Ship & Offshore Structure Company

October 2, 2019

Kawasaki Heavy Industries, Ltd.



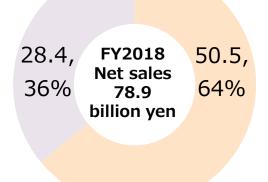
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### **Overview of Ship & Offshore Structure Company**

Business	Product/ Market	Main Models	Construction yard
Ship & Offshore Structure  Merchant ships	<ul><li>LNG carriers</li><li>LPG carriers</li><li>LNG bunkering ships</li><li>Operating support systems (SOPass)</li></ul>	Sakaide Works	
	<ul> <li>Liquefied hydrogen carriers</li> </ul>	Kobe Works	
	<ul><li>Container ships</li><li>Bulk carriers</li><li>Large tankers</li><li>Pure car carriers (PCC)</li></ul>	China • NACKS • DACKS	
	Submarines/ special ships	<ul> <li>Submarines</li> <li>Jetfoils</li> <li>Research ships</li> <li>Patrol ships</li> <li>Autonomous underwater vehicles (AUV)</li> </ul>	Kobe Works

- Merchant ships
- Submarines/special ships



Group sales for Ship & Offshore Structure
Company
(total value including NACKS/DACKS sales)

Approx. 180 billion yen

### **Business Strategy of Ship & Offshore Structure Company**

Environment Business

### Excessive building capacity in world

- Prolonged poor shipping market
- Movements in large-scale mergers of shipbuilding companies in South Korea and China
- Increasing demand for LNG carriers in line with expanding LNG demand in Asia
- Increasing demand for environmentally friendly ships due to strengthnened environmental regulations

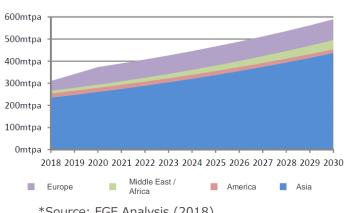
Our Strengths

- Abundant construction experience and accumulated technology for gas-related vessels (LNG/LPG carriers)
- Cost competitiveness through integrated operations with Chinese affiliates (NACKS/DACKS)
- Sophisticated submarine technology
- Advanced technology in developing liquefied hydrogen carriers

**Issues** 

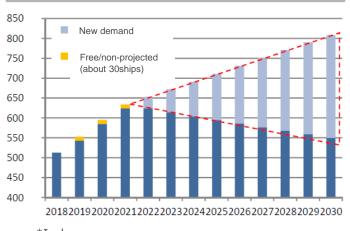
Securing orders for gas-related vessels

#### Forecast of regional LNG demand



\*Source: FGE Analysis (2018)

#### Forecast of new shipbuilding demand f or LNG carriers



\*In-house survey

### **Business Strategy of Ship & Offshore Structure Company**

### Steady Achievement of priority measures for business restructuring plan

	Priority measures	Progress
1	Merchant ship construction to be focused at Chines Affiliates	Domestic operation for merchant ship construction reduced by about 20% (FY2015 → FY2018) No. 2 dock at DACKS went into operation (March 2019) Started detailed examination of licensing the construction technology of LNG carrier to DACKS
2	Productivity improvement/ material cost reduction	Promoting KPS and cost engineering activities Stage gates toward relevant targets having been cleared successfully
3	Fixed cost reduction	<ul> <li>(1) 10% reduction in personnel related cost (Oct. 2016 → Apr. 2019)</li> <li>(2) Department fixed costs reduced by 12% (FY2016 → FY2018)</li> <li>(3) Invested capital reduced by 24% (end of FY2016 → end of FY2018)</li> </ul>
4	Development of new business foundations	<ul> <li>(1) Development of liquefied hydrogen carriers progressed as scheduled. Keel of liquefied hydrogen pilot ship having been laid on building berth (Jun. 2019)</li> <li>(2) Completion of transfer of engineers dedicated in offshore business to new businesses</li> </ul>

### Business Strategies by Product/Market ~ Merchant Ships ~

FY2018 sales ¥50.5 billion

→ FY2021 sales ¥58.0 billion

#### Measure

Business stage: business reform

Role during MTBP: improving profitability

- (1) Strengthening integrated operation with Chinese Affiliates (NACKS/DACKS) and licensing the construction technology of gas-related vessels
  - Licensing the construction technology of LNG carrier to DACKS, and making competitiveness through shared construction between Sakaide works and DACKS
  - Licensing the construction technology of LPG carrier to NACKS and getting orders from Chinese shipowners, etc.
  - Sakaide works to be focused on it function as a mother yard
- (2) Developing liquefied hydrogen carriers.

  Pilot ship to be completed in FY2020 and moving forward for larger sizes.
- (3) Expansion in sales of SOPass (Ship Operation Performance analysis support system) and FGSS (fuel gas supply system)
  Differentiating by utilizing engineering knowledge accumulated in LNG ship construction
- (4) Development and securing orders of floating LNG power plants



NACKS (Nantong, China)



DACKS (Dalian, China)



Liquefied hydrogen carrier



**SOPass** 

# Special ships

### Business Strategies by Product/Market ~ Submarines/Special Ships ~

FY2018 sales 28.4 billion  $\rightarrow$  FY2021 sales 32.0 billion

### Measure

Business stage: stable/recovery

Role during MTBP: securing stable revenue

#### (1) Submarines

- Strengthening R&D system toward receiving orders for subsequent new submarine
- Expansion in earnings for lifecycle business due to increasing number of submarines
- (2) Jetfoils

  Completion of a new Jetfoil in FY2020 as scheduled after a 25-year absent, and securing orders responding to subsequent replacement demands
- (3) AUV commercialization Establishing business model mainly through KSUK (UK subsidiary) toward the entry into market in FY2021.





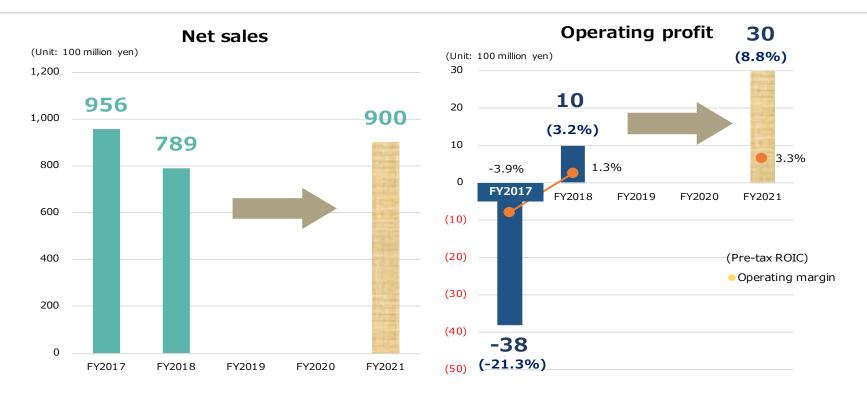


Submarines

letfoils

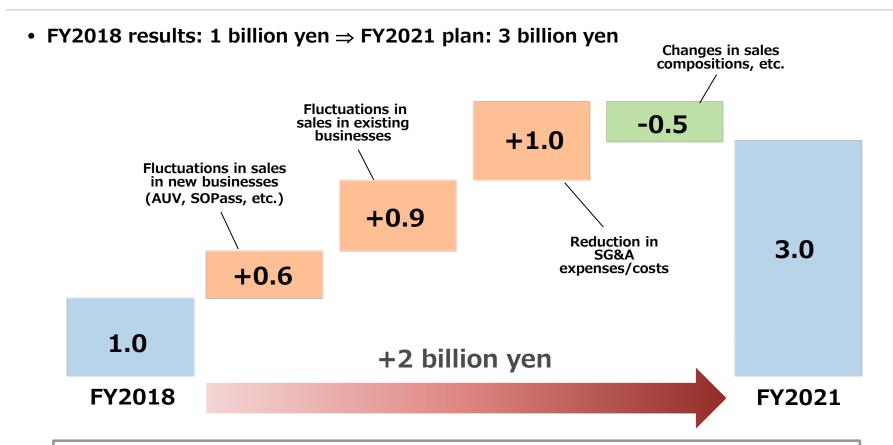
AUV (Autonomous Underwater Vehicle)

### **FY2019 MTBP Quantitative Goals**



- Sales and operating profit to increase in new business (AUV, SOPass) and due to supplying core components through integrated operations with Chinese affiliates (NACKS/DACKS)
- Sales of new ships (gas-related vessels, submarines, etc.) are flat
- Additional reduction of fixed costs and continuous activities of KPS and cost engineering

### **Measures for Improving Operating Profit**



- Operating profit to increase in new business (AUV, SOPass) and from increase in supply of core components through integrated operations with China (NACKS/DACKS)
- Additional reduction of fixed costs, and continuous activities of KPS and cost engineering.

### **Long-Term Direction Until FY2030**

### **Company vision**

A shipbuilding engineering group that pursues uniqueness in cutting-edge fields centered on hydrogen technology, low-temperature/high-pressure gas technology, submarine technology, and overseas businesses

### Overall company policy (medium/long-term)

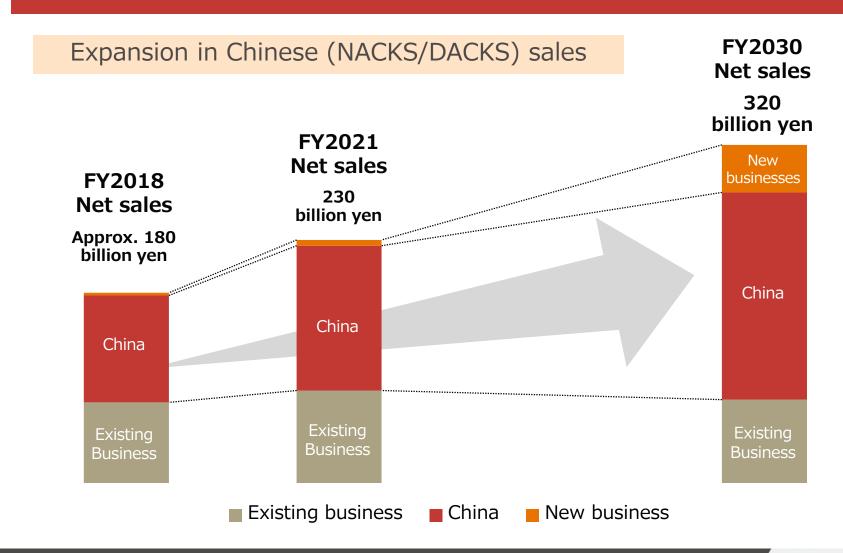
- 1. Establishing a position as a pioneer in building liquefied hydrogen carriers Construction of a large demonstration ship in FY2025 and the world's first commercial ship in FY2030.
  - Building a foundation for a royalty-based business
- 2. Secure group share of gas-related vessels by licensing cosntruction technology to Chinse affiliates
  - DACKS to be the independent LNG carrier construction yard where tanks are produced in-house
- 3. Stable operation of submarine business
  Securing orders for subsequent new submarine.
  Operational dips to be compensated for by small special ships (jetfoil, etc.)
- 4. Strengthening the profitability by developing and commercializing new products
- 5. Promoting company-wide utilization of Sakaide Works



Liquefied hydrogen carriers

### **Long-Term Direction Until FY2030**

Ship & Offshore Structre Company Group Sales Trend (Total Value including NACKS/DACKS Sales)



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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.

