Shipbuilding & Ocean Development
Business Operation

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1. Review of FY 2010

**Orders received**
- Up 22.4 billion yen year on year (16.8 billion yen decrease compared with initial target of FY 2010)
  - Ships ordered: 17 ships (+4 year-on-year)
  - As a result of targeting orders for high value-added vessels, received orders for 17 ships, including 2 seismic vessels, 3 LPG carriers, 1 LNG carrier, etc.
  - (Breakdown of ships ordered)
    - First half: 4 ships
    - Second half: 13 ships

**Net Sales**
- Up 71.7 billion yen year on year
  - Ship deliveries: 23 ships (+3 year on year)
  - (Breakdown of deliveries)
    - Container ship: 11 ships
    - Car carrier: 4 ships
    - LPG carrier: 3 ships
    - Module carrier: 2 ships
    - Ferry: 1 ship
    - RO-RO: 1 ship
    - Submarine: 1 ship

**Operating income**
- Down 12.7 billion yen year on year
  - Profits were reduced by the stronger yen and future loss on constructing orders received, but with the rise in net sales, profitability has improved materially.
2. Shipbuilding & Ocean Development
Business Environment

1) Market environment (Order backlog for newbuildings and forecast for newbuilding demand)

The supply-demand gap widened significantly after the Lehman Brothers collapse of 2008.

- A large volume of orders beyond actual demand had been placed due to strong increase in seaborne cargo before the Lehman Brothers collapse.
- Medium-term demand is expected to be between 40 million GT (base case) and 60 million GT (high case).
- With enlarging newbuilding capacity in Korea and China before the Lehman Brothers collapse, newbuilding capacity has reached 125 million GT. The demand and capacity gap has doubled or tripled.

**Source:** Order backlog for newbuildings, World Shipyard Monitor (Mar 2011)
CLARKSON RESEARCH SERVICES LTD.
2. Shipbuilding & Ocean Development
Business Environment

2) Trends in ship prices, exchange rates and steel material prices

Probability of continuous severe business environment

◆ Stagnation of ship prices
  - Future demand for new ships
    - Although the global economy is recovering, the improvement is very gradual. No quick rebound in demand for new ships can be expected.
  - Stagnation of ship prices
    - Ship prices have hit bottom and begun to pick up, but the rise has been weak, and prices remain near their lows.
  - Bright outlook?
    - Demand for high performance ships (energy saving, eco ships) is rising with high bunker costs and environmental awareness.
    - It works favorably for yards with technical skills.

◆ Changes in exchange rates
  - High yen and high won against US$ continue from previous year.
    - About 25% difference between them in US$ denominated ship prices remains unchanged.

◆ Steel material prices
  - Trends in steel, raw material prices
    - Both the iron ore and coking coal price level have exceeded the peak price in 2008.
      - Iron ore up 29% (average) year on year, coking coal up 54% (average) year on year
  - Declining demand for steel materials
    - Demand for steel material for shipbuilding is expected to remain lower for some time than expected before.
  - Expansion of steel material supply capacity
    - Thick plate production facility at three major Korean mills starts commercial operations. It is expected that Korean imports from Japan reduce and supply-demand balance will loosen in Japan.

Changes in major raw material prices

- Powder ore
- Block ore
- Hard coking coal

Comparison with FY 2010.

29%UP
29%UP
54%UP
2. Shipbuilding & Ocean Development

Business Environment

3) Summary

◆ A large volume of orders, exceeding actual demand, had been placed before the Lehman Brothers collapse. The placement of orders restarted because of lower ship prices from 2010, resulting in orders exceeding forecasts.

◆ Orders for bulk carriers were dominant in 2010, and orders for large sized container ships increase in 2011.

Demand for car carriers is recovering. In the short term with the drop in domestic car production caused by the earthquake, there is a sense of surplus. However, demand is expected to recover by this autumn.

Regarding LNG carriers, interest has picked up, fueled by expectations that LNG demand will rise with higher demand in emerging countries and the substitution of gas power generation to offset the suspension of nuclear power plants. This market requires close monitoring.

◆ Both yen and won appreciated against the US$, equally, which has prevented the cost gap, in addition to China, with Korea from narrowing. Business is expected to remain very severe for domestic shipyards.

◆ While ship prices still remain low, raw material suppliers ask claim for higher raw material prices. This has become a major impediment to reducing the costs of steel materials, other materials and equipment, but we are required further reduction of cost among them.
3. Target Figures for FY2011 Onwards

Planned orders and net sales

[Plans for order receipt]
Aiming to receive more than 200 billion yen in orders by securing orders in public-sector and domestic yen-denominated ships, as well as orders by expanding of large projects (gas carriers, etc.) and new fields (cruise ships and offshore structure).

[Sales and profit plan]

Net sales
[JPY 100 million]

Operating profits
[JPY 100 million]

Mitsubishi Heavy Industries, Ltd. owns all intellectual property rights concerning these materials.
4. Strategies for Achieving the 2010 Business Plan

1) Reforming the business structure

Turning the large projects and new fields into core businesses to accelerate reforms in income and cost structures

<table>
<thead>
<tr>
<th>Product lineup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large PJ, products in new fields</td>
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<tr>
<td>Cruise ships</td>
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<tr>
<td>Ocean development</td>
</tr>
<tr>
<td>LNG/LPG carriers</td>
</tr>
<tr>
<td>Regular commercial ships (ocean ships)</td>
</tr>
<tr>
<td>Yen-denominated domestic ships</td>
</tr>
<tr>
<td>Government ships and self-defense force ships</td>
</tr>
<tr>
<td>Repair, remodeling and engineering</td>
</tr>
</tbody>
</table>

To be core business of MHI – Although there are delays in some projects, we have no change in this policy.
- Integration with other MHI products and collaboration with specialized manufacturers to be accelerated.
- Cruise ships: Establish one-ship-a-year shipbuilding structure (FY 2011 order target)
- Ocean development: Orders received for 2 PGS ships in FY2010.
- LNGC / LPGC: Business picking up with an increase in gas demand (enhancement of fuel power generation as an alternative to nuclear power generation and soaring demand in emerging countries). Order received for 1 LNGC (UST) and 3 LPGC in FY 2010.

C/S etc. (Orders at low price are expected to continue for some time)
- Step up cost-cutting activities and construct a sustainable system – Selective order taking using energy conservation as our advantage. (We have already developed MALS-14000CS)

PCC etc. (Demand expected to recover in near future)
- Accelerate the development of superior energy saving and fuel efficiency technology
  Orders received for 2 PCTC in FY 2010

- Secure orders based on our technological edge and expand share
  Orders received for 1 ferry and 1 RORO in FY 2010

- Strive to continuously enhance naval technologies. Order received for 2 patrol vessels in FY 2010.
- Respond to tighter environmental regulations, expand orders for repair and remodeling.

Net sales
- Large project, products in new fields
- Regular commercial ships (ocean ships)
- Yen-denominated domestic ships
- Government ships and self-defense force ships
- Repair, remodeling and engineering

Enhancing brand power (Developing eco-ships and expedited materialization of customer needs)

- Mitsubishi Air Lubrication System
- Pure Car Carrier
- Pure Car and Truck Carrier
- Roll-On/Roll-Off Ship

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## 5. Upgrading the Business Operating Structure

### 1) Construction of a sustainable system

**Review the business structure to reduce costs and improve production efficiency.**

- **Construction of a sustainable system**

  - **Accelerating the establishment of effective plant operation system and reduction of fixed costs**
    - Reconstruct production system (withdrawal of commercial ship building at Kobe Shipyard ~ 2012/06), Concentrate commercial ship building at Nagasaki Shipyard and Shimonoseki Shipyard.
    - Continue to implement partner and supplier support service.
    - Diminish operation staff size by suppressing recruiting. (2010/04 → 2015/04: about -1,400)

  - **Omni-directional deployment of cost-cutting activities and productivity improvement activities.**
    - Against target of reducing material costs by 40% compared with 2nd half of FY 2008, have achieved a reduction of 25% (expansion of overseas procurement and lower cost purchase)
    - Against target of reducing construction cost by 30% compared with FY 2005, have achieved a reduction of 18%.
      - (Promoting productivity improvement activities with support from Technology & Innovation Headquarters, manufacturing innovation activities, etc.)
    - Deployment of omni-directional cost-cutting activities in capital investment, R&D, expense spending, etc.

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![Consolidated staff numbers](image-url)

[Consolidated staff numbers](image-url)

Not including re-employed

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5. Upgrading the Business Operating Structure

2) Rebuild the organization to complement the strengthening of the business operation system (Company-wide reform)

Incorporate the Shipbuilding and Ocean Development divisions of Nagasaki, Kobe, Shimonoseki and Yokohama into the business headquarters and organize as an unified organization.

- Assign a functional manager for each value chain, such as orders, development and design, production, quality assurance, etc., maximize the use of resources and the sharing of information and operation processes, and establish a uniform business headquarters policy and strategic structure.
  - Establish Ship and Ocean Engineering Division (an office organization overseeing the technical and design division of each shipyard)
  - Establish the post of Senior Vice President of Construction Management (Manufacturing innovation, operation coordination, safety control, etc.)

- Assign personnel to the position of manager at shipyard, where is Nagasaki, Kobe, Shimonoseki and Yokohama, at Senior Vice President level, to clarify quality, delivery and cost responsibility for ship built.

Streamline and accelerate operations by unifying the authority and responsibility, to establish an even stronger and leaner business structure.
6. Upgrading Technical Development Capabilities

1) Upgrading technical development capability

Accelerate development of energy saving and eco-friendly technologies to differentiate MHI from competitors and aim to boost orders

<table>
<thead>
<tr>
<th>Development target</th>
<th>Energy saving / eco-friendly technologies</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Hull Form</td>
</tr>
<tr>
<td>Super energy saving PCTC 50% energy saving</td>
<td>● Tunnel stern</td>
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<tr>
<td>LNG fueled ferry Differentiating technology</td>
<td>● Tunnel stern</td>
</tr>
<tr>
<td>LNG fueled VLCC Differentiating technology</td>
<td>–</td>
</tr>
<tr>
<td>MALS-14000CS 35% energy saving</td>
<td>● New twin shaft</td>
</tr>
<tr>
<td>Energy saving B/C 40% energy saving</td>
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</tr>
</tbody>
</table>

● Standard  ▲ Option

LNG fueled ferry

Super energy saving PCTC

MALS-14000CS

Exhaust funnel at stern  Container loading space under accommodation

New twin engine twin shaft propulsion unit  Mitsubishi Air Lubricating System

High performance hull form  Electronically controlled marine engine

Waste heat recovery unit

(MEET: Mitsubishi Marine Energy & Environmental Technical Solution-System)
6. Upgrading Technical Development Capabilities

2) Energy saving and better fuel oil consumption technology

Increase value of energy saving and better fuel efficiency technology in lifecycle value

[Background] Sharp rise in bunker costs going forward
- Increase value occupied by energy saving technology in lifecycle value.
- Improve incentives to purchase energy saving ship

From the viewpoint of ship lifecycle value, make proposals to evaluate the effects of energy saving in terms of the lifetime saving of fuel costs and their NPV (Net Present Value), based on forecast fuel prices.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fuel cost ($/ton)</th>
<th>Fuel cost savings (million US$)</th>
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<tbody>
<tr>
<td>1</td>
<td>2014</td>
<td>740</td>
</tr>
<tr>
<td>2</td>
<td>2015</td>
<td>770</td>
</tr>
<tr>
<td>3</td>
<td>2016</td>
<td>810</td>
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<tr>
<td>4</td>
<td>2017</td>
<td>850</td>
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<tr>
<td>5</td>
<td>2018</td>
<td>880</td>
</tr>
<tr>
<td>6</td>
<td>2019</td>
<td>920</td>
</tr>
<tr>
<td>7</td>
<td>2020</td>
<td>1,300</td>
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</tbody>
</table>

Fuel cost savings (million US$)
- MALS-14000CS (35% energy saving)
- Energy saving B/C (40% energy saving)

Aggregate value = US$74mil.
NPV = US$62mil.

In 2020, SOx-limits for fuel apply globally. MGO quality demands a premium (at least 30% of HFO price). Price of HFO will continue to rise in the long run (2.5% pa).

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6. Upgrading Technical Development Capabilities

3) Upgrading environmental technology and propeller plant efficiency

Developing a highly efficient plant in collaboration with Power Systems; improved fuel oil consumption, reduced gas emissions

◆ Responding to environmental regulations and the ship fuel innovation (shift to LNG as fuel)

★ Ultra Steam Turbine Plant
   (reheating turbine plant)
   → Enhancing fuel efficiency by reheating cycle
   ... Order received for LNG carrier (UST) for NYK

★ Slow Speed Diesel – Gas Injection
   (direct gas-injection type, low-speed diesel engine plant)
   → Directly burning natural gas in a low-speed diesel engine with excellent heat efficiency
   ... Conducting research and development for commercialization

★ Total fuel efficiency 15% improvement
★ Total fuel efficiency 25 ~ 35% improvement

View of testing facility (Nagasaki R&D Center)
6. Upgrading Technical Development Capabilities

4) Cruise ships

To be a core strategic business through continuous success in orders

[Market environment]

The cruise business is an industry that will enjoy stable expansion in the near future with average annual growth of 3.5%.

→ Equivalent to demand for five or six large new cruise ships building.

- Recovery was seen in passenger numbers and sales price in 2010. Further expansion is expected after 2011.

- Ship owners avoid excessive competition, place importance on increasing occupancy and do not place speculative orders.

- Analysis indicates that growth in the market is superior compared to other general leisure activities, and stable growth in demand for new ship building is expected.

- The Japan Bank for International Cooperation Act was enacted this April, and it will be applied to exports to developed countries, which were previously restricted. This has realized a true equal fitting with the Europeans.

◆ Entered a market monopolized by European yards with the only track record in cruise ship construction in the Far East, with the aim of turning it into a core strategic business through continued success in winning orders, aiming to win orders for this fiscal year (FY 2011).
6. Upgrading Technical Development Capabilities

5) Ocean development

- LNG - FSPO: Continuing approach (target orders in FY2013)
- Offshore Wind turbine installation vessel: Continuing approach (target receiving order in FY2013)
- Seismic vessel: Orders received for the latest three dimensional (3D) marine seismic data acquisition vessel from PGS (order for 2 vessels + option for another 2 vessels)

[Market] Backed by the sudden steep rise in global resource costs, the market for exploring seabed resource and development is expanding annually.

→ A promising market with demand for more than 10 ships each year, including the replacement of aged vessels.
   (Construction record for exploring resource vessels in FY 2010: 15 ships)

→ One of the few remaining areas where Korean and Chinese shipyards have no presence

★ Differentiate ourselves and continue to receive orders with superior design and construction technology

- With a track record in the construction of special purpose vessels (such as ocean surveying vessels, research vessels, training ships, and cable layers) aim to build high-performance, high-quality vessels based on accumulated design and construction knowhow and overall technical skills.

- With order for this latest exploring seabed resource vessel from PGS, establish MHI's position in the vessel market in both Japan and overseas, and achieve further differentiation by continuous orders.

(FPSO: Floating Production Storage and Offloading
PSG: Norwegian leading company in marine seismic and reservoir data acquisition, processing and analysis/interpretation services (Petroleum Geo-Service ASA))
6. Upgrading Technical Development Capabilities

Expanding in response to tighter environmental regulations

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<tbody>
<tr>
<td>Ballast water treatment system mandatory installation</td>
<td>↑ For ships built between 2009 and 2011 (Ballast tank less than 5,000 m³)</td>
<td>↑ For all ships built from 2012</td>
<td>↑ For ships built before 2008 (Ballast tank from 1,500 m³ to 5,000 m³)</td>
<td>↑ For all ships</td>
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★ Ballast water treatment system
- Team specialize in Ballast water treatment system retrofitting set up in Yokohama Dockyard on April 1, 2011.
  In preparation for work with magnitude of 1,000 ships annually when regulation comes into force.
- Order received in May 2011 for Ballast water treatment system installation work on ship in service.

★ LNG re-gasification / Boil off gas re-liquefaction device
- Sales activities being made to receive orders for remodeling of existing LNG carriers (remodeling into offshore liquefaction facilities, installation work of re-liquefaction device)
  [Boil off gas: Gas generated from natural thermal input during transportation of LNG]

★ Engineering support
- Deploy engineering support to other shipyards. With sales of drawings and technical supervision, aim for global business deployment.

★ Packaged sales with marine products
- Develop a system to sell marine products, including marine propulsion and the latest environmental technology as an engineering package in collaboration with MHI’s Power Systems.
7. Influence of the Great East Japan Earthquake

Effects of the earthquake on the Shipbuilding & Ocean development business and disaster recovery support

◆ Effects of the earthquake on the Shipbuilding & Ocean development business
- Shipyards for Shipbuilding & Ocean development are located in western Japan (Nagasaki, Kobe, Shimonoseki) and no damage was sustained to plant facilities. Although there were some delays in the delivery of materials and goods from affected suppliers, problems were minimal and have already been resolved.
- There has been an increase in ship repairs (repairs for damage by tsunami) at Yokohama Dockyard in the short term.
- Increased demand is expected for work barges used for port reconstruction and LNG carriers accompanying the increased demand for LNG.
- With the delay in replacement plans for ferries operating the north ocean route, there are concerns about a fall in demand for ferries.

◆ Approaches for disaster recovery

Converting “Mega-Float” at Yokohama Dockyard into storage facility holding water contaminated with low-level radiation, for Fukushima Daiichi Nuclear Power Plant.

- With TEPCO’s request to convert “Mega-Float” into a water storage barge, work started on April 7.
- Confirmation and inspection of strength and soundness, addition of piping and other water storage facilities, installation of towing and loading equipment were conducted in about one month.
- All work was completed and confirmed on May 6, and “Mega-Float” was delivered to a towing contractor arranged by TEPCO on May 15, offshore Honmoku, Yokohama.
- It arrived at Fukushima Daiichi Nuclear Power Plant on May 21.

<Mega-Float” Profile>
(Originally used as “Shimizu Port Ocean Fishing Park,” owned by Shizuoka City, handed over to TEPCO)
Length 136 m x width 46.22 m x depth 3.0 m
Water holding capacity: approx. 10,000 tons (draft 2.5 m)
* “Mega-Float”: Ultra-large floating structure (Ultra-large artificial island)
8. Summary

Carry out the business strategy of 2010 Business Plan with a straightforward approach, and achieve the target by boosting competitiveness.

- Steadily carry out the strategies of the 2010 Business Plan (upgrading the business operating structure and upgrading and accelerating technical development)

- No change in strategies to turn the large projects and products in new fields, such as cruise ships, ocean development, and gas carriers, into the core business of MHI

- Differentiating ourselves from our competitors with the acceleration of development in energy saving and environmental technology and the rapid response to customer needs
  And aiming to quickly expand orders and reform income and cost structure
Forecasts regarding future performance in these materials are based on judgment made in accordance with information available at the time this presentation was prepared. As such, those projections involve risks and insecurity. For this reason, investors are recommended not to depend solely on these projections for making investment decisions. It is possible that actual results may change significantly from these projections for a number of factors. Such factors include, but are not limited to, economic trends affecting the Company’s operating environment, currency movement of the yen value to the U.S. dollar and other foreign currencies, and trends of stock markets in Japan.