Shipbuilding & Ocean Development Business Operation

June 6, 2011

Hisashi Hara
Director, Executive Vice President,
General Manager,
Shipbuilding & Ocean Development







1.	Review of FY 2010	3
2.	Shipbuilding & Ocean Development Business Environment	4
3.	Target Figures for FY2011 Onwards	7
4.	Strategies for Achieving the 2010 Business Plan	8
5.	Upgrading the Business Operating Structure	9
6.	Upgrading Technical Development Capabilities	11
7.	Influence of the Great East Japan Earthquake	17
8.	Summary	18





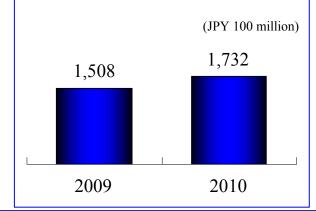
Orders received

- ◆ 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

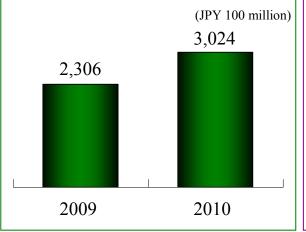


Net Sales

- **◆** Up 71.7 billion yen year on year
- Ship deliveries: 23 ships (+3 year on year)

(Breakdown of deliveries)

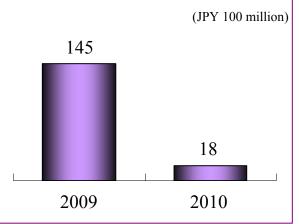
Container ship	11 ships
Car carrier	4 ships
LPG carrier	3 ships
Module carrier	2 ships
Ferry	1 ship
RO-RO	1 ship
Submarine	1 ship



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.



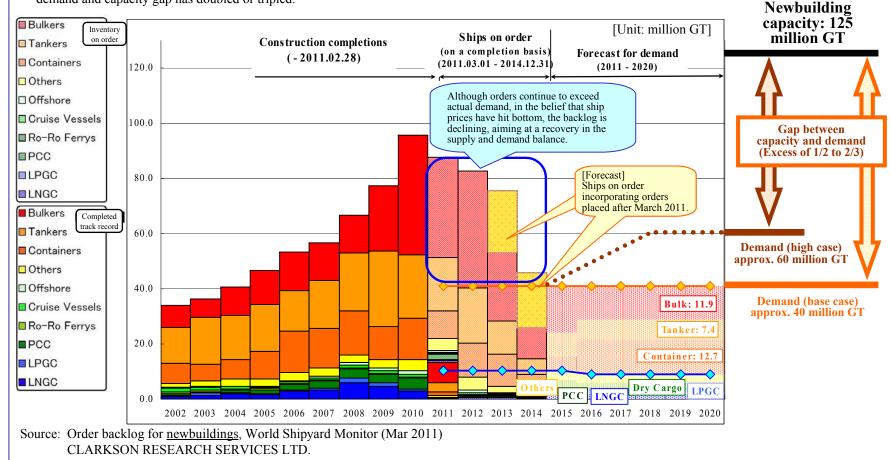
2. Shipbuilding & Ocean Development Business Environment



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.



2. Shipbuilding & Ocean Development Business Environment



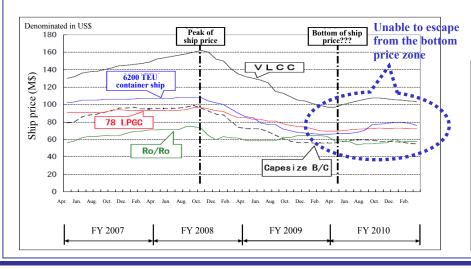
2) Trends in ship prices, exchange rates and steel material prices

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.

[Bunker: fuel oil for marine use]

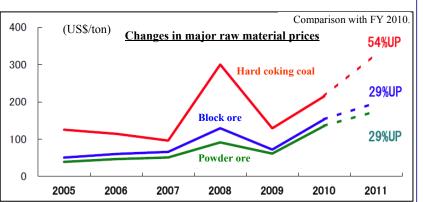


♦ Changes in exchange rates

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.



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.

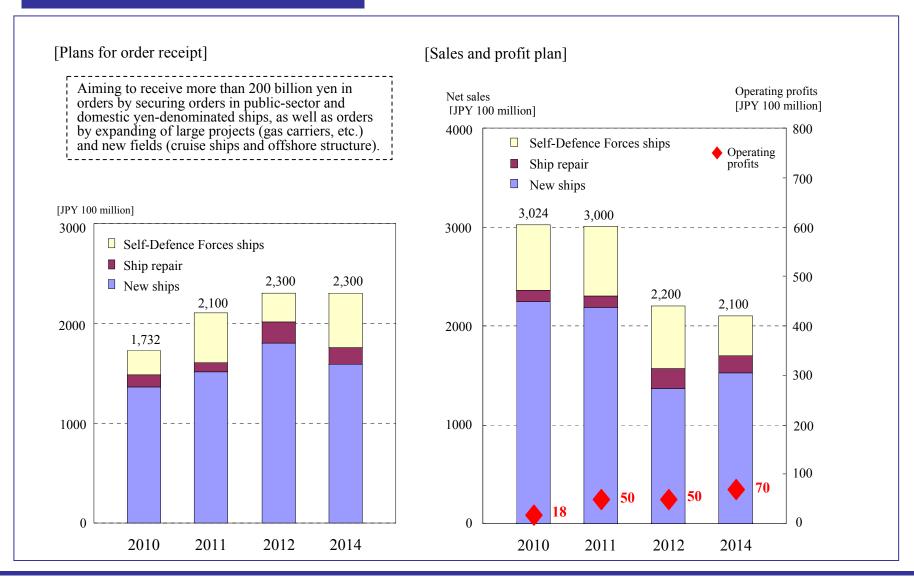
Regarding LNG carriers, interest has picked up, fueled by expectations that LNG demand will rise with higher demand in emerging countries and the substitution of gas power generation to offset the suspension of nuclear power plants. This market requires close monitoring.

- ◆ 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



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 To be core business of MHI \rightarrow Although there are delays in some projects, we have **Net sales** [Product lineup] no change in this policy. - Integration with other MHI products and collaboration with specialized ☐ Large project, products in new manufacturers to be accelerated. - Cruise ships: Establish one-ship-a-year shipbuilding structure (FY 2011 order Regular commercial ships Large PJ, products Net sales (ocean ships) in new fields (JPY 100 - Ocean development: Orders received for 2 PGS ships in FY2010. ☐ Yen-denominated domestic million) - LNGC / LPGC: Business picking up with an increase in gas demand ☐ Government ships and self-3.000 (enhancement of fuel power generation as an alternative to nuclear power defense force ships Cruise ships generation and soaring demand in emerging countries). Repair, remodeling and Order received for 1 LNGC (UST) and 3 LPGC in FY 2010. engineering Ocean 2,500 development C/S etc LNG/LPG (Orders at low price are expected to continue for carriers some time) 2,000 - Step up cost-cutting activities and construct a sustainable system → Selective order taking using energy conservation as our advantage. **Enhancing brand power** 1.500 (We have already developed MALS-14000CS) (Developing eco-ships Regular commercial PCC etc. ships (ocean ships) and expedited (Demand expected to recover in near future) materialization of 1,000 Accelerate the development of superior energy saving and fuel efficiency technology customer needs) Yen- denominated Orders received for 2 PCTC in FY 2010 domestic ships 500 MALS: Mitsubishi Air Lubrication Secure orders based on our technological System edge and expand share PCC: Pure Car Carrier Orders received for 1 ferry and 1 RORO in PCTC: Pure Car and Truck Carrier FY 2010 RORO: Roll-On/Roll-Off Ship Government ships 2009/2010 2014 and self- defense Average Strive to continuously enhance naval technologies. Order received for 2 patrol force ships vessels in FY 2010. Respond to tighter environmental regulations, expand orders for repair and Repair, remodeling and engineering remodeling.

5. Upgrading the Business Operating Structure



1) Construction of a sustainable system

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

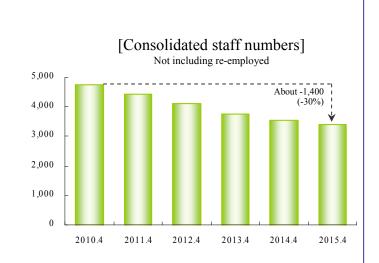
- **♦** Construction of a sustainable system
- Accelerating the establishment of effective plant operation system and reduction of fixed costs
 - Reconstruct production system (withdrawal of commercial ship building at Kobe Shipyard ~ 2012/06), Concentrate commercial ship building at Nagasaki Shipyard and Shimonoseki Shipyard.

Continue to implement partner and supplier support service.

- Diminish operation staff size by suppressing recruiting. $(2010/04 \rightarrow 2015/04: about -1,400)$
- 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.



5. Upgrading the Business Operating Structure



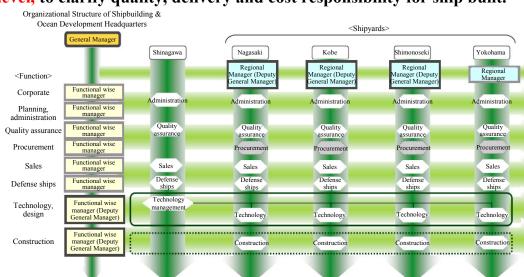
2) Rebuild the organization to complement the strengthening of the business operation system (Company-wide reform)

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.





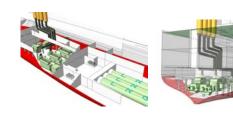
1) Upgrading technical development capability

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

	Davidanment	Energy saving / eco-friendly technologies						
	Development target	Hull Form	Air lubrication	Plant	Waste heat recovery	Secondary battery	Other	
Super energy saving PCTC	50% energy saving	• Tunnel stern	•	▲ CRP-Pod	● MEET-1	•	Air resistance reduction	
LNG fueled ferry	Differentiating technology	• Tunnel stern	•	● DFE	A	ı	LNG tank	
LNG fueled VLCC	Differentiating technology	-	•	SSD-Gi UST	•	ı	LNG tank	
MALS- 14000CS	35% energy saving	New twin shaft	•	Twin engine twin shaft	● MEET-1		Stern exhaust	
Energy saving B/C	40% energy saving	_	•	-	A	_	_	

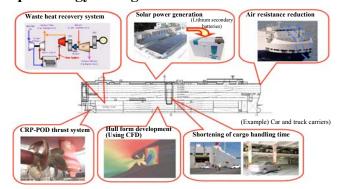
LNG fueled ferry





● Standard ▲ Option

Super energy saving PCTC



MALS-14000CS



(MEET: Mitsubishi Marine Energy & Environmental Technical Solution-System)



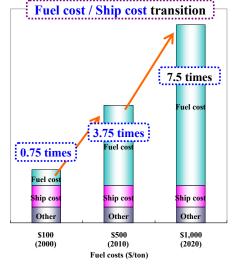
2) Energy saving and better fuel oil consumption technology

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.



		■ IFO 380 ■ MGO premium ■ CO2 surcharge
	2000 -	
	1800 -	A CO ₂ emission trading may start in 2013. Costs are based on IPCC upper estimates.
	1600 -	
	1400 -	───
on	1200 -	┼────────────────────────────────────
JSD / ton	1000 -	
ISI	800 -	In 2020, SO _x -limits for fuel apply globally. MGO quality demands a premium (at least 50% of HFO price).
	600 -	▗▗ ▔ ▗ ▀▊▊▊▊▋▋▋▋▋▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍▍
	400 -	┩╸╸ ╀╀╀╀╀╀╀╀╀╀╀╀┼┼┼┼┼┼┼┼┼┼┼┼
	200 -	Price of HFO will continue to rise in the long run (2.5% pa)
	0 -	Price of APO will continue to rise in the long run (2.5% pa)
	2008	``a'^a'``a'``a'`a'`a'`a'`a'`a'`a'`a'`a'`a'`a'

Forecast fuel cost (GL survey)

		Fuel cost	Fuel cost savings (million US\$)					
Year		(\$/ton)	MALS-14000CS (35% energy saving)	Energy saving B/C (40% energy saving)				
1	2014	740	8.69	2.72				
2	2015	770	9.04	2.83				
3	2016	810	9.51	2.97				
4	2017	850	9.98	3.12				
5	2018	880	10.33	3.23				
6	2019	920	10.80	3.38				
7	2020	1,300	15.26	4.77				
	A	ggregate value =	US\$ 74mil.	US\$ 23mil.				
		NPV =	US\$ 62mil.	US\$ 19mil.				



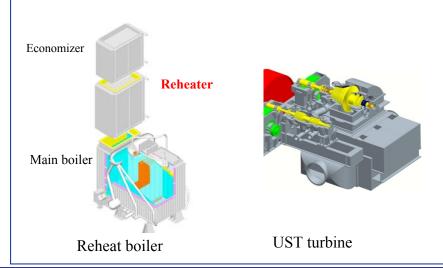
3) Upgrading environmental technology and propeller plant efficiency

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)



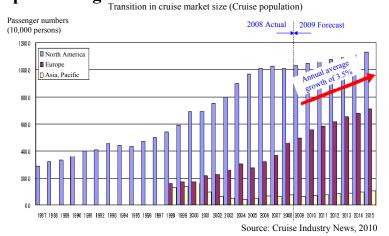
4) Cruise ships

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).

Occupancy: Percentage of actual number of passengers based on passenger capacity

calculated at two passengers per room.

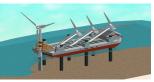
Equal footing: To equalize conditions for competition



5) Ocean development

- **◆ LNG FSPO:** Continuing approach (target orders in FY2013)
- ◆ Offshore Wind turbine installation vessel: Continuing approach (target receiving order in FY2013)



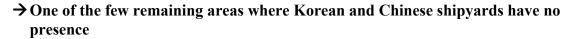


[Image of offshore wind turbine installation vessel]

♦ Seismic vessel: Orders received for the latest three dimensional (3D) marine seismic [Image of LNG - FPSO] 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)

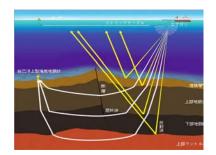




- With a track record in the construction of special purpose vessels (such as ocean surveying vessels, research vessels, training ships, and cable layers) aim to build high-performance, high-quality vessels based on accumulated design and construction knowhow and overall technical skills.
- With order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



[Completion image of 3D seismic vessel]



[Conceptual image of sea bottom resource exploration]

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

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ballast water treatment system mandatory installation		ouilt between 20 Ballast tank less m³)		† For all ships	s built from 201	2	For ships be 2008 (Ballas 1,500 m³ to	st tank from	† For all ships	3

★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.

Ballast water treatment system



★ 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



Our Technologies, Your Tomorrow

