

# **MHI REPORT 2016**

MITSUBISHI HEAVY INDUSTRIES GROUP INTEGRATED REPORT For the Year Ended March 31, 2016 MITSUBISHI HEAVY INDUSTRIES GROUP



## Creed

We strongly believe that the customer comes first and that we are obligated to be an innovative partner to society.

We base our activities on honesty, harmony, and a clear distinction between corporate and personal life.

We shall strive for innovative management and technological development from an international perspective.

# Corporate Identity Statement



This corporate identity statement represents our intention to "continuously provide an assured future where people can live safe, secure, and enriched lives through technologies that can excite people and passion as a manufacturer for the sustainability of the earth and humankind."

# MHI Group CSR Action Guidelines

MHI strives to move the world toward a more secure future. Through our technology, our business practices and our people, we:

## Care for the planet

• We are eco-conscious, and engineer environmentally-friendly technologies that improve sustainability and protect the Earth

#### Create a more harmonious society

• We embrace integrity and proactive participation to solve societal challenges

### Inspire the future

• We cultivate global talent who share a vision and desire to move the world forward for generations to come

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## Corporate Aspiration

A global group with the vision to mold an innovative and agile organization that leverages our dedication to technological advancement and engineering excellence in order to deliver solid growth amid constant changes and make a lasting difference in the communities we serve

# MHI Launches New Group Statement and Tagline

In May 2016, the MHI Group unveiled a new Group Statement and tagline, "MOVE THE WORLD FORWARD," which captures the unique value and vision the Company brings to the world today. The statement clarifies the role the Company plays in today's world and the value that it provides to customers globally. As the MHI Group strengthens its communications function at a global level, it aims to deepen understanding of the Group in markets worldwide. Embodying the Group statement in business activities in regions around the world will enable us to realize our corporate aspiration.

The Group statement expresses the contribution that the MHI Group makes to the world by leveraging the full range of our technologies across our unique business portfolio in land, sea, air, and space to solve complex, global-scale challenges we face in the world today, and into the future.

The tagline advocates that we to "Move the world forward" together with our global customers and local communities toward a more sustainable future.

#### Tagline

# MOVE THE WORLD FORW ► RD

## Group Statement

"At Mitsubishi Heavy Industries Group, we channel big thinking into solutions that move the world forward – advancing the lives of everyone who shares our planet.

By bringing people and ideas together as one, we continue to pave the way to a future of shared success.

Passionately finding new, simpler and sustainable ways to power our cities, improve infrastructure, innovate manufacturing and connect people and businesses around the globe with ever-increasing speed and efficiency.

This is the power of true harmony. This is what moving the world forward is all about. This is today's Mitsubishi Heavy Industries Group."

#### Structure of Information Disclosure

*MHI Report* contains information that is important to understanding MHI. More detailed information is available on our website.

http://www.mhi-global.com/index.html



#### **Reference Guidelines**

International Integrated Reporting Council (IIRC)

- International Integrated Reporting Framework
- Global Reporting Initiative
- Sustainability Reporting Guidelines (Fourth Edition, or G4)
- Ministry of the Environment of Japan
- Environmental Reporting Guidelines (2012 version)

#### **Reason for Publishing This Report**

The MHI Group conducts management based on its firm will to realize its corporate identity statement, "Our Technologies, Your Tomorrow."

To enhance the understanding of our philosophy among shareholders, investors, and a host of other stakeholders, from fiscal 2013 (the fiscal year ended March 31, 2014) we have integrated financial information, including management strategy and operating performance, with non-financial information related to the Group's environmental and social activities into this *MHI Report*.

#### Forward-Looking Statements

Forecasts regarding future performance in these materials are based on judgments made in accordance with information available at the time this presentation was prepared. As such, these 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. Also, the results projected here should not be construed in any way as being guaranteed by the Company.

# PROGRESSING ALONG WITH SOCIETY



At the Kobe Shipyard & Machinery Works, we built the Mitsubishi Model A-1, Japan's first mass-produced passenger car. We embarked on the development of transportation equipment, such as steam locomotives and aircraft, as well as internal combustion engines.

1910s

#### 1880s

The Company's history dates back to 1884, when we entered the shipbuilding business by taking a lease on the government-owned Nagasaki Shipyard. We built up a track record in shipbuilding, constructing Japan's first steel ship and large cruise ship.



As Japan entered World War II, our leading-edge technologies were applied toward the production of military equipment, startling the world with the Zero Carrier Fighter aircraft and the *Musashi* battleship.

1930s



Management Strategies

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation



More than 130 years have passed since the MHI Group's founding in 1884. In accordance with *Sankoryo*, a set of three principles that define the spirit of the Mitsubishi Group, we have always pursued leading-edge technologies. Through manufacturing that applies these technologies, we have built the foundations of society and industry in every era and supported the modernization of Japan. Now active in fields that span the globe, we are striving to contribute to progress of a more broad-based society, lending the strengths of the MHI Group to resolve complex, global scale issues such as rapid urbanization in emerging countries, infrastructure upgrades in advanced countries, and climate change and other environmental problems.

Through its broad-based involvement in fields spanning land, sea, air, and space, the MHI Group has the strength to fully understand customer needs, local communities, and environmental conditions, and then to formulate and integrate solutions. By leveraging these integration capabilities, we will strive and pursue innovation to remain an organization considered necessary by stakeholders around the world.

Hideoki G

Hideaki Omiya Chairman of the Board

Billions of yen 4,000

# MANAGEMENT REFORM IN RECENT YEARS: SUCCESSES AND CHALLENGES

Affected by the stagnant growth of the Japanese economy and the global financial crisis from 2007, our 2010 Medium-Term Business Plan called for us to embark on full-fledged management reform to achieve global growth. Building on the successes of measures we pursued steadily under the 2010 and 2012 Medium-Term Business Plans, net sales grew and profitability increased. Furthermore, since fiscal 2010 our cash flow has increased significantly. In the six years from fiscal 2010 through fiscal 2015, we amassed cumulative free cash flow of more than



# 1 Expanding Our Business Scale

In order to win out in competition against megaplayers around the world, we are making maximum use of our management resources and expanding our business scale by promoting business alliances, mergers, and acquisitions.

# 2 Increasing Profitability and Capital Efficiency

By clarifying the profitability of each business through thorough selection and focus, we are improving capital efficiency and promoting cash flow management.

# 3 Transforming the Corporate Governance System

Aiming to establish corporate governance appropriate to a global enterprise, we are separating the business execution and supervisory functions while reinforcing both.

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

¥700 billion. We expect to generate an additional ¥130 billion in free cash flow in fiscal 2016.

At the same time, we have pushed forward with reforms to our corporate governance system to make corporate functions more efficient and our decision-making more expeditious and transparent.

However, our strategies for global growth have entailed increases in risk that we had not yet faced, some of which are being materialized. A large cruise ship project aimed at being a high-value-added business has generated cumulative losses of approximately ¥230 billion since fiscal 2013. Also, development is exceedingly protracted in our Mitsubishi Regional Jet (MRJ) business—the first Japanese development of a passenger jet aircraft in half a century.

Furthermore, the new medium-term business plan that we started in 2015 has faced headwinds, such as slowing economic growth in China which has resulted in global oversupplies and sluggish crude oil prices. Macroeconomic growth has accordingly slowed, particularly in emerging countries.



Transitioned to a company with an Audit and Supervisory Committee



 (FY)
 2013
 2014
 2015
 2016
 2017

 2012 Medium-Term Business Plan
 2015 Medium-Term Business Plan
 2015
 2015
 2017



Introducing a strategic business evaluation system and business domain structure has made it possible to build a framework for allocating management resources from a companywide perspective, instead of a system whereby business viability and risk assessments were handled by facility-level organizations. From fiscal 2016, we have decided to move to a system that will enable us to take on appropriate risks in the interest of growth. This framework will bring strategic, financial, and technological facets under the respective management umbrellas of the CEO, CFO, and CTO, enabling us to manage risks and pursue growth strategies from a companywide viewpoint. We will limit executive directors to these three chief officers, thereby pushing ahead with our separation of the supervisory and executional functions.

For specific strategies and measures, see the President's Message on page 8, the CFO's Message on page 16, the CTO's Message on page 20, and Corporate Governance on page 46.

Our Path to Sustainable Growth

Management Strategies

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

Although some risks have materialized and the business environment is deteriorating, our orders have accumulated steadily in recent years. Due to this factor and the nature of our business, we expect to generally meet the performance targets we set out to achieve during the term of our 2015 Medium-Term Business Plan. Against this backdrop, we are now concentrating on building the foundations to support our next phase of full-fledged growth.

To ensure that we do not miss out on major growth opportunities when the global economy rebounds, we believe our chief point of focus needs to be on honing our engineering skills, which are the core of our competitiveness. Another target will be to reinforce risk management. We will augment our ability to verify risks at the management level, as well as our ability to resist these risks and resolve them once they have materialized.



We have established a Business Risk Management Division that reports directly to the CEO. We must undertake certain business risks in order to grow, and this division engages in efforts to prevent them from materializing. At the same time, the division is reinforcing our ability to resolve risks in the MRJ business and other future growth fields, as well as risks that have already materialized, such as in the cruise ships business. Meanwhile, our CFO is taking the lead to further strengthen our financial foundation, and our CTO is working to enhance our technological responsiveness on large-scale projects.

# Cultivating the Driving Force for Growth

The EPC\* capabilities we have cultivated through petrochemical plant projects and in the transportation systems business are key to differentiating ourselves from European and U.S. competitors. Our CEO is spearheading our global development, our CFO is masterminding the allocation of capital into growth fields, and our CTO is leading technological innovation through our shared technology framework.

\* Engineering, procurement, and construction









# Results for FY2015 and Targets of 2015 Medium-Term Business Plan





Profit Attributable to Owners of Parent / ROE Billions of yen



Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

# Please watch the video on the website below. www.mhi-global.com/finance/mr2016

# Our 2015 Business Plan Is Generally on Course, but We Face Challenges in Our Cruise Ship Construction Business.

In April 2015, we launched the MHI Group's 2015 Medium-Term Business Plan spanning fiscal 2015 to fiscal 2017. Since its creation, we have implemented a slate of measures to achieve the goals set out in the plan. One year in, we have made steady progress overall, and our drive toward business scale expansion and improved profitability is more or less proceeding as planned. In fiscal 2015, however, our large cruise ship construction project again required more time and resources than we had originally assumed. This resulted in the booking of an extraordinary loss for the term, exceeding ¥100 billion, which caused our net income to finish substantially below target. Compounding this, there were a number of changes in our business environment during the past year, including a slowdown in the global economy and increased competition. In response, we took steps to reinforce our 2015 Medium-Term Business Plan by introducing additional measures targeting enhanced

risk resilience and faster post-merger integration (PMI) in February 2016.

MHI traces its origins to shipbuilding, and it has a strong track record in the construction of cruise ships. The construction of cruise ships for the AIDA Cruises brand resulted in what I believe is a truly outstanding vessel. However, the difficulties we experienced during its construction were caused by technical shortcomings in producing the hotel-class accommodation and entertainment facilities that the project required. The specifications of cruise ships have advanced significantly in recent years, and MHI did not objectively evaluate its corresponding technical and comprehensive management capabilities for the construction project. As a result, we made various decisions using outdated parameters. Any company that aims for ongoing development must take up new challenges-there is nothing wrong with stepping into uncharted waters-but in this case, there were many areas that now call for serious review and the correction of shortcomings identified along the way. For example, our approach to decision making and the lack of a framework for making sober, objective evaluations of overall technological and management capabilities will require consideration. In response, we are now doing our utmost to solidify the required risk management mechanisms.

### Measures of 2015 Medium-Term Business Plan

Exioting
Promote domain-based targets with clear aims
and strategies for their achievement

- Strategically reconfigure the product mix
- Strengthen relatively superior products and technologies
- Reform and create new businesses and business models for the next generation
- Strengthen the technology base and innovate
- Develop more advanced business processes and strengthen human resources
- Reform the corporate governance system

#### Additiona

- Accelerate independent management and PMI
- Reduce operating capital
- Pursue optimum efficiency
- Asset management
- Radically reconsider risk management structure
- Establish shared technology framework

# Seeking Stronger Risk Management to Support the Next Stage

A core aspect of our response to these shortcomings is the launch of the Business Risk Management Division, under my direct oversight, which will strengthen our risk management capabilities. The new division incorporates both a Risk Management Department and a Risk Solutions Department. The Risk Management Department is charged with addressing business risks at the corporate level and preventing risks at the process level. The Risk Solutions Department will primarily focus on devising solutions and supporting settlements after serious risk incidents have occurred.

The reason the new Business Risk Management Division was placed under the direct oversight of the CEO is because risk judgments are an inseparable component of our aspiration to grow in business scale. Determining which risks to take on in order to achieve growth is the very essence of business decision making, and this is an issue that should be decided by top management. In the days when the business environment offered robust growth opportunities in Japan, perhaps it was not necessary to take on such significant risks. Today, however, if the MHI Group is to thrive in the future, it is inevitable that we must take up new challenges, such as creating new businesses or undertaking projects for overseas clients. I believe it is therefore absolutely necessary for the MHI Group to pursue a new type of risk management appropriate to this situation, using as reference points the risk management formats adopted by overseas companies, and learning from previous cases and how they were dealt with.

Our experiences from the large cruise ship construction project, combined with the experience we have gained in resolving related issues, deepened our understanding of risk management. However, given the magnitude of the loss we incurred, this series of events simply cannot be written off as a "worthy lesson." Fortunately, we have been able to get through this process thanks to a strong financial footing achieved through various initiatives implemented in recent years. These include enhancement of our earning capacity, for example, and a transition to cash flow management. Had we been unable to cope in this way, the impact of the cruise ship issue on the MHI Group could have been extremely negative. We must therefore reflect closely on this incident as well as other substantial loss-generating incidents in our past and apply lessons learned to the creation of a new, more risk-resilient organization. Regarding our cruise ship construction business, we established a business evaluation committee in April 2016. The committee is now undertaking discussions on overall strategies for our commercial ship business, including determination of whether or not we should continue our cruise ship construction operations.



Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation



# Accountability Is Fundamental to Good Governance

Regarding risk response and business decisions, the functions of the Board of Directors meetings have changed considerably during the past few years. Previously, discussions made prior to voting tended to be somewhat lacking in substance. Now, more time is allotted to actively explaining and debating management policy. This includes our strategies, our approach to given issues, the criteria on which decisions have been reached, our business status, objective analysis, and so on. What I would like is for our outside directors, who serve in a supervisory role, along with our own members of the Audit and Supervisory Committee, to be informed of management's views earlier on and to be able to engage in dynamic discussions from a variety of perspectives. My hope is for discussions and decisions of a more substantial nature and not mere perfunctory proceedings.

Regarding the makeup of the Board of Directors, we have already reduced the number of internal directors and increased the number of outside directors. Most recently, at our general shareholders meeting in June we decided to release the CEOs of the various domains from their appointments as directors so that they could devote themselves exclusively to business management as executives. As a result, the internal members of the Board of Directors now consist of the chairman, two members of the Audit and Supervisory Committee, and, from the executive side, the CEO, CFO, and CTO—six in total. The number of outside directors now stands at five, close to half the entire Board membership. The number serving in a supervisory role is eight, well above the three members from the executive side. In this way, our management supervisory functions have been strengthened further.

I believe governance is something that must change continuously, to be in step with the changing demands society makes of companies and their purpose. At MHI, we have a responsibility to develop technologies critical to many industries. However, as our business operations expand globally, we shoulder responsibilities that are increasing in breadth and complexity. To fulfill these responsibilities in a manner that befits a global corporation, we are putting into practice the 10 principles of the UN Global Compact relating to human rights, labor, the environment, and anticorruption. Above all, I believe that the foundation of good governance exists in providing honest, sincere, and convincing explanations of our business processes, their results, and their impact across the full spectrum of our stakeholdersincluding shareholders, customers, business partners, affiliates, and suppliers. To achieve such good governance, our aim is to solicit a wide range of opinions at Board of Directors meetings concerning the MHI Group's role in society and social values. We will then share the views debated with all employees and convey this information to our external stakeholders. These efforts toward greater transparency will surely also lead to stronger risk management.

For details about MHI's efforts to enhance transparency in corporate governance and reinforce risk management, please see the roundtable discussion with the Company's president and outside directors on page 42.

# Competing Globally Requires Us to Utilize Partnerships and M&A as well as Our Own Unique Strengths

Taking firm action to strengthen our risk management does not mean we are shunning an aggressive business stance. We are vigorously driving our growth strategies forward. We currently have a robust backlog of orders and expect more to come, so we are confident that by strengthening our risk management and steadily accelerating PMI (as I will discuss below), we should still be able to achieve the results targeted in our 2015 Medium-Term Business Plan, even if some changes occur in the business environment. We are setting our sights on the years beyond that. Our main pillar of growth will be the subsequent business plan, and our Mitsubishi Regional Jet (MRJ) business is making steady progress in terms of both development and preparation for mass production, with delivery of the first aircraft expected in 2018.

Once that is accomplished, in order to achieve further growth we must then strengthen business areas in which we excel, boost our presence in already active regions, and consider new businesses to add to our portfolio after the MRJ. Two factors will be important in that pursuit.

First, instead of holding resolutely to the determination to do everything ourselves, we must pursue business partnerships and M&A, implementing strategies tailored to the parameters of each region or business area. In seeking to enter new realms, there are limits to how well we can compete relying on our own capability alone. We

may also lack the ability to independently make appropriate strategy decisions. For these reasons, we will need to seek out the best partners to achieve our goals and make active use of their expertise.

Second, we will need to make use of strengths that will enable differentiation from our competitors. Given that our major competitors are of a very large scale, there can be no denying that if we attempt to compete against them directly in the same arena, we will experience difficulties. What we must therefore do is arm ourselves with unique business capabilities-advantages that we possess and our competitors lack-namely, engineering or engineering, procurement, and construction (EPC) encompassing diverse technologies and products. Growing our engineering and EPC functions further, and applying our strength in integrating them in line with the diverse needs of each region or market will be vital to our future development. Our basic strategy will be to strengthen the MHI Group's unique capabilities in engineering, build alliances and pursue M&A, and strive for global expansion that is highly attuned to local needs.

To put these plans into practice, we will need to develop the human resources capable of forming fruitful partnerships in new markets around the world. Also, to bolster the risk management capabilities throughout the Company, it will be vital to have our employees gain extensive experience, starting early in their careers. Traditionally, MHI has focused on human resource development through on-the-job training, but to foster employees who can work at a global level, we must also consider adopting a more methodical approach to this process.

To follow progress on the MRJ business, please see the business segment overview portion of our explanation of the Commercial Aviation & Transportation Systems Domain on page 36.

# Growth Will Be Driven by Three Major Joint Ventures (JVs)

We are now placing particular focus on accelerating PMI at our three core JV operations: Mitsubishi Hitachi Power Systems, Ltd. (MHPS), Primetals Technologies, Ltd., and Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings, Ltd. (M-FET). We view these three JVs as vital elements to the MHI Group's business scale and earnings. Currently, we are promoting their swift and independent management, in line with their business characteristics. All three JVs already occupy leading market positions globally in their respective business areas. We anticipate that by further boosting efficiency through organizational restructuring, and through generating synergies in technology and expertise, they will drive the MHI Group's future growth. In the final year of the 2015 Medium-Term Business Plan, we are projecting that collectively these three companies will account for roughly 60% of our consolidated net sales and operating income.

Reflecting the economic slowdown in China, the resulting economic stagnation in resource-rich countries and Japan and Europe, and the United Kingdom's withdrawal from the European Union, the global economic picture today is becoming increasingly opaque, and the business environment surrounding the MHI Group is becoming more severe. As a business, we must nonetheless seek sustained growth and expansion in the face of these headwinds. By responding effectively and swiftly to such changes, and by building up a position of superiority over our competitors, we can survive amid global competition. I believe we need to view these changes not as a threat but as an opportunity—an opportunity that compels us to devise flexible measures for dealing with these events.

MHPS' strategies are described in the business segment overview section for the Energy & Environment domain on page 34. On page 40, the business segment overview for the Machinery, Equipment & Infrastructure domain offers an explanation of strategies for Primetals Technologies and M-FET.

#### Promoting Growth at Three Independently Managed JVs

Business domains Wholly owned Group companies and consolidated subsidiaries Independently managed JVs



Operating Income Billions of yen

# Making a Social Contribution through Business to "MOVE THE WORLD FORWARD"

In our drive toward becoming a fully global company, and in our efforts to compete with overseas rivals, I have come to keenly sense the need for greater name recognition. Although we are known to a significant extent within the domestic market, the name "MHI Group" is relatively unfamiliar internationally-a fact that must surely disadvantage our sales initiatives. We need to win a greater understanding overseas of what the MHI Group does and what our management stance is, and thereby attract new customers from these overseas markets. In May 2016, we created a new Group Statement and tagline that we are now using in our overseas advertising campaigns and communications activities. I recently had the occasion to visit New York, where I met with many leading journalists. When I talked to them about the strengths

of the MHI Group and explained the social contributions we have made, their response was quite favorable. Going forward, I will continue visiting other parts of the world to make our name and activities more widely known.

Throughout the years, we have continued to hone our technology-the foundation on which social infrastructure is built-in accordance with the shifting needs of the times. I am proud to say that through a deep understanding of the demands of our customers and stakeholders, we have consistently and seamlessly integrated our technologies, enabling us to create practical solutions that contribute to social progress. Our Group Statement defines the role we should play and the values that we provide to customers the world over. Our tagline, "MOVE THE WORLD FORWARD" encapsulates what we do: provide value and spur progress in the world. As a key principle of our corporate aspiration, the MHI Group's raison d'être is to contribute to global development and to keep growing together. Looking ahead, we will continue to ensure that our business is helping move the world forward into a safe, secure, and prosperous future.

# ► Board of Directors (As of July 1, 2016)



Director, Executive Vice President (CTO\*, President and CEO, Energy & Environment, Head of Value Chain Headquarters)

Michisuke Nayama

Director, Executive Vice President (CFO\*<sup>2</sup>, Head of Business Strategy Office) Masanori Koguchi President and CEO<sup>+1</sup> Shunichi Miyanaga Management Strategies

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Director, Full-time Audit and Supervisory Committee Member Director, Full-time Audit and Supervisory Committee Member Audit and Supervisory Committee Member Nobuo Kuroyanagi Eiji Isu Tatsuhiko Nojima (Senior Advisor, The Bank of Tokyo-Mitsubishi UFJ, Ltd.)

Chairman of the Board Hideaki Omiya

Director, Audit and Supervisory Committee Member Christina Ahmadjian (Professor, Hitotsubashi University Graduate School of Commerce and Management) \*1. CEO: Chief Executive Officer \*2. CFO: Chief Financial Officer \*3. CTO: Chief Technology Officer



CFO's Message

Strengthening Cash Flow and Securing Investment Capital for Growth in Preparation for Opportunities Ahead

Masanori Koguchi Member of the Board, Executive Vice President and CFO

#### FY2015 Cash Flow



Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

# **Basic Financial Strategy Policy**

The MHI Group is implementing a raft of measures through its 2015 Medium-Term Business Plan to remain ahead of the pack and sustain global growth. We aim to become a highly profitable company with a business scale exceeding ¥5 trillion. To do this, we need to define clear growth strategies while preparing the necessary resources to achieve them. At the same time, we must deal with ongoing risk and set aside funds to manage uncertainties related to growth-oriented investments. In terms of financial strategy, our fundamental policy is to meet funding requirements using cash flow generated by our business activities. In order to drive growth forward—and to effectively respond to risks—we must maintain and further strengthen our current financial structure. Maintaining sound finances through stable cash flow leads to greater efficiency across our business, meaning enhanced competitive strength. I believe improving our cash flow will bolster business processes and ultimately become an important indicator of improvement in operating results.

Based on this approach, I am focusing on maximizing cash flow while allocating management resources appropriately.

# Business Portfolio Enhancement through Our Strategic Business Evaluation System

Building an appropriate business portfolio is essential to the MHI Group's steady and continuous growth. To this end, we launched a strategic business evaluation system in 2010, dividing our strategic business units (SBUs) into four categories — "Grow/Maintain," "Reform," "Downscale/Withdraw," and "New" — based on an evaluation of their profitability, financial soundness, and business viability. We then allocate management resources based on the category. In fiscal 2015, ¥72.7 billion of cash flow generated by SBUs in the "Grow/Maintain" category was reinvested to achieve further growth. At the same time, ¥157.2 billion was returned to the Company.

In the six years since this system was introduced, management resources have been heavily allocated toward 'Grow/Maintain' businesses. At the same time, ongoing efforts to optimize our business portfolio mean that our business scale has been expanding steadily toward our ¥5 trillion target. Our operating margin has also been improving. We anticipate that further improvement is possible if, through more effective post-merger integration (PMI) efforts, we can reduce our SG&A expenses, which temporarily increased with M&A activity. Meanwhile, for our "Downscale/Withdraw" businesses, we are taking steps to form joint ventures with other companies or selling off such businesses completely. A review of activity over the past four years shows that redistribution of capital has made progress, with the ratio increasing in the "Grow/Maintain" and "New business/Risk" areas and decreasing in the "Reform" and "Others" categories.



### Capital Allocation for Becoming a Highly Profitable ¥5 Trillion Enterprise

24%

(¥412.3 billion)

34%

Grow/Maintain Reform Existing / Others\*2 New business / Risk\*3

share subscription rights
\*2. Capital for SBUs in the "Downscale/Withdraw" category and the "Groupwide" category
\*3. Capital for the existing SBUs in the "New" category as well as seed money (growth investments) and capital required as a buffer for unexcected risk

\*1. Owners' equity = net assets - non-controlling interests -



### **Cash Flow Improvement**

The optimization of our business portfolio, achieved through redistributing management resources, is enabling a steady expansion of cash flow generated from profits. In addition, cash flow is now being generated through greater balance sheet efficiency, primarily through the reduction of working capital, but also by the liquidation of idle assets and securities. With respect to working capital, the situation will further improve as we set cash conversion cycle targets for each SBU. The cycle was already shortened from 143 days in fiscal 2012 to 97 days in fiscal 2015. We are currently striving for further improvement, setting a new target of 70 days. I believe that through these various measures we will be able to increase our business scale, generating a stable cash flow without expanding the balance sheet.

# **Results Achieved in FY2015**

On a cash basis, fiscal 2015 was a challenging period, owing to growth investments such as the MRJ and the acquisition of UniCarriers Holdings, as well as the need to allocate funding for losses incurred in the cruise ship construction business. Financial stability is closely monitored at all times, as any deterioration can have an adverse impact on future growth potential. Although we responded in a significant way to these monetary requirements – providing more than ¥300 billion in total – ultimately, we were able to keep free cash flow positive throughout the year. This is indicated by the fact that EBITDA has reached the level of ¥500 billion. In my view, our initiatives have enabled MHI to generate and secure the cash it requires.

FY2011 - FY2015 Billions of yen Cash flow operating actin		288.3	296.2	212.8	270.0
	-200	0010	0010	0.014	2015
(FY)	2011	2012	2013	2014	2015
-D- Free cash flow	153.3	211.6	144.6	38.6	7.5
Cash flow from improvement in operating capital efficiency	36.1	70.7	46.6	-51.0	-20.6
Cash flow margin	164.2	217.6	249.6	263.8	290.6
Cash flow from investing activities	-47.0	-76.7	-151.5	-174.1	-262.4
Asset liquidation	70.5	53.3	68.6	46.7	17.2
Return on invested capital (times)	1.11	1.14	1.29	1.37	1.32
EBITDA	238.2	283.0	346.8	465.0	479.6
EBITDA margin (%)	8.4	10.0	10.4	11.7	11.9
Interest-bearing debt	1,157.1	1,031.2	957.4	975.5	1,052.1
D/E ratio (times)	0.89	0.72	0.54	0.46	0.53

# **Mission of the CFO Going Forward**

In the past year or two, we have seen an end to the period of over-reliance on the Chinese economy, accompanied by falling resource prices, economic slowdowns in emerging countries, and industrial structural changes in developed countries. This has ushered in a phase of global oversupply in the medium term, which is gradually being felt by the MHI Group and its competitors. Instability in the global economy and upsets in political and economic frameworks—such as the United Kingdom's exit from the European Union—could continue throughout this period.

In this challenging environment, it might be thought that some curtailment is to be expected. However, if a company is able to successfully weather these difficult times, large growth opportunities await. Put another way, I believe that the extent to which companies prepare for future growth today—formulating business plans, investing in products and technologies that will drive growth,

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

taking the right financial steps to support such initiatives, among other measures—determines who will be tomorrow's winners and losers. This is especially true of MHI, where we have a significant gap in business scale compared with our overseas competitors. We must hone our competitiveness using, for example, differentiated strategies, such as strengthening our engineering base through the harmonization of technologies.

In the coming years, I believe my foremost responsibility as CFO will be to consider how we can secure funds for growth investments while simultaneously strengthening our financial structure. We estimate that the cash flow required for large-scale investments in the MRJ will peak out around fiscal 2018, but even after then we intend to set aside some 20% of our total investment capital for new businesses capable of becoming future pillars of growth. In addition, we have to build up a solid financial structure that will allow us to maintain financial soundness even when we make major short-term, opportunistic growth investments, such as M&A. Risks are also expanding as we make more moves into overseas markets and increase largescale businesses. It is essential that we build a buffer against such risks.

To that end, we will further accelerate the initiatives we have taken to date: for example, optimizing our business portfolio and improving our balance sheets. Furthermore, by undertaking asset management and pursuing asset liquidation, we will target a cash flow of ¥200 billion within the framework of our 2015 Medium-Term Business Plan. Through these measures, I aim to increase our owners' equity to ¥2 trillion, build up a risk buffer, and improve our financial soundness, while preparing flexibly to meet our increasing capital demands. These activities will ready us for the great growth opportunities that lie ahead.

## **ROE Improvement**

As explained above, the MHI Group today remains in a growth phase. For that reason, I believe we will continue to increase our owners' equity while securing seed money to pursue aggressive growth investments and build risk buffers. At the same time, I fully recognize that enhancing our capital efficiency will be indispensable to maximizing shareholder value, so in our 2015 Medium-Term Business Plan we set a target of 10.2% for ROE in fiscal 2017.

In brief, I believe that MHI is today at a stage where we are simultaneously seeking to improve our profitability and raise ROE while building up our owners' equity. To achieve those aims, it will be vital to concentrate on our core competencies; in other words, we must invest management resources heavily into those businesses we expect to be highly profitable, while simultaneously cutting back on resource investments in areas that offer meager profitability or involve more risk than is worth taking.

Compared with our overseas competitors, our earning capacity lags sorely. This is reflected in the evaluations we receive from the market. While our competitors have an aggregate market value exceeding the scale of their net sales, in our case our aggregate market value is less than half of our scale of sales. Unless we improve our profitability, we will be unable to compete on a level playing field with our overseas competitors.

# **Dividend Policy**

During the period of the 2015 Medium-Term Business Plan, our intention is to carry out shareholder returns through a targeted consolidated dividend payout ratio of 30%. At the same time, we will keep a close watch on the three points discussed above: investments in future businesses, strengthening our owners' equity to ¥2 trillion, and improving ROE. In fiscal 2015, our net income declined substantially as a result of the losses booked against our cruise ship construction business, but business as a whole was able to sustain solid results. Based on that assessment, we paid out an annual dividend of ¥12 per share, up ¥1 from the preceding year.

We ask for the continued understanding and support of our shareholders and investors in the years ahead.

# CTO Message

Applying our strengths in engineering spanning across a broad array of business areas, we will overcome current issues and promote differentiation from our competitors.

Michisuke Nayama Executive Vice President and CTO

# Core Functions of the Chief Technology Officer (CTO)

In recent years the MHI Group has progressively spun off its various businesses to enable them to operate autonomously and resiliently with full authority and responsibility. The business corporations and independently managed joint ventures (JVs) that have evolved out of this initiative have each devised their own growth strategies and are pursuing scale expansion, and as a result their autonomy from MHI -the parent company-has steadily grown. Inherently, having a business scale of a certain size is of significance to the MHI Group as a whole in several ways, not only in terms of corporate trustworthiness and financial clout but also, above all, with respect to comprehensive technological capability. For this reason, as a countermeasure to the spin-off trend, it is imperative for MHI to strengthen its unifying force and share a wide spectrum of technologies throughout the entire Group, including independently managed JVs.

The core function performed by the CTO is to serve as leader in gathering together the technological strengths of these various businesses and directing the transfer or provision of their technologies throughout the MHI Group. Another important function is to allocate resources into technology development from a groupwide perspective. In April 2016, the authority and scope of responsibility held by the CTO were expanded with the inauguration of a shared technology framework under the CTO's direct oversight. The launch of this framework has enabled expanded support of fundamental core technologies and further advancement of our corporate aspiration to become "an innovative and agile organization that leverages our dedication to technological advancement and engineering excellence."

# Need for Full Cognizance of All Risks

In recent years a number of issues have arisen relating to our power plant and cruise ship construction projects, but in my view these issues are by no means an indication of deterioration in our technologies themselves. In the case of the damaged steam turbines at units 3 and 5 of The Kansai Electric Power Co., Inc.'s Himeji No. 2 Power Station, glitches occurred in steam turbines incorporating state-of-the-art technology. We deeply regret the significant inconvenience those problems caused for the utility itself and all other affected parties, but these incidents must not keep us from continuing to pursue the development of new products at the technological forefront in order to grow globally. We firmly believe we were not mistaken in taking up such a challenge in the case of our advanced steam turbines.

The case of the delays in constructing the two large cruise ships ordered by AIDA Cruises, a unit of the U.S.-based Carnival Corporation & plc, involves

issues different from those relating to the Himeji No. 2 Power Station's turbines. The cruise ships on order demanded construction on an extremely high, cutting-edge technological level with respect to fuel efficiency, speed and other parameters of their basic performance, and from the outset we were fully aware of the potential risks and managed them. Ultimately, however, we failed to recognize fully perhaps the most crucial risk of all: whether we would be able, based on our previous experience in standard shipbuilding, to successfully carry out a project to build large-scale cruise ships-a product incorporating myriad types of equipment and heavily weighted toward engineering elements. In retrospect, we must reflect seriously on our failure to judge in full what risks we might have incurred and the importance of devising measures to deal with such risks when taking on a new challenge of such dimension.

# Targeting Strong Engineering Capabilities as a Risk-Reducing Method and Differentiation Strategy

In the case of the cruise ship problems, I acknowledge that there were also issues with project management. The management demanded in this instance essentially equates to engineering capabilities of the type called for in engineering, procurement and construction (EPC) when constructing a plant. With plant engineering, project execution requires a quantitative grasp of quality, cost, delivery (QCD); in the cruise ship project, this engineering approach was inadequately applied, and project execution management matching the needs of cruise ship construction was lacking. At MHI, engineering strengths vary between our





various business operations while on the one hand we possess highly advanced, comprehensive engineering capabilities in areas such as the Energy & Environment domain, on the other hand we carry out business in the manufacture of individual products. To close the gap between these two levels, we launched an Engineering Headquarters.

The Engineering Headquarters integrates the EPC execution functions of the Energy & Environment domain's businesses in chemical plants and social infrastructure and those of the Commercial Aviation & Transportation Systems domain's engineering operations. The underlying notion here is that, by sharing the methodologies and resources cultivated in a wide array of business areas chemical plants and transportation systems, etc. project management capabilities can be elevated to new levels of sophistication and efficiency. Raising the level of our strengths in engineering throughout the Company will, I believe, not only reduce overall project risks but also drive profit growth in all businesses.

Through the years, in its diverse engineering operations the MHI Group has not only delivered equipment to customers; we have also been involved in related construction work. Among our major overseas competitors there are companies that are striving to shift to a business model in which they supply the same type of system to customers of all business formats and make a selling point not of hardware but of information processing itself. We, by contrast, have consistently stressed EPC as one of our core business areas. Listening to the requirements of our customers and the views of our business partners, and then overseeing and coordinating an entire project, has become firmly rooted as the very essence of our business. Going forward, further honing and strengthening of this special capability will be an important strategy.

#### Shared Technology Framework Vision

Our shared technology framework encompasses the Engineering Headquarters, the newly introduced Marketing & Innovation Headquarters and Value Chain Headquarters, and the pre-existing ICT Solution Headquarters and Research & Innovation Center. Previously, only the Technology & Innovation Headquarters—which had oversight of the Intellectual Property Department and the Monozukuri Innovation Planning Department, etc. – was in a position to apply resources common to the Company's various businesses. Now, under the shared technology



framework, in addition to such technological support, the objective is to raise the level of the value chain as a whole, including productivity enhancement and the optimization of supply chain management. Particularly in the Marketing & Innovation Headquarters, through customer account management, market trends are monitored from a companywide perspective, based on which the headquarters considers, what types of technologies should be developed going forward, what enterprises possessing what kind of technologies should be chosen as future partners in collaboration, etc. Then, within the shared technology framework as a whole, planning is undertaken of new business frameworks and product/service frameworks-the latter including design work, procurement, development, information and communication technology (ICT)-and leadership in technological aspects is provided to the entire Group. This is our vision for the shared technology framework.

Given that have made our Group companies independent in order to promote their autonomous management, corporate functions of this nature may perhaps seem unnecessary. But it is precisely for that reason that the shared technology framework must create value in the various business segments, providing information or services, etc. based on integrated knowledge and resources. Since the ability of the MHI Group as a whole to manifest its comprehensive strengths depends on how well the shared technology framework functions, sharing the approaches devised not only by me as CTO but by the rotating ranks of employees transferred from the various segments, I am addressing this task with a strong sense of mission.

In this context, I wish to refer to the Research & Innovation Center. More than 80% of the Center's budget derives from orders received from the various business segments, i.e, this is an organization conducting "virtual management." Because it becomes necessary to reduce costs, for example, by trimming the workforce, if orders flag due to poor quality of provided services or research results, improvements are spontaneously carried out. Of course, since proactive upfront investments are needed in R&D, approximately 20% of the budget is furnished from the corporate divisions in order to keep a proper balance. I aim to implement this same type of management scheme within our shared technology framework.

For details about the Engineering Headquarters and shared technology framework, please see the Technological Base section on page 52.

# Active Use of AI and Global Technology Sharing Are Issues for the Longer Term

Looking toward future growth beyond the near term, artificial intelligence (AI) in particular is a disruptive technology that can engender huge breakthroughs, and we cannot ignore it. However, AI is a topic of research conducted all over the world , and rather than giving birth to new technologies through in-house development, our intention is to incorporate, ahead of other companies, new technologies developed externally and put them to use at MHI. In the area of AI technologies, we are focusing not only on applying such technologies to the "control systems" incorporated into products but also expanded applications in the business process. It is conceivable that AI may come to serve not only in the back office but also replace work performed at design and manufacturing worksites, and MHI is undertaking research into how to apply AI. In the future we hope to introduce AI into engineering, the realm in which we excel, and by seeking to further raise productivity and reduce risks, we aim to boost our competitive strength.

Compared to companies whose business is focused on the domestic market, companies doing business primarily overseas typically lag in sharing technology, and here I feel there is great room for us to improve going forward. As open innovation in tieups with overseas universities is steadily increasing, promoting active sharing of domestic and overseas technology resources within the MHI Group is a topic we will clearly address as we move forward.



Leveraging the Internet of Things (IoT) and AI

# Initiatives Related to Material ESG Issues

The MHI Group's 2015 Medium-Term Business Plan defines its target corporate image as "A global group with the vision to mold an innovative and agile organization that leverages our dedication to technological advancement and engineering excellence in order to deliver solid growth amid constant changes and make a lasting difference in the communities we serve." To achieve that goal, in addition to honing its competitiveness and enhancing its economic value, the Group recognizes the need to augment social value by taking into consideration the environment, society, and governance (ESG). Such considerations include resolving social issues through the Group's business activities, such as developing products that are effective in reducing greenhouse gases and providing infrastructure equipment that contributes to development in emerging countries, as well as creating supply chains that respect the environment and human rights, and establishing a corporate culture and code of conduct that earn the trust of international society and stakeholders.



# **Material Issues**



# An Optimal Governance Structure Based on Our Corporate Culture

- An optimized organization to continually contribute to society through business
- The assurance of fair operating practices and appropriate labor practices



# Objective

Ensure an organizational culture in which values are shared globally and universally

## Strategic KPIs

- Instill globally consistent policies that conform with the international code of conduct (establish universality)
- Enhance transparency (assure universality) Enhance disclosure and stakeholder engagement



# The Use of Global Human Resources

- The attraction and development of human resources with the ability to respond to globalization
- Diversity and equal opportunity, including the empowerment of female employees



# Objective

Be an organization that embraces diversity (Ensure that barriers to diversity are removed)

# Strategic KPIs

Improvement in diversity-related indicators



# **Response to Mega Trends**

- Innovation and quality control to meet global needs
- Enhanced safety and security, including improved information disclosure and transparency



## Objective

Enact strategic measures and business operations that meet the needs of global society

## Strategic KPIs

Improvement in stakeholder evaluations (SRI surveys, customer satisfaction surveys, etc.)



Management Strategies

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

# Identifying the Three Material Issues

In fiscal 2014, the MHI Group identified three material ESG issues that significantly affect both society and corporate value, taking into account the current external environment and the Group's own situation with regard to business execution and progress on globalization. From the viewpoint of society, this process incorporates various international standards, including ISO 26000 and the Global Reporting Initiative (GRI), as well as stakeholder opinions and mega trends. At the same time, from a business viewpoint we have conducted hearings of individual divisions, performed risk analysis from a business perspective, and obtained management approval as one aspect of the formulation of business strategies.

The MHI Group positions initiatives involving these three material issues as creating the foundations for realizing the vision of the group it wishes to be and achieving ongoing increases in corporate value.

KPI	Num
Number of	Cas
whistleblowing cases	Labo
whisticblowing cases	Ove

We have established the MHI Whistleblowing Hotline, which is available to all employees, including those of Group companies, and the MHI External Whistleblower Hotline. The Compliance Committee secretariat promptly investigates and responds appropriately to all reports made to these hotlines.

			(FY)
Number of Whistleblowing Cases, by Type	2013	2014	2015
Labor and the work environment	76	48	39
Overall discipline and breaches of manners	52	49	24
Transaction-related laws	8	14	8
Consultations and opinions	49	26	11
Other	55	48	49
Total (number of corrections and improvements)	240 (150)	185 (110)	131 (85)*
* 17 opposition of 121 are still updar	invoctio	nation (a	o of

\* 17 cases out of 131 are still under investigation (as of June 2016)

# KPI

### Number of female managers

In July 2014, MHI set a target to increase the number of the Company's female managers (in positions of section manager and higher) threefold from the current level by 2020, and is promoting the active participation of women in the workplace in conjunction with its pursuit of diversity management.

	(FY)
2014	2015
85	104

\* The values given are the numbers reported by Mitsubishi Heavy Industries, Ltd. and Mitsubishi Hitachi Power Systems, Ltd., in principle.

have identified.	s report introduce initiatives related to the material issues we			
Page 46 Corporate Governance	MATERIAL ISSUE 1     An Optimal Governance Structure Based on Our     Corporate Culture			
Page 51	MATERIAL ISSUE 2			
Human Resources	The Use of Global Human Resources			
Page 52	MATERIAL ISSUE 3			
Technological Base	Response to Mega Trends			

society, and governance (ESG). This site contains information on our policies and strategies for CSR and ESG, various initiatives, and ESG data related to socially responsible investment. CSR site http://www.mhi-global.com/company/csr/policy/index.html

# Fiscal 2015 Initiatives

In fiscal 2015, we established objectives and strategies for resolving individual issues, making the items concrete. We announced the status of initiatives for items that are currently measurable—the number of whistleblowing cases, corrections, and improvements and female managers—according to KPIs set in advance.

In September 2015, we underwent a review by overseas experts\* on the content of the material issues and future initiatives, centering on a global discussion format pertaining to business and human rights. We also heard opinions regarding the need to take into consideration the impact on the human rights of stakeholders in the supply chain and the overall product life cycle, including the response to changes in the Company's business model, such as the overseas development of the defense business and operations as a project owner.



Front row, from left: Motoko Aizawa (Managing Director and Chair, IHRB US Board, Institute for Human Rights and Business), Amol Mehra (Director, International Corporate Accountability Roundtable), Christopher Schuller (Legal Adviser on Business and Human Rights, German Institute for Human Rights), Allan Lerberg Jørgensen (Department Director of Human Rights and Development, Danish Institute for Human Rights)

# **Future Promotion Policy**

At present, the scope of initiatives centers on MHI on a stand-alone basis. However, during the period of the 2015 Medium-Term Business Plan—by fiscal 2017—we aim to expand the scope of activities to include Group companies. With the CSR Committee\* as the control tower, we will disseminate information related to consideration for ESG according to global standards in each location, promoting activities throughout the MHI Group, as we progress steadily toward our corporate aspiration.

\* Chaired by the head of the Business Strategy Office (the executive officer in charge of CSR), the CSR Committee includes the GC (general counsel), CFO, CTO, and the officer in charge of Human Resources.



# **Financial and Non-Financial Highlights**



## Total Assets



#### Research and Development Expenses / As a Percentage of Net Sales

Billions of yen %



#### Net Assets / Equity Ratio



**Capital Investment** 



### Number of Employees / Ratio of Overseas Employees



Ratio of overseas employees (right scale)

## Depreciation



# Number of Patents Held in Japan and Overseas



# Investment and Costs for Environmental Preservation\*<sup>2</sup>



Although having trended upward in recent years due to M&A activity, total assets declined slightly in fiscal 2015. Total net assets decreased, owing to a fall in total accumulated other comprehensive income that was brought about primarily by lower translation adjustments and unrealized holding gain on investment securities.

Meanwhile, aggressive investment in growth prompted increases in research and development expenditures, capital investment, and depreciation. At the same time, the ratio of overseas employees grew, affected by a rise in the number of employees stemming from M&A activities, as well as global business development.

\*2. In principle, MHI on a non-consolidated basis

\*3. Non-consolidated basis refers to figures for the production plants of MHI on a non-consolidated basis. However, figures for fiscal 2014 include the Nagasaki, Takasago, and Yokohama plants of Mitsubishi Hitachi Power Systems, Ltd.

Consolidated basis refers to figures for MHI on a non-consolidated basis as well as those for 70 Group companies

<sup>\*1.</sup> In principle, MHI on a non-consolidated basis (production plants and offices). However, figures for fiscal 2014 include the Nagasaki, Takasago, and Yokohama plants of Mitsubishi Hitachi Power Systems, Ltd.

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

Eleven-year financial data > Page 28 Business Segment Highlights > Page 30

As of March 31, 2016

OUTPUT





# Orders Received



#### Total Income Taxes / Profit Attributable to Owners of Parent Billions of yen



#### Net Sales / Overseas Sales Ratio



Overseas sales ratio (right scale)

# Return on Assets (ROA) / Return on Equity (ROE)



## Operating Income / Operating Income Ratio



- Operating income ratio (right scale)

#### Cash Dividends / Dividend Payout Ratio







### Greenhouse Gas (CO<sub>2</sub>) Emissions\*<sup>3</sup>



Progress was generally favorable in terms of our 2015 Medium-Term Business Plan; we increased our scale of business and profitability improved. In addition, our overseas sales ratio moved steadily upward, thanks to the acceleration of global expansion. Profit attributable to owners of parent was down year on year because of an extraordinary loss on passenger vessel construction business reserve and business structure improvement expenses. However, cash dividends per share increased. Although our greenhouse gas emissions are rising as our scale of business expands, we are steadily contributing to reductions in  $CO_2$  from using MHI's products.

## **Financial and Non-Financial Highlights**

MITSUBISHI HEAVY INDUSTRIES, LTD. and its subsidiaries rears ended March 31



Operating income	70.9	108.9	136.0	105.8	65.6	
Income before income taxes and minority interests	52.3	83.7	101.3	64.9	28.1	
Profit attributable to owners of parent	29.8	48.8	61.3	24.2	14.1	
Research and development expenses	¥ 100.7	¥ 106.3	¥ 107.9	¥ 101.3	¥ 129.2	
Capital investment	140.5	175.9	191.4	196.6	177.1	
Depreciation	100.8	106.7	129.2	153.8	140.4	
Total assets	¥4,047.1	¥4,391.8	¥4,517.1	¥4,526.2	¥4,262.8	
Net assets*2	1,376.2	1,446.4	1,440.4	1,283.2	1,328.7	
Interest-bearing debt	1,198.6	1,273.5	1,365.3	1,612.8	1,495.3	
Cash flows from operating activities	¥ 73.9	¥ 158.7	¥ 161.8	¥ 79.5	¥ 117.9	
Cash flows from investing activities	(104.0)	(158.6)	(193.0)	(156.5)	(180.7)	
Free cash flows	(30.1)	0	(31.2)	(77.0)	(62.7)	
Cash flows from financing activities	7.9	48.7	71.2	262.0	(105.2)	

### Per share information of common stock Yen

T of share information of common sto						
Net income-basic	¥ 8.85	¥ 14.56	¥ 18.28	¥ 7.22	¥ 4.22	
Net assets	410.15	425.54	423.17	369.94	380.80	
Cash dividends	4.00	6.00	6.00	6.00	4.00	
Ratios						
Overseas sales ratio	43.9%	47.7%	48.7%	48.9%	50.3%	
Operating income ratio	2.5%	3.5%	4.2%	3.1%	2.2%	
Return on equity*3	2.2%	3.5%	4.3%	1.8%	1.1%	
Return on assets*4	0.8%	1.2%	1.4%	0.5%	0.3%	
Current ratio	156.4%	154.2%	160.9%	158.7%	181.7%	
D/E ratio*5	86%	88%	95%	126%	113%	
Equity ratio*6	34.0%	32.5%	31.4%	27.4%	30.0%	
Dividend payout ratio*7	45.1%	41.2%	32.8%	83.2%	94.8%	

Notes

\*1. U.S. dollar amounts in this report are translated from ven. for convenience only

at the rate of ¥112.68 = U.S. \$1, the exchange rate prevailing at March 31, 2016. In calculating the net assets, MHI and its consolidated subsidiaries have applied the "Accounting \*2. Standard for Presentation of Net Assets in the Balance Sheet" (Accounting Standards Board of Japan (ASBJ) Statement No. 5) and the "Guidance on Accounting Standard for Presentation of Net Assets in the Balance Sheet" (ASBJ Guidance No. 8) since the year ended March 31, 2007. Return on equity = profit attributable to owners of parent income / (net assets -share subscription rights - non-controlling interests) Return on assets = profit attributable to owners of parent income / total assets \*3.

\*4.

D/E ratio = interest-bearing debt / net assets Equity ratio = (net assets – share subscription rights – non-controlling interests) / total assets \*6.

Dividend payout ratio = dividends / profit attributable to owners of parent Number of section managers or above, excluding medical staff, as of April 1. In principle, MHI on a non-consolidated basis. In principle, MHI on a non-consolidated basis. \*7.

\*8.

\*9.

\*10. Includes MHI on a non-consolidated basis and 19 Group companies. \*11. MHI on a non-consolidated basis (production plants and offices). However, the figure for the fiscal year ended March 31, 2015, includes the Nagasaki, Takasago, and Yokohama plants of Mitsubishi Hitachi Power Systems, Ltd.

 Includes MHI on a non-consolidated basis and 70 Group companies.
 13. Data is for production sites of MHI on a non-consolidated basis. However, figures for the fiscal year ended March 31, 2015, include the Nagasaki, Takasago, and Yokohama plants of Mitsubishi Hitachi Power Systems, Ltd.

## Non-financial indexes

Number of employees

Number of overseas employees

Number of female managers\*8

Industrial accident frequency rate\*9 (%)

Energy input\*11 (TJ)

Greenhouse gas (CO2) emissions\*13 (kilotons)

Water usage\*13 (million cubic meters)

Investment and costs for environmental preservation\*9 (billions of yen)

Social contribution expenses (billions of yen)

Our Path to Sustainable Growth

.....

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation



	2015 Medium-Term Business Plan	2012 Medium-Term Business Plan			Business Plan	2010 Medium-Term Business Plan		
Millions of U.S. dollars*1								
\$39,807	¥4,485.5	¥4,699.1	¥3,420.0	¥3,032.2	¥3,188.8	¥2,995.4		
35,914	4,046.8	3,992.1	3,349.5	2,817.8	2,820.9	2,903.7		
2,746	309.5	296.1	206.1	163.5	111.9	101.2		
1,176	132.6	232.6	214.4	155.4	69.8	39.4		
566	63.8	110.4	160.4	97.3	24.5	30.1		
\$ 1,336	¥ 150.6	¥ 145.5	¥ 138.5	¥ 120.0	¥ 121.4	¥ 123.2		
1,557	175.5	156.1	148.6	118.8	120.7	126.6		
1,408	158.7	157.0	134.9	119.4	126.2	134.4		
\$48,737	¥5,491.7	¥5,520.3	¥4,886.0	¥3,935.1	¥3,963.9	¥3,989.0		
17,731	1,998.0	2,120.0	1,774.2	1,430.2	1,306.3	1,312.6		
9,337	1,052.1	975.5	957.4	1,031.2	1,157.1	1,325.6		
\$ 2,396	¥ 270.0	¥ 212.8	¥ 296.2	¥ 288.3	¥ 200.3	¥ 337.8		
(2,328)	(262.4)	(174.1)	(151.5)	(76.7)	(47.0)	(137.2)		
66	7.5	38.6	144.6	211.6	153.3	200.5		
(205)	(23.1)	(45.8)	(136.6)	(154.2)	(183.6)	(169.7)		
U.S. dollars \$ 0.169 4.440 0.106	¥ 19.02 500.30 12.00	¥ 32.90 530.65 11.00	¥ 47.81 459.99 8.00	¥ 29.01 410.90 8.00	¥ 7.31 374.08 6.00	¥ 8.97 376.17 4.00		
	55.3%	53.4%	49.3%	44.8%	41.9%	49.0%		
	7.6%	7.4%	6.2%	5.8%	4.0%	3.5%		
	3.7%	6.5%	11.0%	7.4%	1.9%	2.4%		
	1.2%	2.1%	3.6%	2.5%	0.6%	0.7%		
	135.7%	146.2%	139.2%	155.0%	153.9%	167.9%		
	53%	46%	54%	72%	89%	101%		
	30.6%	32.3%	31.6%	35.0%	31.7%	31.6%		
	63.1%	33.4%	16.7%	27.6%	82.0%	44.6%		
	83,932	81,845	80,583	68,213	68,887	68,816		
O a se a l'ideta d'	28,941	27,489	19,909	14,129	13,036	12,001		
Consolidated	284	262	256	293	288	266		
<b>0.28</b> * <sup>10</sup>	0.20	0.15	0.23	0.11	0.27	0.29		
15,341 *12	7,389	9,885	9,796	10,303	10,346	10,621		
<b>792</b> <sup>*12</sup>	406	548	538	533	474	482		
<b>8.46</b> * <sup>12</sup>	5.08	6.23	6.82	7.02	7.22	7.66		
	17.3	14.1	21.6	23.3	20.6	25.1		
	2.1	1.9	1.4	1.4	2.0	1.6		

# **Business Segment Highlights**

# Main Businesses

- Thermal Power Systems
- Nuclear Energy Systems
- Chemical Plants & Infrastructure
- Renewable Energy
- Marine Machinery & Engines



**Energy & Environment** 

We offer optimal solutions in the energy-related

other industrial infrastructure elements.

fields of thermal power, nuclear power, and renewable energy, in such environmental areas as water

and flue gas treatment, and for chemical plants and

We deliver advanced land, sea, and air transportation systems, including commercial aircraft and ships, and transit networks, all offering superior safety, guaranteed quality, and reliability.





# Integrated Defense & Space Systems

We provide integrated land, sea, air, and space defense systems, including naval ships, military aircraft and helicopters, missile systems, torpedoes, rockets, and armored combat vehicles, as well as space-related services.





# Machinery, Equipment & Infrastructure

We provide a wide range of solutions—including machinery, industrial plants, and social infrastructure that support people's lives, industry, and society.

- Material Handling
   Equipment
- Engine and Energy
- Turbochargers
- Metals Machinery
- Air-Conditioning and
- Refrigeration Systems
- Mechatronics Systems
- Compressors
- Environmental Systems
- Machine Tool
- Other Businesses

Total Assets (Billions of yen) As of March 31, 2016



Number of Employees (People) As of March 31, 2016

83,932

people



6.281

7 428





R&D Expenses (Billions of yen)

Capital Investment (Billions of yen) FY2015



Energy & Environment Commercial Aviation & Transportation Systems
 Integrated Defense & Space Systems Machinery, Equipment & Infrastructure
 Others, eliminations or corporate

36,244

\* Includes ¥61.6 billion in expenses related to R&D under contract \* Based on reported figures for property, plant and equipment Management Strategies

Achievements and Strategies for Value Creation through Our Business

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#### Sample Business Model



#### **Transportation Systems**



#### **Satellite Launch Services**



#### **Turbochargers**





### **Business Segment Highlights**

#### Overview of Fiscal 2015

### **Energy & Environment**

Consolidated orders received rose year on year, to ¥2,005.0 billion, due to higher orders for thermal power generation systems and large-scale orders for chemical plants. Consolidated net sales decreased, to ¥1,542.7 billion, due in part to a decline in sales of thermal power generation systems. Operating income also fell, to ¥154.6 billion, despite the improvement in profit for the after-sales servicing business in thermal power generation systems, mainly due to lower net sales and expenses related to the Himeji No. 2 Power Station of the Kansai Electric Power Co., Inc.

**Commercial Aviation & Transportation Systems** 

Demand remained strong for LNG and LPG carriers on the back of the shale gas rev-

olution in the United States, and in the transportation systems business, demand for

railway construction was robust, particularly in Southeast Asia and the Middle East.

However, the total value of consolidated orders decreased from fiscal 2014, when

MHI won major deals in transportation systems and for the MRJ, to ¥607.1 billion.

commercial aircraft business, and operating income rose to ¥54.5 billion, thanks in

Consolidated net sales increased to ¥548.5 billion, due to higher sales in the

### Orders Received / Net Sales / **Operating Income**



#### Billions of yen Billions of yen 54.5 1.200 60 999.2 900 45 755.8 607.1 600 30 463.6 393.1 360.3 529.5 548.5 23.4 21.4 18.3 300 15 0 0 (FY) 2012 2013 2014 2015 Orders received Net sales -- Operating income (right scale)

**Integrated Defense & Space Systems** 

part to higher sales and the effect of the weaker yen.

The total value of consolidated orders increased from the previous fiscal year, to ¥447.7 billion. The space systems-related business benefited from an order for launch services from a government space agency in Dubai to launch a Mars mission spacecraft. Orders also increased in the defense-related business for items such as defense aircraft. Consolidated net sales remained flat compared with fiscal 2014, at ¥485.0 billion. Although sales in the space systems-related business declined due to the decrease in the number of H-IIA/H-IIB launches from five in fiscal 2014, to three in fiscal 2015, sales rose in the defense-related business, particularly for naval ships. Consolidated operating income fell to ¥25.7 billion, due to a decrease in sales in the space systems-related business and other factors.



### Machinery, Equipment & Infrastructure

Consolidated orders received increased, to ¥1,392.5 billion, and consolidated net sales rose, to ¥1,432.3 billion. This growth was due to the effect of business integration in metals machinery through the establishment of a joint venture company in January 2015 and the expanded scale of business in turbochargers, air-conditioning and refrigeration systems, and forklift trucks, supported by the strengthening of business in the areas of mechatronics systems and intelligent transport systems (ITS), as well as the receipt of orders for major refurbishment work for environmental systems. Operating income was down, to ¥80.0 billion, due to a decrease in sales of compressors, which were highly profitable in the previous fiscal year, as well as to lower profitability in metals machinery due to the need for further post-merger integration (PMI).



• Owing to business restructuring, some businesses have been reassigned from "Others" to "Machinery, Equipment & Infrastructure." (Results for fiscal 2014 reflect the new business domains.)

#### Composition of Overseas Net Sales by Geographic Distribution



Energy & Environment Commercial Aviation & Transportation Systems

Integrated Defense & Space Systems Machinery, Equipment & Infrastructure Others

Management Strategies

Achievements and Strategies for Value Creation through Our Business

Building a Framework for Value Creation

# Orders and Development Projects in Fiscal 2015

Announcement	Delivery	Project	Announcement	Delivery	Project
January 2016	2020	MHPS receives order for gas-fired GTCC power generation equipment for the Hongkong Electric	October 2015	2018	Order received for two M501J gas turbines and a steam turbine for project in Mexico
		Co., Ltd. MHI Vestas receives order for 40 turbines for	July 2015	_	Order received for large-scale fertilizer plant in Uzbekistan
		V164-8.0 MW commercial offshore wind power generation facility, the world's largest in terms of output			UZDEKISTAN
December 2015	-		May 2015	2019	MHPS receives order for two M501J gas turbines and a steam turbine at New Pyeongtaek GTCC Power Plant in South Korea
		MHPS receives order for boiler, steam turbine, and			r ower i lant in oodan korea
December 2015	2019	generator for the Philippines' first ultra-supercritical- pressure coal-fired power plant	May 2015	2018	Order received for 116 turbines for V112-3.45 MW offshore wind power generation facility
December 2015	-	MHI develops power assist suit (PAS) for nuclear disaster response	April 2015	2018	Order received for the construction of a methanol and dimethyl ether plant in Trinidad and Tobago

Announcement	Delivery	/ Project
March 2016	2020	MHI, Hitachi, Ltd., and Sumitomo Corporation win contract for Red Line construction project in Thailand
March 2016	2019	MHI receives order for Automated People Mover (APM) cars and APM system capacity expansion at Singapore's Changi Airport
February 2016	2018	Aerolease Aviation, LLC, signs letter of intent with Mitsubishi Aircraft for purchase of up to 20 MRJ aircraft
November 2015	2019	Mitsubishi Heavy Industries Shipbuilding receives order for very large LPG carrier for Astomos Energy Corporation

Announcement	Deliver	y Project
September 2015	2018	MHI receives orders for two Sayaringo STaGE next-generation LNG carriers
June 2015	2017	Mitsubishi Heavy Industries Aero Engine to participate in Rolls-Royce plc's new aero engine
May 2015	2018	MHI receives order for two Sayaringo STaGE next-generation LNG carriers

Announcement	Delivery	Project
March 2016	2020	MHI receives a new order for H-IIA launch services for UAE's Emirates Mars Mission
March 2016	-	MHI signs a joint development agreement with NTT related to security technology
March 2016	-	MHI delivers the <i>Jinryu</i> submarine at the MHI Kobe Shipyard & Machinery Works

Announcement	Delivery	Project
November 2015	-	MHI successfully launches the Telesat's Telstar 12 VANTAGE satellite on the H-IIA launch vehicle F29 (first dedicated commercial launch of the H-IIA)
July 2015	-	MHI to reorganize a manufacturing plant in Nagasaki handling Integrated Defense & Space Systems

Announcement	Delivery	Project
March 2016	-	MHI Group and NCS Pte. Ltd. win Singapore's next- generation electronic road pricing system project
January 2016	2019	MHI Group receives order to refurbish core compo- nents of municipal solid waste incineration plant in Iwaki, Fukushima Prefecture
October 2015	2017	MHI Group receives order for two continuous galvanizing lines from Tangshan Iron and Steel Group Co. Ltd.
October 2015	2019	MHI Group to participate in waste-to-energy business in Singapore
September 2015	2018	MHI Group receives order from Turkish steel producer Erdemir to supply a continuous galvanizing line

Announcement	Delivery	Project
July 2015	2015	MHI receives order for 80 large-scale centrifugal chillers from Saudi Arabia
July 2015	2019	MHI Group receives order from Kouza Clean Association in Kanagawa Prefecture for municipal solid waste incineration plant with capacity of 245 tons/day
May 2015	_	Development of a gas engine cogeneration system with high-efficiency steam recovery from hot wastewater
April 2015	_	MHI Group develops "Dokodemo Door®"—improved platform doors accommodating railway cars with varying numbers of doors and door locations



# **Business Segment Overview**



# **Energy & Environment**

Viewing changes in society as opportunities to expand our scale of business, we are building up our financial and technological base and preparing to progress toward our next business plan.



# Michisuke Nayama

Domain CEO, Energy & Environment



# **Operating Environment**

While the global energy situation is experiencing falling crude oil prices, advanced countries, in particular, are increasing their introduction of renewable energy. Decisions reached in November at the 2015 United Nations Climate Change Conference (COP21) are expected to substantially increase the ratio of non-fossil fuels in the global energy mix. Calls are growing to reduce greenhouse gas emissions through anti-warming measures that include the introduction of highefficiency thermal power generation systems and nuclear and wind power plants that do not emit  $CO_2$  during generation as well as the use of carbon capture and storage (CCS) systems.

One of MHI's strengths lies in the construction of high-efficiency coal-fired power plants that feature low CO<sub>2</sub> emissions and gas turbine combined-cycle (GTCC) power plants. Demand remains robust for these systems, notably in emerging markets. Nevertheless, the operating environment remains challenging in this field, with MHI facing intensified competition from large companies, known as "megaplayers."
Management Strategies

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

## Policies of the 2015 Medium-Term Business Plan

- Build a strong financial foundation
- Reinforce resilience to technological and business risks
- Enhance services that utilize IoT

Viewing the changes taking place in the global energy situation as an opportunity to expand our business scale, we are building up strong financial and technological bases and pursuing three measures to progress.

For our first measure, building a strong financial base, we are accelerating PMI\* at Mitsubishi Hitachi Power Systems (MHPS), reinforcing the servicing business, and enhancing profitability. Specifically, we are optimizing operations on a global scale by consolidating and right-sizing production bases and integrating core systems, etc. In the servicing business, we are shifting personnel from other divisions and deploying servicing menus horizontally to expand existing business. In addition, we are developing new businesses, such as industrial facility relocation. We are also identifying businesses that we need to sustain going forward as well as engaging in business selection and focus to make effective use of limited resources.

Furthermore, by shortening production lead times and creating a unified inventory management system for all bases

worldwide, we aim to make progress in reducing operating capital and shrinking total assets.

Our second measure is to reinforce our resilience to technological and business risks. We will strengthen our development and design structures and reduce technical risk by reinforcing progress management and gate control. At the same time, we will strive to prevent problems from occurring by liaising with the newly established Business Risk Management Division and Engineering Headquarters and augment our ability to resolve problems that occur by consolidating our engineering, procurement, and construction (EPC) expertise.

Third, we will enhance services that utilize IoT. We have established a remote monitoring center, which supervises the operational status of thermal power plants. Located in the Philippines, this facility is our third, following centers in the city of Takasago, Hyogo Prefecture, and Orlando, Florida, in the United States. The new center will conduct overall monitoring of coal-fired and GTCC power plants in Asia and the Middle East, providing sophisticated support and services to customers based on its analysis of big data. Links with a boiler factory in the Philippines are also adding functionality to the global service center.

\*PMI: Post-merger integration

## R&D Case Study: Key Technologies for Ultrahigh-Temperature Gas Turbines

The research on technologies for 1,700°C-class gas turbines is moving forward as a national project, aiming at the practical application of highly efficient thermal power generation technology using ultrahigh-temperature gas turbines. The first step in this project was to develop element technologies (shielding coatings, cooling technology, combustors, turbines, compressors, and heat-resistant materials) for gas turbines. The second step was to pursue development with the aim of

practical application. The third step, now under way, includes more than 10 items targeting the development, manufacturing, and test runs of practical equipment. Furthermore, the Company has applied to its 1,600°C-class J-series gas turbines some of the leading-edge technologies for which performance and reliability improvements were confirmed during the technological development of 1,700°C-class gas turbines.

## HIGHLIGHT

#### MHI Developing Robots to Support Work Surrounding Nuclear Disasters

We are developing robots that can support work in areas with high levels of radiation or that have been devastated by disasters. In fiscal 2012, MHI participated in the Unmanned Anti-disaster System R&D Project of the New Energy and Industrial Technology Development Organization (NEDO). As part of this project, we developed the Super Giraffe, a mobile robot with a manipulator capable of performing work at heights of up to eight meters. Developed with a modular design to allow for a high degree of expandability, the Super Giraffe was envisioned for use at the site of the Fukushima Daiichi Nuclear Power Plant disaster. To this end, the robot has undergone repeated verification tests in SBO\*1 environments and is expected to handle operations at disaster sites. In addition, the Company has signed a technical

cooperation agreement with the Chiba Institute of Technology involving the manufacture and sale of the Sakura II mobile robot, as well as the development of another mobile robot, the MHI-HERCULeS\*2.

Meanwhile, as part of preparations for putting these robots to use, in collaboration with the Japan Atomic Power Company (JAPC) MHI has developed a power assist suit (PAS). This suit, which aims to leverage the combination of robot power and human capabilities, will facilitate diverse operations. Going forward, we plan to enhance the performance of the PAS and propose solutions for making use of this technology.

\*1. SBO: Station Blackout \*2. HERCULeS: HEx crawler ResCUe robot with Lighting and Exploring System



## Commercial Aviation & Transportation Systems

We are moving forward with MRJ business development plans and reinforcing the comprehensive engineering business within transportation systems. As a result, we are working to create a growth foundation with a view to a business scale of ¥1 trillion.

#### Yoichi Kujirai

Domain CEO, Commercial Aviation & Transportation Systems



## **Operating Environment**

Due to the combination of replacement and new demand, during the next 20 years the size of the commercial aircraft market is forecast to double, growing to nearly 40,000 aircraft and reaching a scale of US\$5 trillion. Against this backdrop, competition for orders and on prices is heating up with the two major overseas original equipment manufacturers (OEMs) of airframes. At the same time, new demand is anticipated for regional jets with 70–90 seats, with the market growing in scale to around 3,500 aircraft over the next 20 years. Although one leading airframer plans to launch a next-generation aircraft in the 90-seat class in 2020—a head-to-head competitor with the MRJ—the MRJ is the only next-generation aircraft in the 70-seat class. The transportation systems business is estimated to have a current market scale of around ¥22 trillion, expanding at an annual rate of 2% to 3%. Infrastructure demand is particularly firm in such regions as South America, the Middle East, and Southeast Asia, and we anticipate solid market growth.

In the commercial ships business, the market is forecast to remain oversupplied for the foreseeable future, but shale gas development projects are engendering demand for gas carriers, an area where MHI excels. After meeting this demand, we expect steady growth from projects in East Africa and other areas, as well as for replacement demand for LNG carriers. We also anticipate steady growth in the ROPAX and passenger ship markets. Management Strategies

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

## Policies of the 2015 Medium-Term Business Plan

- Promote production system reforms in the commercial aircraft business
- In the MRJ business, move forward with the development of three bases in Japan and the United States, and put mass-production structures in place
- In the transportation systems business, strengthen engineering, procurement, and construction (EPC) execution capabilities and reinforce the operations management and maintenance (O&M) business
- In the commercial ships business, pursue structural reforms and engage in initiatives in the markets for passenger and cargo ships and ROPAXs

While boosting profitability centered on the commercial aircraft business, we are building the foundations for our next business plan in the MRJ, transportation systems, and commercial ships businesses.

In the commercial aircraft business, we will respond to growing competition in commercial aircraft by pursuing production system reforms aimed at augmenting production elasticity, shortening lead times, and reducing production losses. As part of these efforts, we will engage in the introduction of new equipment and development to automate our factories. We have set up an industrial cluster in Matsusaka city intended to radically improve lead times and logistics by eliminating outsourcing that spans multiple processes. In the commercial aero engines business, we will strengthen our production foundation with a view to full-scale production expansion and better cost competitiveness.

In the MRJ business, we aim to establish a firm position in the

market for regional jets. To achieve this aim, we are moving forward with the development of a three-base structure in Japan and the United States. In addition to Aichi Prefecture, which is home to Mitsubishi Aircraft Corporation and the final assembly hangar at the Komaki-Minami Plant, we are launching the Seattle Engineering Center and the Moses Lake Flight Test Center. We are simultaneously putting in place a mass-production structure to step up the rate of production once sales have commenced, enabling us to catch up on development schedule delays.

In the transportation systems business, to ensure we win large-scale projects in the Middle East, Southeast Asia, and other regions, we will strengthen our EPC execution capabilities. To enhance our overall capabilities in this area, we will consolidate at the Engineering Headquarters the experience, expertise, and human resources currently spread throughout the Company and enhance relations with this headquarters. We also intend to win O&M orders for existing and planned projects. With this objective, we are moving human resources and other key supplies of resources from overseas Group O&M companies and setting up the MIHARA Test Center as a base for human resource training.

In the commercial ships business, we are accelerating structural reforms under a new organization with two affiliated companies established in October 2015: Mitsubishi Heavy Industries Shipbuilding Co., Ltd., and Mitsubishi Heavy Industries Hull Production Co., Ltd. Furthermore, we will expand our passenger and cargo ships business by leveraging design and construction capabilities cultivated through the construction of cruise ships and domestic ferries.

## R&D Case Study: Development of the *Sayaringo STaGE*, a Next-Generation LNG Carrier

Given the growing demand for LNG in recent years, we have developed a new LNG carrier that has better volumetric efficiency than conventional LNG carriers as well as improved environmental friendliness. To maximize cargo capacity while taking into consideration the New Panamax limits and compatibility with more than 100 LNG terminals worldwide, the carrier features a newly developed tank design. Ordinary LNG tanks consist of semispheres and a cylinder; by adjusting the balance between these shapes and adding a torus, we have succeeded in increasing total tank capacity from 155,000m<sup>3</sup> to 180,000m<sup>3</sup>. The carrier also includes a newly conceptualized hybrid propulsion plant dubbed STaGE, for "Steam Turbine and Gas Engine," and a continuous tank cover that lowers wind resistance. This combination reduces environmental impact substantially. Currently being built at the Nagasaki Shipyard & Machinery Works, sequential deliveries of the *Sayaringo STaGE* are planned from 2018. Going forward, we will continue to promote the development of new products and technologies to meet the diverse needs of customers and society.

## HIGHLIGHT

## Progress on Development and Setting Up a Mass-Production Structure in the MRJ Business (As of August 31, 2016)

MHI is positioning the MRJ business as a pillar of next-generation growth. Following the successful first flight of our first jet in November 2015, our second jet made its first flight successfully on May 31, 2016. Since June, we have been conducting two-jet flight tests. We will move the aircraft to Grant County International Airport, at Moses Lake, in the United States, and begin further flight testing there. Ultimately, we will gather test data on five jets as we work to satisfy type certification requirements. By moving forward with a three-base development structure in Japan (Aichi Prefecture) and the United States (Moses Lake and Seattle), we are working to shorten the flight testing period, and reflect these flight test results securely and swiftly into MRJ design and production processes.

We are simultaneously making inroads on setting up our mass-production system. In July 2016, a new plant began assembling airframes produced at our new plant. Engine assembly will start in fall 2016, and we plan to commence production at a rate of around one jet per month from 2017. We aim to deliver the first mass-produced aircraft in mid-2018 and ramp up production to 10 aircraft per month by around 2020.



## Integrated Defense & Space Systems

While continuing to strengthen our existing businesses, we are preparing to expand our business scale by commercializing new projects for overseas markets.



Hisakazu Mizutani

#### Domain CEO, Integrated Defense & Space Systems Leading-edge technologies fostered through the development of defense Defense Limited experience in pursuing and leading in projects overseas and space products Space Inadequate cost and competitive pricing Defense Ability to make proposals for integrated defense systems Expertise and channels cultivated through Japan–U.S. joint development of the SM-3 missile Space Developing capabilities in rockets and rocket engines Maintaining world-leading product reliability and quality control Strengths Weaknesse Defense Growing overseas demand for defense equipment Defense Severe competition with domestic and overseas manufacturers Accelerating development and procurement of new products in line Space Concern regarding price competition as new U.S. companies with the formulation of Japan's Medium-Term Defense Program enter the market for overseas satellite launch services ce Increasing need for satellite launches by emerging countries Under Japan's New Basic Plan on Space Policy, domestic market scale expected to grow to ¥5 trillion over the next 10 years Opportunities Threats Targets of the 2015 Medium-Term Business Plan Billions of ven - Operating income Space 26.0 25.7 25.0 Defense 485.0 447.7 400.0 400.0 400.0 400.0

## **Operating Environment**

Orders Net received sales

FY2015 (actual) FY2016 (forecast) FY2017 (target)

Orders Net

The Integrated Defense & Space Systems business is performing steadily, but its operating environment is changing.

Orders Net

In defense, the Ministry of Defense's Medium-Term Defense Program formulated in 2013 indicated the Japanese government's intent to build a "Dynamic Joint Defense Force," and new defense equipment development and procurement is expanding. Furthermore, the 2014 Cabinet decision adopting the Three Principles on Transfer of Defense Equipment and Technology established clear principles for transferring defense equipment overseas. As a result, we anticipate an increase in overseas projects, centering on joint international development.

In space systems, the formulation of the new Basic Plan on Space Policy in January 2015 and the work schedule for this plan, revised in December 2015, clarified the vision for the future, thereby facilitating investment forecasts. The scale of the domestic market is expected to grow to ¥5 trillion over the next decade. Demand is also increasing in relation to gathering and analyzing information, determining conditions overseas, and providing resulting products and services related to the space systems market. Management Strategies

Building a Framework for Value Creation

## Policies of the 2015 Medium-Term Business Plan

- Develop business overseas, taking the Three Principles on Transfer of Defense Equipment and Technology to locations where opportunities for new markets exist
- Promote private-sector projects, leveraging the cutting-edge technologies cultivated through the defense and space business
- Take advantage of land, sea, air, and space synergies to expand domestic business

We are implementing three growth strategies as we continue to prepare for expansion during the period of the next business plan.

First, we will develop business overseas that takes advantage of opportunities provided by the Three Principles on Transfer of Defense Equipment and Technology. Through the Japan–U.S. joint development and production of the SM-3 missile, we will gain expertise in joint international development. We expect to apply this expertise toward commercial development in fields that match MHI's technological expertise. We also aim to utilize our advanced technologies and channels with U.S. and European business partners to participate in new international joint development projects. Furthermore, we will build upon a track record of conducting final assembly and functional tests of F-35 fighters on schedule, and we will consider participating in areas providing back-up support.

Second, we will leverage the leading-edge technologies we have cultivated through the defense and space business to

promote projects in the private sector. Through joint development with Nippon Telegraph and Telephone Corporation (NTT), which possesses cutting-edge security technologies, we will develop cybersecurity technologies for key infrastructure control systems. We will develop cybersecurity-related products and services, giving shape to technologies that detect and respond in real time to unknown threats. In space systems, we will promote H-IIA rocket launch services to countries new to space exploration and accelerate activities to attract orders for H-IIA and H3 launch services from leading global satellite operators. We are also considering commercialization in areas related to the development, launch, and operation of small satellites, based on the expertise and knowledge gained through the operational testing of our own small satellites commencing in fiscal 2015.

Third, we will take advantage of land, sea, air, and space synergies to expand orders in domestic areas of business. In defense, we will incorporate the elemental technologies relating to jet fighters that we have accumulated and advanced to date into future jet fighters. We will also apply cutting-edge technologies cultivated through defense equipment to the development of new naval ships and mass-production projects. Meanwhile, in space systems we will carry out our duty to secure Japan's autonomous national launch capacity through the development of the H3 rocket. At the same time, we will strengthen global competitiveness through cost reductions to expand launch vehicle services in the global market.

### R&D Case Study: X-2 Advanced Technology Demonstrator

In April 2016, MHI successfully completed the maiden flight of the X-2, an advanced technology demonstrator jet, from Nagoya Airport in Aichi Prefecture to the Japan Self-Defense Force's Gifu Air Base.

The X-2 is a prototype stealth aircraft for Japan's Ministry of Defense. It is the first in Japan to feature technology impeding its detection by radar and engineered for extremely high maneuverability. The prototype integrates an airframe, engines, and other advanced systems and equipment all adaptable to future fighters. As the coordinating company of the X-2 development project, MHI began developing the aircraft's airframe in 2009 with cooperation provided by 220 domestic companies and guidance from Japan's Acquisition, Technology & Logistics Agency (ATLA). We completed the airframe assembly in fiscal 2014. After engine testing, we completed taxiing tests at Nagoya Airport before moving on to the maiden voyage. Going forward, the aircraft will be subjected to repeated flight tests at the Gifu Air Base with a view to enhancing performance and technological effectiveness.

## HIGHLIGHT

#### MHI Successfully Launches Telesat's Telstar 12 VANTAGE Satellite

On November 24, 2015, MHI successfully delivered Telesat's Telstar 12 VANTAGE satellite into planned orbit on the H-IIA launch vehicle F29.

The H-IIA launch vehicle F29 lifted off from the Yoshinobu launch pad at the Tanegashima Space Center at 15:50 local time (6:50 GMT and 01:50 EST). The launch vehicle flew as planned and, at about four hours and 27 minutes after liftoff, the separation of the Telstar 12 VANTAGE satellite was confirmed. H-IIA F29 incorporates the enhancements of the H-IIA upgrade. The upgrade relates to improvements in the launch vehicle's upper

stage, and MHI has been implementing these improvements with strong support and oversight from the Japan Aerospace Exploration Agency (JAXA). These efforts led to the launch vehicle's success in bringing the satellite near geostationary orbit. Including the H-II rocket's F30 vehicle, launched on February 17, 2016, H-IIA/H-IIB launch vehicles have been successful 29 consecutive times, resulting in a success rate of 97.1%.

MHI intends to market more proactively its H-IIA satellite launch services both in Japan and abroad, continuing to play a key role in the Japanese space industry.



# Machinery, Equipment & Infrastructure

By accelerating PMI on independently managed joint ventures and focusing resources on growth businesses we will expand business scale and profits, achieving a highly profitable structure.

#### Kazuaki Kimura Expertise cultivated in a wide range of product fields and extensive resources Tends to be affected by short-term economic fluctuations Is machinery Meet market needs with a full product lineup and global Overlaps in functions and bases after integration presence Turbochargers Development of sophisticated products leveraging high-speed rotational technologies lift trucks Third in the world by business scale Air-conditioning and refrigeration Extensive product lineup Strengths Weaknesse Compressors Long-term expansion in the oil and gas business due to Rise of manufacturers in emerging countries increasing global population and economic expansion in devel-Sense of uncertainty in the global economy oping countries Ongoing commoditization Turbochargers Expanding Chinese and North American markets Compressors Slowing demand due to slumping crude oil prices Growing trend toward the use of turbochargers on ery Global gap between steel supply and demand causing the downsized engines in response to environmental and market to shrink fuel performance regulations Growing power generation market in line with increases in En Opportunities distributed power systems Threats Targets of the 2015 Medium-Term Business Plan Billions of ven 160.0 - Operating income Material handling equipment 105.0 Turbochargers 80.0 1,700.0 1,650.0 1,800.0 1,800.0 Engine and energy Metals machinery Air-conditioning and 1.392.5 1,432.3 refrigeration Mechatronics, ITS Compressors Environmental systems Machine tool Others

## **Operating Environment**

Orders Net

FY2016 (forecast) FY2017 (target)

Orders Net

FY2015 (actual)

As of March 2016, 13 strategic business units (SBU), which were streamlined from the original 26, continued to handle a wide-ranging variety of businesses. Turbocharger demand is expanding robustly, benefiting from tax reductions on small cars in China and in response to more stringent fuel standards in the North American market. Demand is also growing for businesses that require high environmental performance, such as engines, environmental systems, and air-conditioning and refrigeration systems, due to global trends toward energy savings and reductions in greenhouse gas emissions. Global demand for forklift trucks is generally holding steady, with some disparities among regions.

Orders Net

Meanwhile, in metals machinery a gap between the global supply and demand for steel is causing a market slump. As a result, the market scale in the metals machinery business shrank from around ¥2.4 trillion in fiscal 2014, to approximately ¥2.0 trillion in fiscal 2015, and we think a recovery will take time. Although demand for compressors is likely to grow over the long term in line with market expansion in the oil and gas fields, we anticipate demand will remain lackluster for the foreseeable future due to the impact of falling crude oil prices.

Building a Framework for Value Creation

### 2015 Medium-Term Business Plan Policies

- Accelerate PMI in independently managed joint ventures M-FET and Primetals Technologies
- Expand business scale in growth businesses: compressors, environmental systems, air-conditioning and refrigeration systems, mechatronics, and intelligent transport systems (ITS)
- Enhance business and earning capacity in small and medium-scale businesses, through measures including M&A

Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings, Ltd. (M-FET), launched in March 2016, will expand M-FET's business scale to a target sales level of ¥1 trillion by ensuring economies of scale; leveraging integration synergies at procurement, development, manufacturing, and sales bases; and integrating product technologies and mass production technologies. In metals machinery, we foresee the market environment to remain challenging for the foreseeable future. In this area, we will accelerate post-merger integration (PMI) at Primetals Technologies, a joint venture with Siemens AG, striving to reduce costs and reinforce the sales structure.

In primary growth businesses, we are implementing the following key measures. In compressors, we will strengthen

our service businesses and ensure profitability. In environmental systems, we will expand overseas businesses including EPC and so on. In air-conditioning and refrigeration systems, we will further develop the thermal solutions businesses to save energy, reduce CO<sub>2</sub> emissions, and make use of unutilized energy. Furthermore, in mechatronics and ITS we will make full use of workforce synergies through a wideranging product mix.

In small and medium-scale businesses, we will strengthen business activity and earning capacity through various methods, including M&A. In agricultural machinery, we are reinforcing globalization through synergies with Mahindra & Mahindra Ltd., in India, through a capital tie-up we entered in October 2015. In April 2015, we partnered with Miyaji Engineering Group, Inc., in bridges, and we look forward to improved profitability and increased orders. We transferred our industrial cranes business to Sumitomo Heavy Industries Material Handling Systems Co., Ltd. in October 2015, and this operation is expanding.

Through these initiatives, we aim to create leading businesses in global niche markets, expand business scale, and improve earning capacity.

### **R&D Example: MHI Develops Compact Energy-Efficient Centrifugal Chillers** Using New Environmentally Friendly Refrigerant

In September 2015, MHI launched the ETI-Z series of nextgeneration centrifugal chillers, the first in the world to use the new environmentally friendly HFO-1233zd(E) refrigerant. This new refrigerant produces minimal greenhouse gas emissions, has no impact on ozone depletion, and is not subject to Japan's Freon Emissions Control Law and its regulations for emissions, leaks, recovery, and disposal. However, the refrigerant gas has about five times the volume of MHI's current refrigerant, so achieving the same capacity means using larger compressors and heat exchangers-potentially affecting overall size.

To achieve compactness, the ETI-Z series uses a new shape of blade, faster motor speeds, and high-performance tubes, arranged to optimize space. This new design also enables best-in-class energy efficiency through the use of a compressor with a high-speed direct motor drive, reducing motor drive energy loss. Through this innovation, the ETI-Z series is able to achieve significant reductions in emissions without compromising on compact size.

### HIGHLIGHT

#### MHI, MCO, and MHPS to Collaborate with ExxonMobil in Advanced Gas Turbine Technology

In April 2016, MHI, Mitsubishi Heavy Industries Compressor (MCO), and Mitsubishi Hitachi Power Systems (MHPS) announced their collaboration with Exxon Mobil Corporation in the liquefied natural gas (LNG) field.

MCO's compressors and turbines account for around half the world market in the ethylene plant field, and the company has delivered plants in 62 countries around the world. By developing new applications for the latest MHPS H100 gas turbines, as well as MCO's state-of-the-art compressor technologies, we aim to reduce the complexity of LNG plants and lower life-cycle costs. Specifically, H-100 gas turbines offer LNG mechanical drives the benefits of space savings, broad variable-speed operation, and full-pressure start-up.

This development of main LNG refrigeration packages by MCO and MHPS is a good example of efforts to integrate the MHI Group's product lineup and create business across multiple domains.

Note: The photo in the center of the left-hand page shows a pyrolysis gasification compressor and steam turbine for an ethylene plant.

### ROUNDTABLE

## DEFINING RISK MANAGEMENT FOR GLOBAL GROWTH

For MHI to grow into a truly global company, worldclass risk management is absolutely essential. Here, CEO Shunichi Miyanaga exchanged views on this issue with two of the Company's outside directors: Naoyuki Shinohara and Christina Ahmadjian.

#### Impressions of Current Board of Directors Meetings

Christina Ahmadjian | When I took up my post as an outside director at MHI four years ago, risk issues were never discussed at Board of Directors meetings. Now, substantial discussions are held concerning incidents that have occurred, including analysis of their causes, consideration of methods for dealing with their consequences, and measures to prevent their recurrence in the future. In this respect, the agenda and discussions at Board of Directors meetings have changed drastically, and as a result I think the handling of risk issues today has matured greatly.

Another significant development has been the transition to an Audit and Supervisory Committee in 2015. Since the committee got under way, highly meaningful discussions about risk and such matters have become possible among just a small number of members.

Naoyuki Shinohara | In my case, I became an outside director at MHI in 2015. My initial impression of the Company is that it takes a serious and dedicated approach to manufacturing. As an example, I had occasion to visit the Nagasaki Shipyard & Machinery Works, and I was struck by how wholeheartedly the employees there approach their work. I also came away with a strong sense of how hard those in charge of business execution are striving, in various ways, to strengthen MHI's global competitiveness. Acquiring globally competitive strength demands taking up new challenges, and this inevitably harbors an element of risk. In the year since I became a director, a great amount of time has been spent debating projects in which risk has become manifest.

#### Naoyuki Shinohara Outside Director

Professor, The University of Tokyo, Policy Alternatives Research Institute Joined the Ministry of Finance in 1975, where he served as Director-General of the International Bureau and Vice Minister of Finance for International Affairs. Between 2010 and 2015, he served as Special Advisor and then Deputy Managing Director at the International Monetary Fund (IMF). He took up his current academic position in July 2015 and has been an outside director at MHI since June 2015.

Shunichi Miyanaga | In the past, at Company Board of Directors meetings and executive committee meetings we didn't hold detailed discussions on the nature of the risks involved in our various businesses. This was because, to a large extent, our business developments were primarily confined within the limits of the specific markets in which we have had a prominent presence: the domestic market, for example, or the markets of Southeast Asia. Judgments as to when to withdraw from a particular business were therefore made by the individuals in charge of the particular business, and they typically took the withdrawal option when a business or product had completed its productive lifespan: for example when demand for it had diminished structurally or it was no longer cost-competitive. More recently, however, as we have pursued full-scale entry into the global market, the greater competition and forays into new businesses have made it necessary for us to make comprehensive business risk evaluations at the management level.



I try to talk as openly as possible at our Board of Directors meetings about any apparent risks or issues that may be occurring within the Company. I also strive to maintain full transparency outside the Company, for example, by providing explanations of risks or issues of concern to our shareholders and investors, and to analysts.

#### Improving Risk Management by Upholding Transparency

Ahmadjian | I agree that MHI has become very open, in the last year especially. A good illustration is the way the Company's situation was explained at the 2015 General Meeting of Shareholders. Virtually no information was kept from the participants, and I really got the feeling that MHI is undergoing a cultural transformation from the way it was in the past. That said, since most companies in Japan aren't very forthcoming when it comes to disclosing information on their circumstances, MHI's candid disclosure could conceivably give people the impression that the Company has a relatively large number of risks and problems.

Miyanaga | In managing a company, there are times when you later come to realize that decisions you made in the past were ultimately wrong; and personally I believe that as a CEO, rather than trying to conceal or misrepresent what took place, it's my duty to clearly and accurately explain what criteria or reasons led to a particular decision-what policies or strategies were behind it at the given point in time-and to explain what happened as a result of that decision. Of course, it's better when you're in a position to offer assurance that such-and-such preparations were made to deal with any adverse outcome. I believe that maintaining transparency in this way and always being prepared to give clear and forthright explanations are essential to good risk management.

Shinohara | Over the course of the past year I came to understand just how much more proactive MHI is than most companies in Japan in terms of upholding transparency and explaining any issues of concern to those outside the Company.

Still, there's no denying that, as the substantial loss booked on the Company's cruise ship construction business indicates, there have been serious issues surrounding the Company's risk management, and MHI must reflect sincerely on where the fault lies. I am sure that heated debate over the matter is already taking place within the Company, to pinpoint where the management system went wrong, determine what improvements need to be made to the system going forward, and to identify what lessons need to be learned from this experience. I firmly believe the whole matter needs to be examined closely and thoroughly.

**Miyanaga** Up till now, we have always taken pride in the conviction that MHI is Japan's top company in terms of advanced technology, and this may have made us overly self-confident that our risk management methods are correct, too. In reality, though, owing to the unique nature of our business, formulating optimal management methods is no

> simple matter. In the automobile industry, for instance, risk resilience standards were established within the context of the history of the global auto industry, and they continue to evolve in response to environmental and consumer protection issues. But in cases like ours, as a B2B company that handles orders of extremely large scale, we rely heavily on the individual contract agreements concluded between us, as the supplier, and our customer. With business operations of this kind, very little exists in the way of clear risk management standards.

In the case of companies in Europe or the United States, typically, if it becomes clear that a particular business or project

entails a certain level of risk, in most instances a rational decision will be made—to withdraw altogether, for instance. But here in Japan, it's more difficult to make an immediate decision to withdraw, because of concerns relating to organizational morale, employment responsibility, passing down technology, and so forth. The costs, both within the organization and in the broader social context, are considerable.

Still, simply because withdrawing presents certain difficulties, we can't just abandon that course of

action. If we don't withdraw when circumstances warrant, we can never achieve any improvements. Instead, we need to make quantitative calculations and examine specific hypothetical solutions: for example, taking the unique nature of our business into consideration, evaluating to what extent we can calculate our risks, or considering what's necessary in order to play on a level field against overseas competitors, whose best practices have been established within their particular historical contexts and financial foundations. If we can then explain these risks both internally and externally, it should be possible to perform more advanced risk management.

#### Development of Risk-Taking Human Resources

Shinohara | Where misunderstanding needs to be avoided is in the notion that risk is invariably negative in nature. As one of Japan's leading manufacturers, MHI must continuously take up new challenges while accepting a given level of risks. What's important is defining what those risks are, and knowing how to manage them. The Company should never fear, or retreat from, taking on risks per se.

Ahmadjian | If MHI aims to become No.1 in the world, it has to take on risks. Risk management doesn't equate to risk avoidance. Taking on sound risks, I believe, is a truly vital issue.

**Miyanaga** I In that respect, in order to continuously improve our risk management I believe that rather than evaluating personnel based solely on their record of demerit points, we need to promote people who have a record of having already taken up a host of new challenges, sometimes with success and sometimes with failure. We also need human resources capable of resolving both issues that involve technological difficulties as well as those that present difficulties from a business perspective. As a business enterprise, we have to seek out human resources possessing both cautious prudence and bold confidence, and give our employees opportunities to take up challenges early on, to build up their experience and enable them to grow as managers.

#### The Quest for Diversity in Human Resources

Shinohara | On the subject of human resources, I find the exchange of people and ideas at Primetals Technologies especially interesting. Here, the merger partner was Siemens—a company that is both MHI's competitor and a company that MHI should emulate. The situation at Primetals presents opportunities for learning a wealth of business



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practices from Siemens, not the least being risk management. At the same time, Primetals also stands to learn in various ways from MHI. The result will surely be exponential growth in the capabilities of the company's personnel.

MHI perhaps suffers from a tendency to focus too much on a given project; and for that reason I think putting in place the mechanisms to enable more objective input from outside would be highly effective. What I'm referring to here is diversity of the Company's human resources. Shifting personnel within the Company may be one way of guaranteeing the objective standpoint from outside needed for the success of a project, but I think it's even more important to input the knowledge of tieup partners like Siemens and boost diversity.



Ahmadjian | I visited Primetals Technologies this March, and as you might expect from its being a joint venture with Siemens—a company that has pursued a string of international M&As until now people of many different nationalities—Japanese, Germans, Austrians, British and so on—serve on its management team. I really got a sense of the company's diversity. My visit provided me with a wonderful chance to debate the strengths and weaknesses of how Japanese companies operate, and I came away with the hope that MHI will become a truly diverse company like Primetals in the future.

**Miyanaga** | Primetals Technologies is one of the various companies that have consolidated as the metals industry has matured and manufacturers of metals machinery around the world have down-scaled. The company represents the amalgamation of the wisdom of six countries—Japan, the United States, the United Kingdom, Germany, Austria and

Italy—and it also has engineering staff working at its bases in China and India. In this respect, Primetals is a paragon of diversity, and we assign our young corporate employees there to give them the greatest learning opportunities, including the opportunity to acquire expertise in risk management. We have high hopes they will apply their experience there as managers in the future.

#### Hopes and Expectations for Outside Directors

Miyanaga What I hope for most from our outside directors is that they will ask frank and candid questions, without hesitation. Although we believe we are doing our utmost to provide information, I hope that our outside directors will indicate points that they nevertheless have difficulty either understanding or accepting, and tell us what points seem odd to them from their perspective. If there are things that we have trouble explaining, this means we ourselves have inadequate understanding of them, and making us aware of those points will be very valuable. Ahmadjian-san, sometimes you point out aspects that you believe to be highly unusual, and in response I have merely said it's a matter of cultural differences. But offering an "explanation" like that doesn't make for a fruitful discussion. Only when we are able to offer clear reasons for something can a discussion get under way and give birth to new ideas.

Ahmadjian | I agree, what's most important is to convey our respective views. Today, a great deal of time is allocated at Board of Directors meetings to Q&A sessions and reports. Going forward I would like to see a further increase in dis-

Shinohara | One of the roles of outside directors, I believe, is to monitor whether steady progress is being made in implementing initiatives targeting improvements-in the way risk management is handled, for example. Personally, I still have relatively little experience serving as an outside director, so I am always asking myself how to discuss matters in such a way that I might make positive contributions to MHI. Looking forward, while continuing to pose that question of myself, I intend to participate in discussions with the interests of the Company's stakeholders always fully in mind.

cussion time.



## **CORPORATE GOVERNANCE**

#### **Basic Approach**

As a company responsible for developing the infrastructure that forms the foundation of society, MHI's basic policy is to execute management in consideration of all stakeholders and strive to enhance corporate governance on an ongoing basis in pursuit of sustained growth of the MHI Group and improvement of its corporate value in the medium and long terms. In accordance with this basic policy, MHI endeavors to improve its management system, such as by enhancing its management oversight function through the separation of management oversight and execution and the inclusion of outside directors, and develop "Japanese-style global management," focusing on the improvement of the soundness and transparency of its management as well as on diversity and harmony.

#### **MHI's Corporate Governance Characteristics**

#### 1. Swift Decision Making

## Company with an Audit and Supervisory Committee —

MHI has adopted the form of a company with an Audit and Supervisory Committee as its corporate structure under the Companies Act. As provided in the Company's Articles of Incorporation, in accordance with a resolution by the Board of Directors, the Company delegates important decisions on business execution to the president and CEO. In addition to facilitating swift decision making and flexible business execution, this arrangement promotes the separation of management supervision and business execution while also strengthening the Board of Directors' oversight of business execution.

#### **Chief Officer System**

Under this system, the CEO<sup>\*1</sup> (president and CEO) delegates part of his authority and responsibilities to various chief officers, including the domain CEOs (president and CEO for each of the domains), the CFO,<sup>\*2</sup> and the CTO.<sup>\*3</sup> The GC<sup>\*4</sup> and the standing executive in charge of HR<sup>\*5</sup> assist the CEO with his duties.

- \*1. CEO: Chief Executive Officer
- \*2. CFO: Chief Financial Officer \*3. CTO: Chief Technology Officer
- \*4. GC: General Counsel
- \*5. HR: Human Resources

#### 2. Sound Supervisory Function

#### Management Supervision Centered on Outside Directors

Of the 11 directors (five of whom are Audit and Supervisory Committee members), five (of whom three are Audit and Supervisory Committee members) are appointed from outside the Company. Accordingly, outside directors account for 45% of all directors. MHI strives to enhance management oversight by seeking useful advice and objective criticism concerning the Company's management from its outside directors.

#### Nomination and Remuneration Meeting

The Nomination and Remuneration Meeting is composed solely of all outside directors and the president and CEO. Prior to deliberation by the Board of Directors, this meeting serves as a forum for eliciting the opinions and advice of outside directors on the nomination of director candidates, the dismissal of directors, the appointment and dismissal of other executive officers, and matters related to remuneration.<sup>\*6</sup> Our aim in establishing this meeting is to further augment transparency and fairness. In fiscal 2015, the Nomination and Remuneration Meeting met twice.

<sup>\*6.</sup> Excluding directors who are serving as Audit and Supervisory Committee members

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#### **Recent Corporate Governance Reforms**

2005	<ul> <li>Shortened the term of office for directors from two years to one</li> <li>Introduced an executive officer system</li> <li>Increased the number of outside directors from one to two and outside statutory auditors from two to three</li> <li>Reduced the number of directors from 28 to 17</li> </ul>
2006	<ul> <li>Abolished the system of director retirement allowances and bonuses, switching to system of monthly remuneration and performance-linked remuneration</li> <li>Introduced a stock option system for directors, except out- side directors</li> </ul>
2007	Increased the number of outside directors from two to three
2011	<ul> <li>Integrated a matrix structure of Business Headquarters and Works into the Business Headquarters Structure</li> </ul>
2013	<ul> <li>Consolidated and restructured the nine Business Headquarters, transitioning to the Business Domain Structure (full transition by April 2014)</li> </ul>

2014	<ul> <li>Introduced the Chief Officer System</li> <li>Reduced the number of representative directors from 12 to six</li> <li>Decreased the number of directors from 17 to 12</li> </ul>
2015	<ul> <li>MHI transitioned to a company with an Audit and Supervisory Committee. The number of directors was reduced to 14, including five Audit and Supervisory Committee members. (Prior to the transition, the Board of Directors comprised 17 members, including the statutory auditors.) The number of outside directors was set at five, including three Audit and Supervisory Committee members.</li> <li>Abolished stock options and introduced a new stock remu- neration system for directors (excluding outside directors and directors who are serving as Audit and Supervisory Committee members) and executive officers. (Directors who are Audit and Supervisory Committee members receive base remuneration only.)</li> <li>Formulated the Corporate Governance Guidelines of Mitsubishi Heavy Industries, Ltd.</li> </ul>
2016	<ul> <li>Established the Nomination and Remuneration Meeting</li> <li>Reduced the number of directors from 14 to 11 (with the number of outside directors remaining constant at five)</li> </ul>

#### **Outside Directors**

The Company has five outside directors (of whom three are Audit and Supervisory Committee members). Outside directors are expected to enhance the soundness and transparency of the Company's management decision making by providing beneficial views and candid assessments on the Company's management from an objective standpoint that is not biased by an internal company perspective. Each of the outside directors meets MHI's independence criteria for outside directors.\*7 Accordingly, the Company judges all outside directors to be independent from its management team and has reported them as independent directors to the Tokyo Stock Exchange and other financial instruments exchanges in Japan.

All the outside directors are independent from

management and supervise or audit management. At meetings of the Board of Directors, they receive reports on the status of the establishment and operation of internal control systems, including compliance, risk management, and other activities, and the results of internal audits, and they state their opinions when appropriate. The Audit and Supervisory Committee, a majority of whose members are outside directors, also conducts audits in collaboration with the Internal Audit Department, Management Audit Department, and accounting auditor. In addition, the Audit and Supervisory Committee shares information about the status of audits with outside directors who are not serving as Audit and Supervisory Committee members.

\*7. Indicated in the Corporate Governance Guidelines of Mitsubishi Heavy Industries, Ltd.

#### **Outside Directors**

#### Naoyuki Shinohara

Professor, The University of Tokyo, Policy Alternatives Research Institute (Former Deputy Managing Director of the International Monetary Fund (IMF)) Appointed director in June 2015

#### Reason for appointment

A wide range of insights related to financial policy gained as a regulator and a global perspective gained as an executive of an international institution Attendance

Attended 10 of 10 meetings of the Board of Directors in fiscal 2015

#### Ken Kobayashi

Chairman of the Board. Mitsubishi Corporation Appointed director in June 2016

Reason for appointment Extensive knowledge and experience of top

management active in global markets Newly appointed in fiscal 2016

#### **Outside Audit and Supervisory Committee Members**

#### Nobuo Kuroyanagi Senior Advisor,

The Bank of Tokyo-Mitsubishi UFJ, Ltd. Appointed statutory auditor of MHI in June 2009, and director and Audit and Supervisory Committee member in June 2015

Reason for appointment Extensive experience as a business manager Attendance

12 of 14 meetings of the Board of Directors in fiscal 2015

11 of 11 meetings of the Audit and Supervisory Committee in fiscal 2015

#### Christina Ahmadiian

#### Professor, Hitotsubashi University Graduate School of Commerce and Management Appointed director of MHI in June 2012, and director and Audit and Supervisory Committee member in June 2015

#### Reason for appointment

Extensive knowledge and global viewpoint regarding the field of corporate governance and management acquired through her experience as a researcher

#### Attendance

14 of 14 meetings of the Board of Directors in fiscal 2015 11 of 11 meetings of the Audit and Supervisory Committee in fiscal 2015

#### Shinichiro Ito

Chairman of the Board, ANA Holdings Inc. Appointed statutory auditor of MHI in June 2013, and director and Audit and Supervisory Committee member in June 2015

#### Reason for appointment

Extensive experience as a business manager Attendance

14 of 14 meetings of the Board of Directors in fiscal 2015

11 of 11 meetings of the Audit and Supervisory Committee in fiscal 2015

#### **CORPORATE GOVERNANCE**

Corporate Governance Structure and Roles (Including Internal Control Systems) (As of June 23, 2016)

1

#### Directors

Of the Company's 11 directors (of whom five are Audit and Supervisory Committee members), five (of whom three are Audit and Supervisory Committee members) are elected from outside the Company. In addition, the Company delegates decisions on the execution of important operations to the president and CEO. This approach enables swifter decision making and enhances the flexibility of business execution while also strengthening the Board of Directors' oversight of business execution.

#### 2

#### Nomination and Remuneration Meeting

This meeting comprises six members, including all outside directors and the president and CEO. (Please see page 46 for information on specific functions.)

#### 3

#### Chief Officers and Standing Executives in Charge of Operations

The CEO takes charge of overall business strategies and issue-response initiatives, and the domain CEOs take control of executing businesses within their individual domains based on overall Group strategies. The CFO takes charge of finance, accounting, and including management planning. The CTO is in charge of the supervision and execution of overall operations related to technology strategies, research and development of products and new technologies, ICT, value chain, marketing, innovation, and engineering in general. In addition, the CFO and CTO have companywide authority to give instructions and commands and provide support to business domains.

The GC and standing executive in charge of HR assist the CEO with his duties by supervising and executing activities in line with the CEO's mission. The GC takes overall control of management audits, general administration, legal affairs, and global base support. The standing executive in charge of HR takes overall responsibility for human resources and labor relations.



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## 4

5

#### **Executive Committee**

The Executive Committee has been established as a forum for discussing important matters related to business execution. This move allows for a more cohesive approach to discussion as part of the operational execution framework and consequently leads to more appropriate management decisions and business execution.

#### Audit and Supervisory Committee

To ensure the effectiveness of the Audit and Supervisory Committee's activities, the Company's Articles of Incorporation stipulate the selection of full-time members of the Audit and Supervisory Committee. Accordingly, two full-time members of the Audit and Supervisory Committee are mutually selected by the committee's members.

The full-time members of the Audit and Supervisory Committee attend meetings of the Executive Committee and other key meetings related to business planning. enabling them to accurately assess and monitor the status of management in a timely manner. As part of the audit, Audit and Supervisory Committee members make sure the execution of directors' duties comply with laws and regulations and the Articles of Incorporation and ascertain whether or not business operations of the Company are being executed appropriately by conducting spot checks and verifying compliance with relevant laws and regulations, and by monitoring the status of the establishment and operation of internal

control systems, including those in relation to financial reporting. Furthermore, one member of the Audit and Supervisory Committee has extensive knowledge of finance and accounting from many years of business experience in the accounting and finance departments.

The Audit and Supervisory Committee periodically exchanges information and opinions with the Management Audit Department and accounting auditors, and it collaborates closely with them in other ways, including receiving audit results and attending accounting audits. Audit and Supervisory Committee members also receive reports from the internal control department and other departments concerning the status of compliance, risk management, and other activities on both a regular and an individual basis. To support auditing activities, an Audit and Supervisory Committee's Office has been set up with its own dedicated staff of six to facilitate the work carried out by the Audit and Supervisory Committee.

#### 6

#### Auditing Certified Public Accountant Compensation

Category	Audit attestation duty-based compensation (millions of yen)	Non-audit-based compensation (millions of yen)
MHI	212	59
Consolidated subsidiaries	204	3
Total	416	63

Note: In fiscal 2015, the Company's overseas subsidiaries delegated audit attestation duties to the Ernst & Young Group, which belongs to the same network as the Company's accounting auditor, paying ¥1,241 million for fiscal 2015 audit attestation duty-based compensation and non-audit-based compensation.



#### **Compliance Committee**

This committee meets twice annually to draw up companywide compliance promotion plans, confirm progress, and engage in other activities. Compliance Committees have been established in all departments of the Company to strengthen compliance measures for each respective department. These committees are chaired by the member of the Compliance Committee in each department. At the same time, Compliance Liaison conferences are in place for regularly exchanging compliance information with Group companies. Through these two types of organizations, each department works to consistently implement its own compliance and to act independently and responsibly in carrying out compliance activities.

#### **Officers' Remuneration Structure**

The remuneration of directors (excluding Audit and Supervisory Committee members and outside directors) consists of base remuneration, performance-linked remuneration, and stock remuneration from the viewpoint of reflecting earnings and sharing values with shareholders.

Performance-linked remuneration is determined based on consolidated earnings while also taking into account the roles of each director and the earnings and accomplishments of the business of which he or she is in charge, etc.

For stock remuneration, the Board Incentive Plan Trust structure is used. MHI shares are issued, and remuneration is paid based on stock award points that are granted in accordance with return on equity (ROE) and other such indicators linked to MHI's medium/long-term earnings and stock price.

The remuneration of directors who are serving as Audit and Supervisory Committee members consists exclusively of base remuneration from the viewpoint of ensuring duties such as audit work and supervision of execution of operations are conducted appropriately.

The remuneration of chief officers and administrative executive officers who are not directors is in accordance with the foregoing.

#### **Director and Statutory Auditor Remuneration (FY2015)**

1. Before the shift to a company with an Audit and Supervisory Committee

(From April 1, 2015, to the close of the 90th Ordinary General Meeting of Shareholders on June 26, 2015)

				Total amount of	
Position	No. of recipients	Base remuneration	Performance-linked remuneration	Stock options	remuneration (millions of yen)
Directors (excluding outside directors)	8	111	55	_	167
Statutory auditors (excluding outside statutory auditors)	2	17	55	—	17
Outside directors and statutory auditors	6	18	_	_	18

2. After the shift to a company with an Audit and Supervisory Committee

(From the close of the 90th Ordinary General Meeting of Shareholders on June 26, 2015, until March 31, 2016)

		Amount of remuneration by category (millions of yen)			Total amount of	
Position	No. of recipients	Base remuneration	Performance-linked remuneration	Stock remuneration	remuneration (millions of yen)	
Directors who are not serving as Audit and Supervisory Committee members (excluding outside directors)	7	295	164	182	642	
Directors who are serving as Audit and Supervisory Committee members (excluding outside directors)	2	128	_	—	128	
Outside directors	5	57	_	_	57	

Notes

1. The recipients in note 2 above include one director who is not an Audit and Supervisory Committee member who retired in fiscal 2015 and who is stated under "directors who are not serving as Audit and Supervisory Committee members (excluding outside directors)."

 The maximum permitted monetary remuneration amount for directors who are not serving as Audit and Supervisory Committee members is ¥1,200 million per year, applied retroactively to April 2015 (resolution of the 90th Ordinary General Meeting of Shareholders on June 26, 2015).

3. The total amount of stock remuneration is the amount of expenses recognized for the 337,000 stock award points granted in total during fiscal 2015 (equivalent to 337,000 shares of MHI) concerning the Board Incentive Plan Trust, which is a stock remuneration system that delivers or provides shares of MHI and money in the amount equivalent to the liquidation value of shares of MHI based on stock award points granted to directors (excluding outside directors and directors who are serving as Audit and Supervisory Committee members) in accordance with, among other factors, the rank of the position of each director and the financial results of MHI. The maximum permitted amount of stock award points is 500,000 points (resolution of the 90th Ordinary General Meeting of Shareholders on June 26, 2015) per fiscal year for directors (excluding outside directors and directors who are serving as Audit and Supervisory Committee members).

4. The maximum permitted monetary remuneration amount for statutory auditors is ¥160 million per fiscal year (resolution of the 81st Ordinary General Meeting of Shareholders on June 28, 2006).

5. The maximum permitted monetary remuneration amount is ¥300 million (resolution of the 90th Ordinary General Meeting of Shareholders on June 26, 2015) per fiscal year for directors who are serving as Audit and Supervisory Committee members.



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## **HUMAN RESOURCES**

#### **Essentials of Human Resource Development**

MHI considers diversity management as essential for human resource development to adapt to various business environments. We focus on the three areas of enhancing readiness for global business, developing

#### **Enhancing Readiness for Global Business**

MHI categorizes its Japanese employees according to three levels. "Global candidates" show an aptitude to adapt to global environments, "global players" have the ability to carry out global business, and "global

#### **Developing MHI Group Employees**

MHI considers that enhancing the capabilities and skills of all employees of the MHI Group around the world is necessary to achieving globalization and accelerating diversity. In order to elevate staff to the management level at overseas Group companies, we are expanding our training programs. In fiscal 2015, we carried out selective training for officer candidates in Singapore, India, and other locations with business schools. Training lasts around one week and contributes to enhancing the candidates' understanding of regional business environments, acquiring knowledge necessary

#### **Affirmative Action for Female Employees**

MHI is encouraging female employees for promotion through the activities described below as part of its diversity management.

In July 2014, we set a target to increase the number of female managers in positions of section manager and higher in the Company threefold by 2020, compared with the level in 2014.

Our current phase of activity addresses four themes: expanding the number of female employees; offering career support for employees raising children or providing nursing care by setting up a system that does not interrupt careers; systematically developing female MHI Group employees, and affirmative action for female employees as the necessary components of human resource development.

managers" are successful in managing in cross-cultural situations. We have prepared and organized training programs for each level.

for management, and promoting leadership awareness through discussions and case studies.



employees in managerial positions; and fostering a corporate culture that supports an active role for female employees. Moreover, we are considering flexible working styles that facilitate a quick return to work after childbirth or raising children, and creating a framework and an environment to further promote the careers of female employees.

As a result of these initiatives, the number of female managers rose from 85 in fiscal 2014 to 102 in fiscal 2015.\*

\* In principle, this figure includes Mitsubishi Heavy Industries, Ltd., and Mitsubishi Hitachi Power Systems, Ltd.

## **TECHNOLOGICAL BASE**

#### Leveraging Comprehensive Strengths by Building a Companywide Horizontally Based Organization

In April 2016, MHI launched a new shared technology framework consolidating the Company's technologies as well as marketing, procurement, and other functions. The new framework, overseen by the chief technology officer (CTO), encompasses three new entities—the Engineering Headquarters, the Marketing & Innovation Headquarters, and the Value Chain Headquarters—and the existing ICT Solution Headquarters and Research & Innovation Center. At the same time, we have established the Technology Strategy Office to promote the integrated management of this framework and conduct technology management to realize the "conglomerate premium" (strength that derives from involvement in diverse businesses), a centripetal force for the MHI Group. By creating this framework, headed by the CTO, we aim to maximize the MHI Group's comprehensive technological strength to bolster competitiveness over the medium-to-long term.



\* Established in April 2016

#### 1

#### Engineering Headquarters

This entity brings together a broad array of business areas, including chemical plants, transportation systems, and cruise ships, consolidating the Group's expertise in engineering, procurement, and construction (EPC) execution, standardizing and promoting the use of information technology in business processes. As a result, we intend to increase the number of areas employing the Group's engineering expertise and engage in initiatives to supply know-how and provide support throughout the Company.

#### 3 Value Chain Headquarters -

Across the value chain, spanning design, manufacturing, quality assurance, procurement, and after-sales services, the Value Chain Headquarters works to promote high-value-added technologies, enhance global competitiveness, and transform and strengthen supply chain management.

#### 2 ICT Solution Headquarters

The ICT Solution Headquarters drafts, prepares, and puts into action strategies related to IT infrastructure. By leveraging human and technological resources in information processing; telecommunications; and electricity, instrumentation, and controls, the headquarters also develops and implements advanced practices involving IoT and AI systems and enhances operating processes by introducing best practices from within and outside the Company. In this manner, the headquarters strives to strengthen the Group's products, technologies, and businesses.

#### **4** Marketing & Innovation Headquarters

Activities of the Marketing & Innovation Headquarters include preparing business models, business and technology strategies, and product and service plans. The headquarters creates cross-product and medium-to-long-term relationships to determine needs and verify the hypotheses it creates. Management Strategies

Achievements and Strategies for Value Creation through Our Business Building a Framework for Value Creation

#### **Research and Development**

The MHI Group maintains close ties between its shared technology framework and its business domains. This focus enables us to enhance competitiveness in various products as well as intensify R&D with a view to future business expansion. In line with our transition from a works-based structure to a system of business domains, in 2015 we established a comprehensive Research & Development Center, consolidating five domestic R&D centers and transitioning to cross-organizational management in our R&D structure. Through this approach, we anticipate new technological synergies, enhanced human resource development, and greater efficiency in work performance and facility utilization.

We are globalizing our R&D structure, and as part of these efforts we are dispatching specialist engineers from research centers in Japan to our bases in the United Kingdom, Singapore, the United States, and China. We are making efforts to secure leading global technologies, information, and human resources, while conducting research and providing technological support that is closely aligned with market needs.

#### **Intellectual Property**

The MHI Group maintains close relations between its shared technology framework and individual business domains, developing intellectual property strategies that combine the Group's business and technology strategies. By having the intellectual property division coordinate the intellectual property strategies of each domain, we work to realize intellectual property strategies for the Group as a whole and further enhance corporate value.



Number of Domestic and Overseas Patents



 R&D expenses - Share of net sales (right scale)
 \* The figures above for R&D expenditures include expenses related to R&D under contact.

Specifically, we position the use of intellectual property as the main thrust of our intellectual property activities, pursuing strategic use of intellectual properties tailored to our business portfolio. We are also increasing our number of overseas patent applications as our business grows more global, and we will drive the centralization of intellectual property rights to play a key role in augmenting business earnings.

#### Number of Patents Held by Region



## Corporate Data (As of March 31, 2016)

Head Office:	16-5, Konan 2-chome, Minato-ku, Tokyo 108-8215, Japan	Stock Listings:	Tokyo, Nagoya, Fukuoka, and Sapporo Stock Exchanges
	Phone: +81-3-6716-3111	Ticker Code:	7011
	Fax: +81-3-6716-5800	Manager of the Register	Mitsubishi UFJ Trust and Banking
Established:	January 11, 1950	of Shareholders:	Corporation
Paid-in Capital:	¥265.6 billion		4-5, Marunouchi 1-chome, Chiyoda-ku, Tokyo
Total Number of	6,000,000,000		100-8212, Japan
Issuable Shares:		Independent Auditors:	Ernst & Young ShinNihon LLC
Total Number of Shares Issued:	3,373,647,813		Hibiya Kokusai Bldg., 2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo 100-0011, Japan
Number of Shareholders:	293,160		
Number of Employees:	83,932 (Consolidated) 19,357 (Non-consolidated)		

Major Shareholders	Number of shares owned by major shareholders	% of total shares
Japan Trustee Services Bank, Ltd. (Trust Account)	158,176,900	4.68%
The Master Trust Bank of Japan, Ltd. (Trust Account)	130,715,000	3.87%
The Nomura Trust and Banking Co., Ltd. (Retirement Benefit Trust Account for The Bank of Tokyo-Mitsubishi UFJ, Ltd.)	125,666,000	3.72%
Meiji Yasuda Life Insurance Company	80,022,741	2.37%
The Bank of New York Mellon SA/NV 10	67,278,449	1.99%
State Street Bank West Client-Treaty 505234	46,249,260	1.37%
The Nomura Trust and Banking Co., Ltd. (Retirement Benefit Trust Account for Mitsubishi UFJ Trust and Banking Corporation)	45,934,000	1.36%
Japan Trustee Services Bank, Ltd. (Trust Account 7)	44,177,000	1.30%
Tokio Marine & Nichido Fire Insurance Co., Ltd.	37,800,000	1.12%
Japan Trustee Services Bank, Ltd. (Trust Account 6)	36,503,000	1.08%





#### Classified by Number of Holdings



Stock Price Range and Trading Volume (Tokyo Stock Exchange) Yen TOPIX 800 2.000 MHI common stock price range - TOPIX 1 600 1,500 400 1,000 200 500 (FY) 0 2011 2012 2013 2014 2015 0 Thousands of shares 1,200,000 1,000,000 800.000 600,000 400,000 200,000 0

### Overseas Head Offices and Networks / Overseas Offices



#### **Overseas Head Offices and Networks**

#### North America -

1 Mitsubishi Heavy Industries America, Inc.

#### Latin America

- 2 Mitsubishi Industrias Pesadas do Brasil Ltda.
- **3** Mitsubishi Heavy Industries Mexicana, S.A. de C.V.

#### Europe -

- 4 Mitsubishi Heavy Industries France S.A.S.
- 5 MHI Russia LLC
- 6 Mitsubishi Heavy Industries Europe, Ltd.

#### Africa

7 MHI Technologies S.A.E

#### Asia and Oceania -

- 8 Mitsubishi Heavy Industries (China) Co., Ltd.
- 9 Mitsubishi Heavy Industries (Shanghai) Co., Ltd.
- 10 Mitsubishi Heavy Industries, (Hong Kong) Ltd.
- 11 MHI KOREA, Ltd.
- 12 Mitsubishi Heavy Industries Asia Pacific Pte. Ltd.
- **13** Mitsubishi Heavy Industries Philippines, Inc.
- **14** Mitsubishi Heavy Industries (Thailand) Ltd.
- **15** Mitsubishi Heavy Industries India Private Ltd.
- **16** MHI Australia, Pty. Ltd.

#### **Overseas Offices**

Europe			
Luit	ppe		
17	Kiev Liaison Office		
18	Turkey Liaison Office		
Middle East			
19	Basra Liaison Office		
20	Abu Dhabi Office		

21 Dubai Office

#### Africa

22	Johannesburg	Office
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#### Asia

- 23 Taipei Office
- 24 Hanoi Liaison Office
- 25 Ho Chi Minh City Liaison Office
- 26 Kuala Lumpur Office
- 27 Jakarta Liaison Office

For information on overseas Group companies not provided above, please refer to the "Global Network" section of our website.

http://www.mhi-global.com/network/index.html





This report has been printed on environmentally considerate FSC<sup>®</sup> certified paper, using VOC (volatile organic compound) free ink. A waterless printing process was employed, which eliminates the use of alkaline developing solutions and elements such as isopropyl alcohol in the damping water.