

MHI REPORT 2019

MITSUBISHI HEAVY INDUSTRIES GROUP

INTEGRATED REPORT

For the Year Ended March 31, 2019

MOVE THE WORLD FORW►RD



MITSUBISHI HEAVY INDUSTRIES GROUP

CONTENTS

Introduction	Progressing Along with Society	2
	Recent Business Structure Reforms	4
Strategy	President's Message	6
	CFO's Message	14
	Growth Strategies	18
Business	Business Segment Highlights	24
	Power Systems	26
	Industry & Infrastructure	30
	Aircraft, Defense & Space	34
	Human Resource Strategy	38
	Initiatives in the Hydrogen Supply Chain Aimed at Realizing a Carbon-Free Society	42
Governance	Members of the Board of Directors	46
	Corporate Governance	48
	Efforts toward Cybersecurity	61
	Roundtable Discussion between the Chairman and Two Outside Directors:	
	Today's Global Risks and the Role of MHI	62
Data	Financial and Non-Financial Highlights	66
	Eleven-Year Financial and Non-Financial Data	68
	Consolidated Statement of Financial Position	70
	Consolidated Statement of Profit or Loss	72
	Consolidated Statement of Comprehensive Income	73
	Consolidated Statement of Changes in Equity	74
	Consolidated Statement of Cash Flows	75
	Corporate Data	76
	Status of IR Activities	77

Forward-Looking Statements

Forecasts regarding future performance in these materials are based nents made in accordance with information available at the time this report was prepared. As such, these projections involve risks and uncertainties. For this reason, investors are recommended not to depend solely on these projections for making i stment 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 movemen 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.



Keeping its Principles and Corporate Identity Statement as its base, MHI Group aims to continue its development alongside the changing world by responding to the present and future issues and needs of society with a variety of technologies and services.

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.

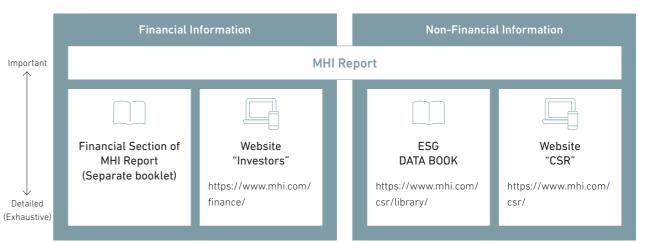
International Integrated Reporting Council (IIRC): International Integrated Reporting Framework Global Reporting Initiative: Sustainability Reporting Standards

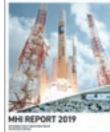
Collaborative Value Creation

Ministry of Economy, Trade and Industry of Japan: The Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Ministry of the Environment of Japan: Environmental Reporting Guidelines (2018 version)



MHI Report contains information that is important to understanding MHI. More detailed information is available on our website. https://www.mhi.com/finance









H-IIA Launch Vehicle No. 40 (Launched in October 2018)

Reason for Publishing This Report

Reference Guidelines

Structure of Information Disclosure

Previous editions of the MHI Report are available on our website. https://www.mhi.com/finance/library/annual/

> Progressing Along with Society

In the over 130 years since its establishment in 1884, MHI Group has acted as a global leader in *monozukuri* and engineering, utilizing its sophisticated technology to provide integrated solutions in a wide range of fields, from infrastructure fields such as shipbuilding, transportation systems, commercial aircraft, and power generation systems, to space systems.

Leveraging our abundant track record and know-how, which we have cultivated over our long history, as well as our human resource capabilities, we will continue to work toward a better future for people around the world and for the world itself.

The approx. 70-year period from the end of the feudal system to the formation of modern Japan and participation in World War II

The approx. 70-year period from economic boom after the war to the phase of stagnation

- We deliver reliable and innovative solutions that make a lasting difference to customers and communities worldwide.
- Our Principles
- > We act with integrity and fairness, always respecting others.
- We constantly strive for excellence in our operations and technology, building on a wide global outlook and deep local insights.



Successful launch of the

first H-I Launch Vehicle

1986

Transfer of waste-toenergy plant for Singapore with the world's greatest processing capabilities

MITSUBISHI HEAVY INDUSTRIES GROUP

Start of operation of the world's largest CO₂ recovery plant

2017

Entering into Industry 4.0 and Society 5.0

ENVIRONMENT

S

SOCIAL

stem in the

d, in Dubai, the United

Arab Emirate

Ε

ALL PROPERTY.

GOVERNANCE

2009 Introduction of advanced

technologies worldwide

MV

2017 Pursuit of

sustainability

INH -

Development of wind power generation facility by MHI Vestas with the world's highest output

MHI REPORT 2019

3

Recent Business **Structure Reforms**

Since the 2010 Medium-Term Business Plan, MHI Group has been promoting business structure reforms, transitioning from a business works structure to a business portfolio management structure that centers on strategic business units (SBUs). Throughout this transition, the Group has concentrated on the core competencies of its businesses. In addition, we have made proactive efforts to foster a corporate culture and structure for addressing

globalization, gaining organizational strengths that enable us to pursue growth by shifting to cash flow management approach and bolstering our financial foundation.

We have positioned the three-year period of the 2018 Medium-Term Business Plan as a phase in which we achieve the necessary organizational strengths to become a corporation with resilience and growth potential of global standards, with the aim to realize



our future vision for MHI Group. In fiscal 2018, the first year of the plan, the business structure reforms we have thus far promoted began to take root and lead to results. Going forward, we will work to further achieve solid results with these reforms. At the same time, we will proceed on a path toward sustainable growth with a strong awareness of the future after the current business plan is completed.

> President's Message

Seiji Izumisawa

FORMULATING AND ACCELERATING GROWTH STRATEGIES for the Next Stage

We will take steps to address challenges in all business areas and act with speed to implement our medium- and long-term growth strategies.

Ever-Evolving Management Reforms

ering trust of all our stakeholders, be they customers, business we have assumed within society. Since I became president & CEO in April 2019, I have come to recognize more keenly than ever the expectations and trust that our stakeholders have in MHI Group to develop systems and capabilities through *monozukuri*—the traditional Japanese

In shifting from our former structure of business divisions and

FORMULATING AND ACCELERATING GROWTH STRATEGIES for the Next Stage

Still, managing a company requires a flexible response; constant changes in step with the times and fluctuating circumstances. There is no fixed finish line.

In terms of overall direction, today we are in a period of major transformations in production, products, and how we use them—what people are generally referring to as the Fourth Industrial Revolution, or the Digital Revolution. Artificial

intelligence (AI) is a tool, not an end in itself, and we need to hone our capabilities in how to incorporate Al into our products and systems, what impact that will have, and how to achieve what hasn't been achievable up until now. We need to apply AI not just to design or production; but everyone throughout the Group should see AI as a means of progress, and think of how it can be applied to resolving our challenges and making new things possible.

Resolving Social Challenges—Especially in Energy—Will Be Our Medium-to-Long-Term Growth Strategies

Going forward, we will grow our business around three major pillars: energy and power systems; mobility (including aircraft); and Industry & Infrastructure operations. The keywords here will be environmental and social issues: concepts like environmental, social and governance (ESG) issues and the Sustainable Development Goals (SDGs). We can provide true value in responding to a variety of social needs. Up until now, our stance has been that when society experiences difficulties, we respond in whatever way possible. Now, however, we will go a step further: from now on we will adopt a more positive, assertive stance toward solving issues at hand.

In our 2018 Medium-Term Business Plan, a sound financial foundation and strategies for growth constitute our basic policies. We are making steady progress in building a sound financial foundation; and though the market environment is somewhat opaque, we are moving in the right direction and steadily achieving results. Changes in the economic or social environment are beyond our control, so we will focus on improving productivity and continuing to make products of high quality.

As for our growth strategies, in the short term we are gradually seeing results, for example, in our medium-lot manufacturing although there is still room for improvement. In the medium and long term, we need to accelerate how we incorporate MHI FUTURE STREAM into our business strategy.

Energy is indispensable to mankind, and providing the infrastructure to supply it is a task that MHI Group is committed to. Progress in lowering carbon emissions is moving forward and demand is different in regional markets, some growing and some mature. Going forward, we will support our customers and regions by providing the best mix that corresponds to their needs, using a mix of diverse energy sources including fossil fuels and renewable energies.

Regarding thermal power generation, given the way society is striving to reach low carbon or zero carbon emissions, we can no longer expect the kind of expansion we have seen up until now. Current customers within limited markets are amenable to thermal power, and if we can make thermal power more efficient by use of service operations-maintenance, replacement work, and the like-we can respond to varied needs through use of thermal resources that are more harmonious with the environment.

Development of the Mitsubishi SpaceJet family is steadily moving forward toward the acquisition of type certification and delivery of the first aircraft, so we are approaching a crucial stage. In addition, since this is a business with an extremely long payback period, we need to consider in what form we should develop this as a business. The aircraft business is a field with future potential that offers various opportunities, but I am well aware of the issues surrounding how we should proceed in investing capital

Turning Diverse Technological Resources into Future Advantage

Every business has two aspects: financial results and business scale. Our current plan is to improve cash flow, turnover, and productivity, and once this is efficiently carried out, it will be reflected in financial results and allow us to further promote these initiatives. With a firm business foundation, we will be able to respond to minor economic or environmental changes, creating a system that enables us to achieve stable business results unaffected by the

Results and Targets of the 2018 Medium-Term Business Plan (Billions of ven)

	FY2018	FY2018	FY2019	FY2020
	original target	actual	plan	target
Orders received	4,100.0	3,853.4	4,300.0	5,000.0
Revenue	4,200.0	4,078.3	4,300.0	5,000.0
Profit from business activities (Margin)	160.0 (3.8%)	186.7 (4.6%)	220.0 (5.1%)	340.0 (6.8%)
Profit attributable to owners of the parent	80.0	101.3	110.0	170.0
ROE	6%	7.2%	8%	11%



business environment.

The other aspect is how we will achieve our target of ¥5 trillion in revenue. Organically, we are very close to achieving that goal, but inorganically we must take into account our growth strategies, so I believe it will still take a little more time to decide where to invest so we are still some way off from this goal.

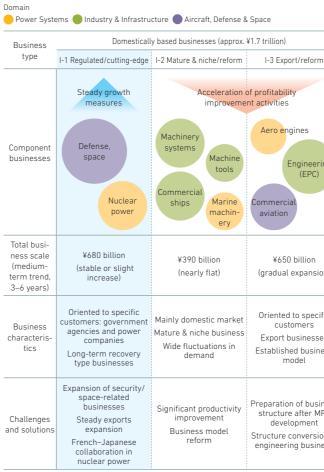
Our various businesses will have to respond to



customers and compete against dedicated manufacturers, which will require flexibility, discretion, and the management staff and systems to enable this. Here, our ability to apply our diverse technological resources will place us at an advantage against these dedicated manufacturers. Our advantages as a diversified conglomerate lie in a solid R&D function, our ability to appeal to customers with solutions comprised of a combination of products, and the breadth of our supply chain. The key is how to put these advantages to work. Our shared technology framework will oversee synergies from various business units, while areas of specialization will be overseen by our corporate headquarters. Regarding information security, I think it would be best to create unified rules and a unified framework as a group. Furthermore, where more than one SBU is involved, or where expansion is undertaken into specific areas seen to have potential, these will need to be supported or led by the Head Office, and a system of responsibility centered on our corporate divisions will be implemented.

With respect to portfolio enhancement, I see this in the form of business profiles centering on financial results, and also taking the market environment into consideration. But I want to take this one step further, adding in allocation of resources—including human resources and plant facilities—and future trends in the industry.

Diversity in management ranks is also important. Furthermore, going forward I will encourage greater diversity in our promotional practices, including singling out younger talent. As an example, I am currently considering a mechanism whereby human resources would be flexibly allocated within the Group, to give different people a variety of opportunities. I will monitor what processes are adopted and what results are achieved. We must also consciously strive, in particular, to give female employees more active roles. Many years ago, it was difficult to imagine women walking around a shipyard wearing safety boots or serving on the job in the middle of the desert; but times have changed, and women now play key roles in various jobs. Going forward, it will also be important to increase the number of role models who enable other women to envision their future work position. This year we selected our first female executive officer, and as the number of women taking on significant roles increases, I think the motivation women feel for working at MHI will improve as well.



Taking in Technological Innovations to Promote Group Reforms

MHI FUTURE STREAM is an initiative that aims to look squarely at changes and movements in the world at large and in technology, evaluate what impact those changes will have on MHI Group, determine what changes and reforms are needed to respond, and see exactly where new business opportunities lie. Amid those changes and movements, MHI Group will likely be compelled to change its business structure or how we develop our business; and under MHI FUTURE STREAM we will consider what path to take in pursuing changes. For example, as the industry shifts from selling machinery to marketing energy cloud and systemization, or switches from engine-powered forklifts to battery-powered, how should we put these changes to use in our business? We have to mull over how our businesses will change; where, amid such changes, business opportunities will emerge as new fields of business; and whether there are areas in which we can respond by combining existing businesses. Then, we will formulate and implement specific plans as to how to modify "business A" into "business A1," and how to

	Globally based businesses (approx. ¥2.4 trillion)				
orm	II-1 Developing/expanding	II-2 Mature/mid-tier	III Large-scale/reform		
	Steady pursuit of	growth and profit	Radical measures (business structure conversion)		
eering C)	Material handling equipment Engines Compressors	Air-conditioning & refrigeration Metals machinery Turbochargers	Thermal power systems		
n Ision)	¥600 billion (recovery or gradual increase)	¥670 billion (recovery or gradual increase)	¥1,150 billion (stagnation or settled at a given level)		
ecific s sses siness	Oriented to global markets High-volume or made- to-order production (standardized products)	Oriented to global markets Mainly overseas production, established business model Portfolio contains differentiated products	Oriented to global markets Large-scale development by major manufacturer/ Long-term recovery type businesses		
usiness • MRJ nt rsion of siness	Increased overseas production and business expansion through alliances	Stronger human resources for global management Early action aimed at next growth area/ technology	Structural market change resulting from CO2 issues and renew- able energies		

approach the new "business B" that has emerged. Since we can't respond to everything relying wholly on internal resources, taking in external resources in order to become stronger will be of key importance.

Without your feet firmly on the ground, a business isn't viable; and if you gaze only into the future, you end up seeing mirages. That said, if you just stare down at your feet as you move forward, things won't turn out the way you expected. It's necessary to consider your situation from both directions: what you have to do where you currently stand, and what you need to do to reach the future you envision.

For some time now, we have adopted AI and the Internet of Things (IoT) into our businesses. In the case of IoT, for roughly 20 years network connections have been used to perform control functions, and for 20 to 30 years we've utilized AI in the sense of control systems incorporating deep learning Str

and machine learning. Technology has enabled rapid progress in areas that weren't possible before, and depending on what would be good to connect to what, I think that by combining them with MHI Group's various products and systems, all-new landscapes will come into view. It's possible that this will have a disruptive impact on current businesses in the short or medium term. Some business areas might undergo huge market changes, and simultaneously, peripheral business fields may emerge that we hadn't undertaken before.

Society is demanding solutions that make our lives easier and work in harmony with the

environment. Given how MHI Group excels in developing solutions that control environmental impact and global warming, these are areas where there are strong possibilities for growth.

In terms of open innovation, today we actively work with overseas research institutes and universities. But as we don't have an eye for business areas we haven't undertaken much up until now, we are investing in venture capital firms and the like, forming new relationships, and, in the learning process, striving to acquire information that we couldn't receive through existing channels. This will help us see how technologies and products may develop.

A Social Responsibility to Turn Climate Change into Business Opportunities

Providing solutions to social challenges surrounding climate change is one way in which we can contribute to society. And because MHI Group possesses various technologies and resources in this area, going forward we will proactively work to develop innovative solutions to cope with and counter climate change.

From the perspective of risk, however, coal-fired systems and other CO₂-emitting products—formerly our mainstay business area—today are viewed in a harsh light. Even so, there remain people and countries that value coal as a critical resource. In

response, it's necessary for us to provide packages incorporating systems that emit less CO₂, technologies for recovering CO₂, and so on.

Providing solutions that respond to climate change can have both negative and positive aspects, in the form of business opportunities. Energy consumption patterns are volatile, and it's thought that as populations increase this volatility will increase globally, leading to growth in related social infrastructure. But as energy production methods diversify, the number of issues needing to be addressed will increase and demands will become more complex, which conceivably will bring about changes in cycles every several years. In order to achieve overall positive results, our business portfolio will have to be recalibrated, and I believe that moving things forward in that direction is our role. As renewable energies become increasingly common, other issues will emerge: for example, what to do with regulated power supplies and power transmission and distribution. Transforming climate change into opportunities is our responsibility to society, and sharing profits with our stakeholders by providing solutions as a newly created value, is our underlying philosophy.

With respect to sustainability, we will aim to be a

REALIZING GROWTH BY RESOLVING SOCIAL ISSUES

sustainable company by turning changes in the business environment to opportunities, applying our accumulated resources, and taking initiatives with speed and flexibility, as our way of responding to everyone's hopes and expectations. The keyword is "speed." MHI Group has had a tendency to be overly cautious, but recently we use the word "pivot" in the sense of, "Let's give it a brief try, and if it doesn't work, we'll end it." As virtual reality makes advances, pivoting's possibilities grow larger. Previously, we made prototypes and showed them to customers; now, customers can view them in the virtual realm. As an example, whereas previously in determining the position of a forklift mast, we had to actually manufacture a sample, today, we can carry out minor adjustments, making it wider or narrower, while looking at it in the virtual realm alongside our customers. Even with things as large as an entire plant, previously we would construct a piping model in 1:20 scale, determine how to monitor, and confirm whether hands-on work can be carried out during assembly. Now, we can do a variety of things directly on a 3D drawing. I expect that new technologies will change how work is done, and it's also possible that we will be able to move at a speed equivalent to that of developing consumer products.

Up until now, we have reorganized and created mechanisms to catalyze progressive change for the Company, but what lies at the core of change is employee awareness. In a fluid environment and state of circumstances, employees that strive to evolve themselves through awareness will allow the Company to evolve in parallel and grow stronger. However, if no change in awareness takes place, we will be back at square one, regardless of how much we change or create company mechanisms. Going forward, we will take on further initiatives to encourage all employees to increase their awareness of the need for change, and will ceaselessly carry out new reforms with the aim of making MHI Group even stronger than ever before.

> CFO's Message

By integrating a focus on strong financial foundations into our corporate culture, we are now poised to achieve our Triple One Proportion (TOP) objective.

Cash Flow Management as an Integral Part of Our Corporate Culture

Since the beginning of the 2010 Medium-Term Business Plan, MHI Group has been trying to emerge from a protracted slump in earnings by prioritizing the management of balance sheets and cash flows as a way of improving our asset turnover ratio, an area improvable through our own efforts, rather than focusing on the operating margin, which is vulnerable to external influences. To manage our balance sheets—a consideration that had been given short shrift up to then-we launched our strategic business evaluation system, began reforming the business processes of each Strategic Business Unit (SBU), and set the cash conversion cycle (CCC) as a key performance indicator (KPI). In our 2018 Medium-Term Business Plan, we adopted what we call "TOP"—Triple One Proportion—as a proprietary comprehensive KPI, and have since monitored the state of our company by examining the balance of our revenue, total assets, and market value.

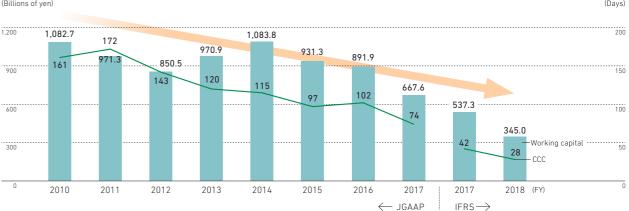
In managing our cash flows, we have been able to shorten our CCC dramatically (from 161 days in fiscal 2010 to 28 days in fiscal 2018) and reduce our working capital substantially. In specific terms, whereas in fiscal 2010 we required more than ¥1 trillion in

> Masanori Koguchi Director, Senior Executive Vice President, CFO

working capital*1 to secure roughly ¥3 trillion in net sales, in fiscal 2018 we were able to bring in approximately ¥4 trillion in revenue with less than ¥350 billion in working capital. Moreover, operating cash flow has exceeded ¥400 billion in each of the last two years: sufficient amounts to cover the cash outlays incurred by development of the MRJ (SpaceJet) business. In fiscal 2018. free cash flows (FCF) inclusive of investment cash flow reached an unprecedented ¥243 billion.

I firmly believe that these improvements in our financial position are not merely a temporary occurrence. In each business segment and at every workplace, I get a true sense that all employees are taking steps to improve business terms, thinking seriously how to improve productivity and shorten their CCC, and sharing their ideas for Groupwide initiatives that will not only generate cash, but also improve the competitiveness of each business itself. As an example, previously our air-conditioning and refrigeration operations were suffering from low profitability, but after shortening their CCC, productivity at our production base in Thailand was raised threefold, generating robust profits today. In our commercial aircraft and defense businesses too. improvements made at workplaces have shortened their respective CCCs and today are contributing to enhanced profitability. When employees see tangible results from methods they themselves have devised, it creates a sense of achievement and builds confidence; initiatives then become ongoing,

Reduction of Working Capital (Management Efficiency Enhancement) (Billions of yen)



14

thereby becoming part of MHI's corporate culture. Reforms are carried out in three phases: first, systems and organizations; next, business processes; and finally, corporate culture. Today we are now in the final stage.

Examples of Productivity Enhancement Initiatives

Commercial aircraft business (Oye Nishi Plant, Aichi)

Production lead time has been shortened by automating work processes, improving production technologies and design, etc. Also, production was successfully increased to 14 Boeing 787s per month, while keeping facility expansion to a minimum, dispelling the conceit that production increases invariably require capital investment.

Air-conditioning & refrigeration business (MACO^{*2}, Thailand)

Production lead time has been reduced by focusing on made-to-order production based on secured daily units instead of production based on anticipated monthly units, and switching from conveyor-type production to cell production for wide-variety small-lot production. As a result, inventory assets have been reduced and productivity improved more than threefold.

*1 Working capital = trade receivables + inventories - trade payables - advanced payment received on contracts (on a Companywide basis) *2 Mitsubishi Heavy Industries-Mahajak Air Conditioners Co., Ltd

Reuse of Fixed Assets and Conversion to Current Assets Are Key to Achieving TOP

Much has already been accomplished from the initiatives taken thus far, but insofar as achieving our ultimate goal—TOP's 1:1:1 balance in revenue (business scale), total assets, and market value-we are still only partway there, with a balance at 0.8:1:0.3 as of the end of fiscal 2018.

One challenge we face toward achieving TOP is revenue expansion from growth-oriented investments. Under our 2018 Medium-Term Business Plan, we are focusing on "dynamic" capital allocation, making use of our strengthened financial

foundations. But finding worthy growth areas to invest in is not easy, and as a result, in fiscal 2018 we ultimately allocated more capital to reducing interest-bearing debt than we had originally planned. From the standpoint of maintaining a proper balance between business and finances-the crux of our financial strategy-today we are in a phase where we should be concentrating on growing our business; and I am fully aware of my duty, as CFO, to direct how to appropriate capital into growth-oriented investments, including inorganic growth.

Status of Capital Allocation Plan: Fiscal 2018 Results

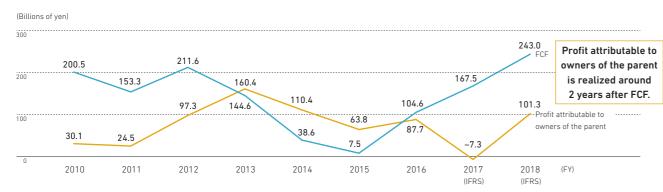


Another major challenge for us is how to make new use of our fixed assets or turn them into current assets. In terms of reaching our goal of improving the turnover ratio on our balance sheets, I think we are about two-thirds of the way there, but this has been achieved mainly by elevating the efficiency of our current assets, which account for about half of all assets. Insofar as our fixed assets are concerned, although these have expanded to roughly ¥2 trillion since fiscal 2014—largely through M&A activities—revenue have not grown proportionately

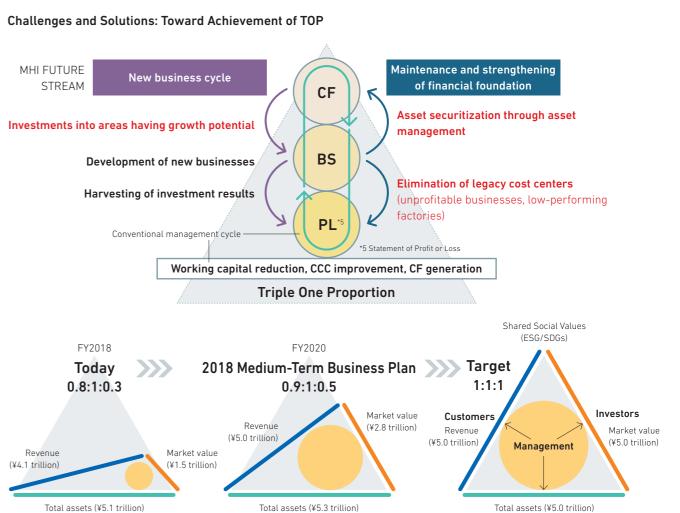
and our asset turnover ratio is gradually deteriorating. To address this issue, from fiscal 2019 forward we will undertake a shift in stance, from old to new and from "hardware" to "software." For example, we will replace old machinery with new, highly productive machinery, or use the funds from selling a factory to invest in a business partner that will lead to a new business.

To make our fixed assets more efficient, expanding our market value—the foremost key to achieving TOP—will be of prime importance. This is because

Profit Attributable to Owners of the Parent Increase (Correlation with Cash Flow)



non-cash expenses relating to fixed assets-depreciation costs and the like-significantly erode our net profit (profit attributable to owners of the parent), impeding growth of our market value. Normally, over the long term, free cash flows-the remainder after expended funds are subtracted from acquired funds-becomes virtually synonymous with net profit, and at MHI our net profit tends to lag approximately two years behind our free cash flows. Previously, in the event that factory operating rates were low and revenue was unable to fully cover depreciation costs, or if unnecessary operation and maintenance costs were incurred continuously, booked expenditures would be knocked out of balance with earnings, and net profit would become unable to keep up with free cash flows. In order to tie free cash flows securely to net profit, the reusing of fixed assets and conversion to current assets is vital. In fiscal 2018, we generated a free cash flow of





¥243 billion even including extraordinary factors, so as a Group we have already exhibited the capability to generate free cash flows exceeding ¥300 billion. If, by raising the turnover ratio of our fixed assets, we can securely book that level of net profit with an assumed capital cost ratio of 6%, our market value will reach the ¥5 trillion targeted under TOP. To begin, we will carry forward our reforms further toward achieving a market value of ¥2.8 trillion in fiscal 2020, the final year under our 2018 Medium-Term Business Plan.

St

tegy

Growth Strategies

The environment surrounding MHI Group is undergoing changes at an extremely rapid pace, as demonstrated by the shift from low-carbon energy to carbon-free energy and revolutionary advances in digitalization technology, such as AI and the IoT. Amid these conditions, we will need to resolve complex and difficult social issues of the present and the near future if we wish to continue to be a company needed by humankind and society as a whole. To accomplish this task, we are promoting MHI FUTURE STREAM, an initiative involving constant innovation and continuous contribution.

Scouting for and co-creating innovative technologies that relate to social needs and our business strategies. To realize the co-creation of innovation, we are promoting collaboration with universities, venture companies, and other outside institutions. To that end, we have moved forward with the establishment of MHI Testbed Hub (tentative name), which provides infrastructure such as creative spaces and testing facilities to external partners. Create medium- to long-term measures to convert existing businesses based on an understanding of changes in megatrends

in each industry.

Converting existing businesses

Technology Scouting

Exploring for innovative technologies

Scout for cutting-edge technologies that have significant impact

Scout for technologies needed for the businesses depicted in "Shift the Path'

DISRUPTION Disruptive technologies

Explore technologies that could have a disruptive impact on megatrends, industrial structures, and business opportunities

Scout for and co-create the necessary technologies for realizing business models that capitalize on business opportunities

KEYSTONE

–Necessary technologies-

Identify business opportunities and potential business threats based on social mapping long into the future

Mega Scan

Exploring all realms of opportunity

Understanding megatrends Predicting industrial changes Suggesting hypothetical business opportunities

Drawing out scenarios of estimated future changes in business domains from the perspectives of society, the economy, and technologies

While doing so, determine the contributions that the Group can make (hypothetical business opportunities)

Upstream process in MHI FUTURE STREAM

When considering new businesses, giving consideration first to perspectives that seek to understand significant global changes (megatrends) before considering our own technologies and individual customer needs is a new challenge for the Company.

With the shift toward decarbonization, digitalization, and decentralization, we are seeing changes from the current situation in which power systems are based on a thermal/centralized power supply. Accordingly, we should turn our attention to movements occurring not only the supplier side, such as power generation and distribution, but also on the demander side.

The technological progress and cost reduction of renewable energy, primarily photovoltaics (PV) and wind generators and the widespread use of electric vehicles (EVs), are expected to reduce the price of storage batteries, which in turn will likely reform electricity systems to allow the demander side—including power distribution networks, factories, and households—to play a more significant role. Accordingly, we have started to consider marketing solutions for added value, such as power system stabilization, to the power generated by large-scale consumers such as factories. Meanwhile, with the expanded power supply-related roles and functions on the demander side, centralized power suppliers will be expected to further provide flexibility in order to stabilize power systems.

- Realizing new business opportunities for the Group within future scenarios
- After collaborating with customers and internal/external partners to establish business models, we consider business plans related to new businesses for existing or potentially new SBUs.*

* Strategic Business Unit

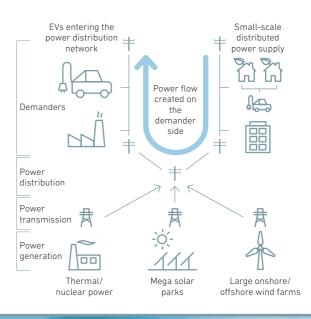
Shift the Path



Example: Change in power systems

Additionally, centralized power suppliers will likely use a mix of thermal and renewable energy sources in the future to realize low-carbon emissions.

In terms of these new power systems, MHI Group will turn the use of low-carbon power and the supply of power to large-scale demanders, such as energy distributors and factories, into new business opportunities.



CoCSO's Message



Evolving Existing Businesses and Creating New Ones in Line with Social Megatrends

MHI FUTURE STREAM begins with "Mega Scan," an exploration of the general currents of society as a whole, rather than individual needs, followed by postulation of likely scenarios of changes and consideration of potential new business opportunities. Our exploration of megatrends under Mega Scan, and especially our interpretation of trends likely to impact MHI, has been completed as a first step. In the energy field, for example, we have noted two trends of particular importance to MHI: a value shift from the supplier side to the consumer side resulting from the growth of renewable energies, which have low operating costs, and the development of intelligent machine systems.

Now that we have perceived various megatrends through Mega Scan, today we are at the next stage of MHI FUTURE STREAM: execution of "Shift the Path," the phase in which we seek to convert

existing businesses and create new ones. Shift the Path will be pursued from a medium- to long-term perspective (we are assuming 10 to 20 years). While it is difficult to define the time frame, we are applying this perspective to business development in areas where we have no existing business that will be conducted through collaboration among multiple SBUs. We are assuming that those businesses targeted for the medium term will take shape within five years, and those designated for long-term realization will emerge around 2030. All will depend on the characteristics of the given product or business. In the case of medium-lot manufactured products, for example, next-generation products need to be developed within five years, otherwise we would be too late to compete. For a new energy system, I think development would likely take 10 years or more.

Strengthening Ties between Business Segments, Promoting Co-Creation with Partner Firms

Up until now, promotion of MHI FUTURE STREAM has been carried out primarily by the corporate divisions, led by the Marketing & Innovation Headquarters. Now, however, in undertaking business development under Shift the Path, we want to proceed with greater involvement of our various business segments. In particular, we see a need to create mechanisms that will enable collaboration among multiple SBUs.

Previously, there were occasions when multiple business divisions cooperated under the general manager of a specific factory; but now that the business divisions are increasingly operated independently following the organizational change from factories to SBUs, we have to forge functions enabling the creation of cross-SBU and cross-domain businesses. We envision launching the new functions in fiscal 2020, and if new businesses emerge from that initiative we expect that new SBUs will come into being after maybe five years.

To develop our new businesses, I intend to increase the mobility of our Groupwide human resources. Within MHI Group we have experts in a remarkably broad range of fields, and if we increase opportunities for collaborations among them we can expect this will promote the development of new business areas. Also, as digitalization needs increase, today we need to develop the skills of our IT and electrical engineers. Our plans are to encourage our current employees to learn those fields and expand their fields of specialization.

Establishment of co-creation centers with external partners

- 1. Social contribution through venture business incubation and regional revitalization
- 2. Development of employee entrepreneurship
- 3. Creation of new group businesses

Design

The "Technology Scouting" element of MHI FUTURE STREAM calls for exploration of technologies in the cutting-edge areas derived under Mega Scan and the innovative technologies necessary to realize the future envisioned under Shift the Path. In carrying out Technology Scouting, we will increase opportunities for co-creation with external human resources. Even up until now we have proactively undertaken open innovation with universities and other entities, but these interactions have been entirely focused on absorbing outside knowledge. Going forward, we will focus rather on joint development integrating our internal human and other resources with external resources. To that end, we intend to establish "co-creation centers" that will function as infrastructure for achieving the new ideas of venture businesses. Furthermore, in our guest to achieve new businesses, we aim to make timely investments into start-up firms both within Japan and abroad.

The activities pursued under MHI FUTURE STREAM have no fixed finish line: the initiatives conducted under Mega Scan, Shift the Path, and Technology Scouting will be continued repeatedly. Our ultimate mission is to cultivate a corporate culture to perceptively understand, and then respond to, the social needs of the world at large. The path down which MHI Group should proceed, I believe, is one of continuous evolution as a manufacturer of machine systems that, with advanced technologies, will give birth to the solutions that society will require.



A Long-Term Vision for MHI Group's FUTURE MHI FUTURE STREAM



We will accomplish MHI FUTURE STREAM objectives by strengthening our corporate and business infrastructures to bolster our competitive position over the medium to long term.

Michisuke Nayama Senior Executive Vice President, CTO

Shared Technology Framework Initiatives for Promoting MHI FUTURE STREAM

Under our "Shared Technology Framework,"* MHI Group is striving to strengthen its technological infrastructure, fortify its marketing capabilities, and optimize its value chain, including procurement, across the Group. We are also taking robust steps to strengthen our technological infrastructure and promote MHI FUTURE STREAM as a way of reinforcing our competitiveness over the medium to long term.

Currently we are working to reap even greater results by sharing, Groupwide, the technologies and knowledge acquired through these initiatives. For example, we are expanding applications of the composite-material technologies developed for our aircraft business to a variety of products, jigs, tools, etc. and we are applying the cutting-edge technologies developed for our gas turbines to numerous other products, including compressors, centrifugal chillers, and turbochargers.

We are also promoting the development of innovative products employing additive manufacturing such as 3D printing, which has enabled the realization of structures previously not possible.

Promoting Shared Use of AI Technologies to Achieve Greater Results

Today MHI Group is applying AI not only to diverse products, services and production facilities, but also to its business processes. In areas relating to products and services, we are actively using IoT technologies to remotely monitor the operating status and usage environment of MHI Group products delivered worldwide. By applying AI and data analysis technologies to this collected data, we are able to detect and diagnose imminent malfunctions and optimize operation.

In production-related areas, we are applying AI technologies in a host of ways: to build work navigation systems; to automate welding devices using image recognition technology to streamline the

Continuous Support of MHI FUTURE STREAM Innovations and Infrastructures with Technologies

MHI FUTURE STREAM has three phases whose collective purpose is to realize specific new products, services and businesses: "Mega Scan," during which we scan for business opportunities and threats based on social mapping far into the future; "Shift the Path," in which we create measures for shifting our existing businesses over the medium to long term; and "Technology Scouting," in which we explore and co-create new technologies based on social needs as well as our own business needs and strategies. In implementing MHI FUTURE STREAM, we make use of the multifaceted market and technology sensing capabilities of the Marketing & Innovation Headquarters, Research & Innovation Center and ICT Solution Headquarters. We are also pursuing synergies by introducing and utilizing innovative outside knowledge and technologies through open innovation together with centers of excellence and Innovation Accelerator LLC, established in April 2018.

As an example, under Shift the Path we are probing changes to power systems, an area in which customer needs are diversifying, as illustrated by emerging demand for control capability to entire supply chain, including access to the delivery status of procured or assembled items; and to improve production scheduling technology in a guest for shorter lead times.

In areas relating to business processes, we are employing AI to check technical specifications and commercial and legal agreements, thereby enhancing our risk management. Furthermore, to make our business processes more advanced and efficient, we are applying AI to analysis of big data: information relating to design, suppliers, expenditures, etc. Going forward we will continue to focus on initiatives of these kinds.

stabilize power supply in response to distribution of power generation and fluctuations in demand. For this purpose, we are now striving to develop and provide a menu of services and solutions that make use of AI and IoT and maximize the value of MHI Group products.

To realize an electrified society—using electricity as a power source to supersede engines, for example—it will be necessary to incorporate electrification technologies into machine systems. With our strengths in Fluid Dynamics, electro-heat transfer and other machinery technologies at the core, today we are utilizing our functional materials, micromachining technologies and the like to develop innovative products.

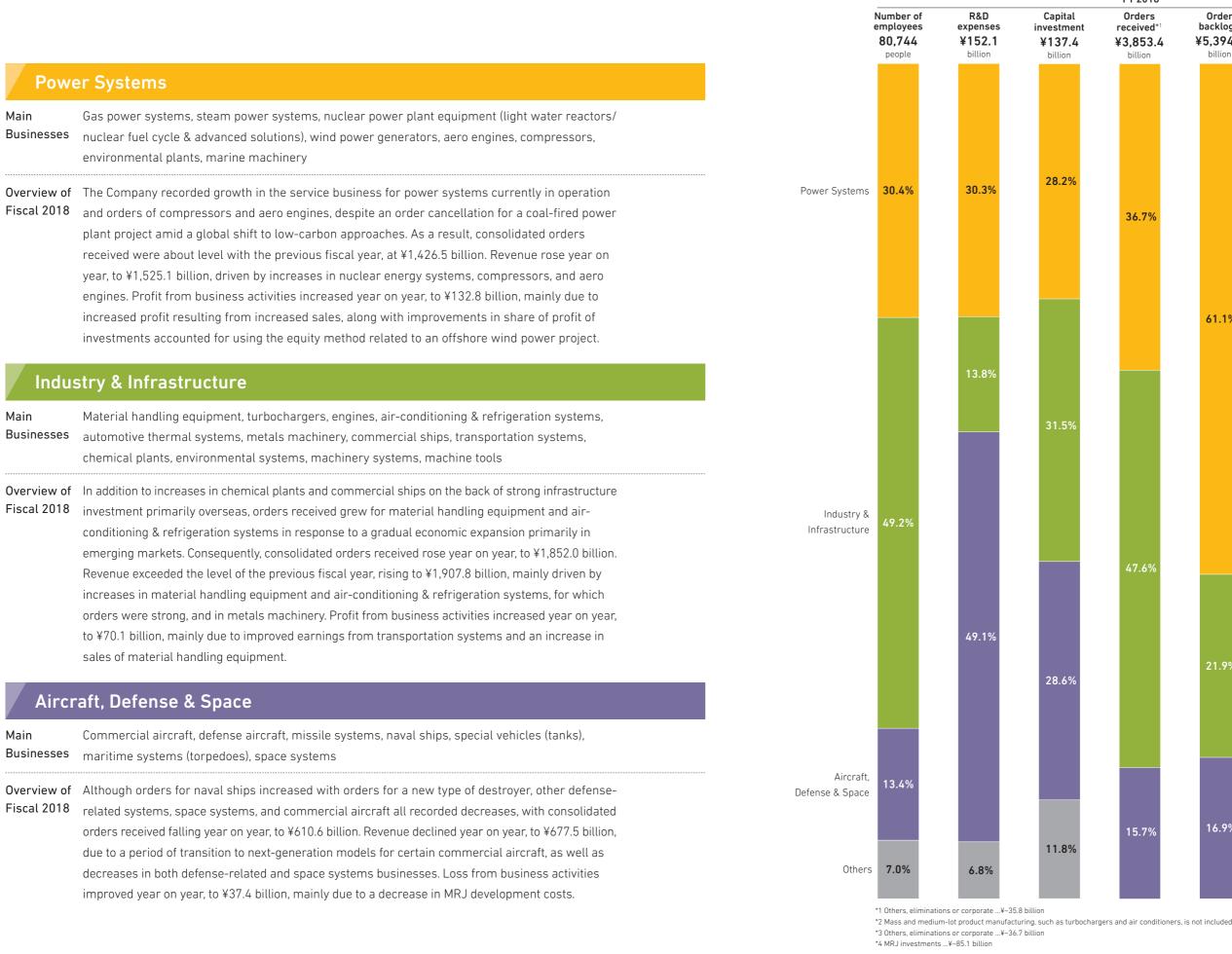
We further believe that by combining digital technologies with machine systems having enhanced control through electrification, it will be possible to realize autonomous, intelligent machines that co-exist harmoniously with humans. In the coming years, we will undertake the necessary investment into related R&D.

Going forward, we will continue to focus on these initiatives as we promote broad sharing of the technologies we develop.

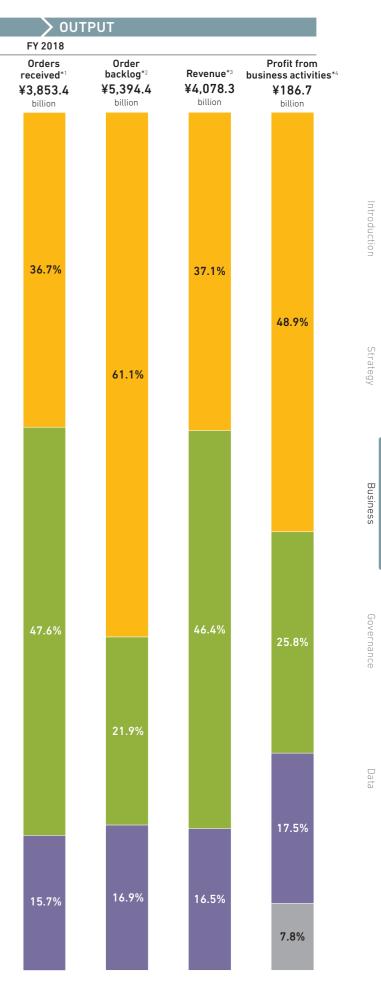
^{*} The Shared Technology Framework encompasses the Technology Strategy Office, Research & Innovation Center, ICT Solution Headquarters, Value Chain Headquarters, and Marketing & Innovation Headquarters.

> Business Segment Highlights

INPUT



MITSUBISHI HEAVY INDUSTRIES GROUE 24



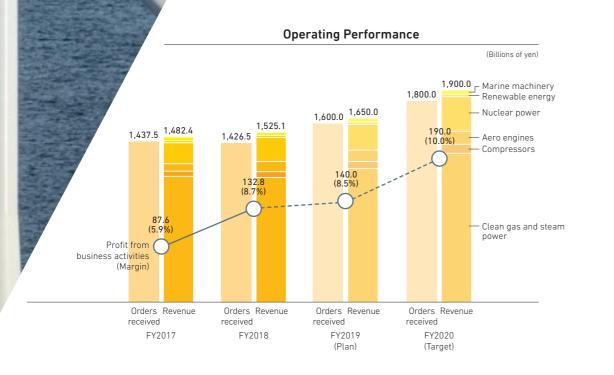
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Power Systems

The Power Systems domain is supporting power supply throughout the world by offering a variety of energy solutions, including clean gas power, which realizes high energy efficiency and helps reduce environmental load; nuclear power, which contributes to reducing CO₂ emissions and can be used as a base load power source; flue gas desulfurization plants, which significantly reduce air pollution; and offshore wind turbines and thermal power, which utilize renewable energies. Also, we have been proposing compressor trains integrated with gas turbines to create turbomachinery synergies in the oil and gas market. Amid demands from the global society to shift to low-carbon and carbon-free energy, we aim to realize a sustainable society while addressing social and economic needs, which differ in each area of the world.

Main SDGs contributed to





Business Environment and Addressing Social Issues

MHI believes that global electric power demand will expand even further as electrification progresses, due to phenomena such as economic development in emerging countries and the penetration of electric vehicles. At the same time, global warming is expected to spur movement toward low-carbon and carbon-free energy. Geographic, economic, and social conditions differ depending on country and region, so it is important to realize a balanced energy supply that corresponds to these diverse needs. The introduction of renewable energy, such as wind power, has been expanding continuously. Simultaneously, we can see growing needs for supply and demand load regulation systems and energy storage systems that secure stabilized electric power and address requirements for efficiency improvement and lower generating costs.

Business Opportunities in the Near Future

The world's energy consumption is forecast to grow 30% or more over a 15-year period, from 24,919 TWh in 2016 to 33,510 TWh by 2030.*2 In terms of the global power mix, the percentage of renewable energy used in Europe and the Americas is doubling, while the use of coal-fired power is declining. However, the use of gas-fired thermal power and nuclear power is expected to remain at a steady level. Meanwhile, in Southeast Asia, the rising demand for power is being met with renewable energy, gas, and coal-fired power. Although the use of renewable energy will continue to grow going forward, there is a limit to how much this energy source can meet demand for power on its own. Accordingly, steam power will continue to play a key role as a renewable adjusted flexible operation, and also nuclear power will remain an important base load energy source. *2 Source: World Energy Outlook 2018

Areas of Focus under the 2018 Medium-Term Business Plan

We will work to expand after-sales services that meet demand for improving economic performance and reducing the environmental load. For example, we have been engaging in renovation of existing heavy-duty gas turbine plants for efficiency improvement, or for reducing NOx emissions by adding air guality control systems (AQCS). We are also working to respond to new domestic regulations on nuclear power and steadily promote and enhance the safety of construction work aimed at preventing major accidents related to nuclear power. For marine machinery, we will focus on construction geared toward switching over fuel sources to respond to SOx regulations. Additionally, to capitalize on the expanding market scale, we will enhance the MRO^{*1} business for aero engines and our compressor service network. In these ways, we will aim to establish a virtuous cycle in which the profit that we gain through these efforts will be invested in products in growth fields, such as small- to medium-sized gas turbines, compressors for gas processing plants, and manufacturing components for aero engines, in addition to expanding after-sales services for such products.

*1 Maintenance, Repair, and Overhaul

Development of Key Technologies and Creation of Synergies

It is MHI Group's continued aim to reach the Sustainable Development Goals (SDGs). As the introduction of renewable energy progresses, we will contribute to society by providing a balanced energy infrastructure. To that end, we will develop products and offer solutions that contribute to a stable power supply, including hydrogen-powered gas turbines, lightwater reactors that enhance safety, and innovative next-generation reactors. Additionally, to support the future need for introducing energy infrastructure, we are working together with a university in Australia to develop the key index approach "QoEn™." This index approach will aim to offer proposals related to a quantitative vision for high-quality energy infrastructure from the planning stage of projects such as urban development.

QoEn™ is a registered trademark of Mitsubishi Heavy Industries. Ltd.

C		Systems offering world's highest levels of thermal efficiency and output
S	Clean Gas and Steam Power	 A full range of output levels, from small and medium-sized to large
Strengths		 Cutting-edge low-carbon and eco-friendly technologies (IGCC, highly efficient USC,*1 CCS/CCUS,*2 AQCS,*3 and FGD*4)
	Nuclear Power	 Highest levels in the world in safety technologies and product quality
	Renewable Energy	 Extensive track record in offshore wind turbines (second-largest share of the world market) and launch of a 10 MW offshore wind turbine with world's highest output (MVOW*⁵)
	Aero Engines	Combustor and low-pressure turbine manufacturing techniques amassed over many years
	Compressors	Top share of the market in the petrochemical field
	Marine Machinery	Flexible customization and the ability to provide solutions
		Mutual use of technologies, human resources, and facilities
	Turbomachinery Synergies	Gas turbines, aero engines, aero-derivative gas turbines (PWPS*6), compressors, pumps, MET turbochargers, Organic Rankine Cycle (Turboden)
		*1 Ultra super critical *2 Carbon capture and storage/carbon capture utilization and storage *3 Air quality control systems *4 Flue gas desulfurization *5 MHI Vestas Offshore Wind *6 PW power systems
	Clean Gas and Steam Power	Development of service businesses
W	Nuclear Power	Little experience in constructing new plants overseas
eaknesses	_s Renewable Energy	 Overspecializing in offshore wind turbines, thereby not being able to produce enough renewable energy to meet lively demand
	Aero Engines	Market led by European and U.S. engine manufacturers
	Compressors	Track record in the oil and gas market
	Marine Machinery	• Global network
0	Clean Gas and Steam Power	 Need for high-efficiency, green power generation in line with increasingly stringent environmental regulations
		Need for supply and demand adjustments in accordance with the expansion of renewable energy
oportunities	⁵ Nuclear Power	 Introduction of new plants in anticipation of upcoming carbon-free societies
	Renewable Energy	• Expanding offshore wind turbine market (Europe, North America, Japan, Taiwan, etc.)
	Aero Engines	Sustained growth in the aircraft market
	Compressors	 Increasingly vigorous oil and gas markets
	Marine Machinery	Strengthened environmental regulations
	Clean Gas and Steam Power	Increasingly stringent competition with overseas companies
	Nuclear Power	Trend away from nuclear power generation
	Renewable Energy	Increased pressure to lower prices of offshore wind turbines, rise in the number of competitors
Threats	A 5	

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	Renewable Energy	• Increased pressure to lower prices of offshore wind turbines, rise in the number of competitor
Threats	Aero Engines	Aircraft component business changing due to technological innovation
	Compressors	 Increasingly severe competition in the oil and gas market
	Marine Machinery	Creation of massive shipbuilding companies through M&A in China and South Korea

Strategies

Clean Gas and Steam Power	 Develop technology to further reduce environmental load (efficiency improvement technology application of heavy-duty gas turbines, hydrogen-powered gas turbines and AQCS, etc.) Expand sales of small- to medium-sized gas turbines with multiple applications Expand service solutions business (renovation of existing plants, strengthening of solution proposals through Al/IoT, etc.) Improve management efficiency through the continuous implementation of post-merger integration (Optimize resources)
Nuclear Power	 Steadily promote a response to new domestic regulations on nuclear power, provide support for severe accident management facilities Implement maintenance work after the restart of operations Provide support for completion of the construction of nuclear fuel cycle facilities Support measures for the decommission of light-water reactors leveraging the technologies as a plant supplier, support the stabilization of the Fukushima Daiichi Nuclear Power Plant Develop new reactors with enhanced safety for upcoming new-build projects, develop future reactors (fast reactors, small-modular reactors, high temperature gas cooled reactors)
Renewable Energy	• Strengthen mass production systems in response to the expanding offshore wind turbine market
Aero Engines	 Expand business scale to meet robust demand for commercial aircraft Expand MRO business
Compressors	 Expand sales of compressor trains in the oil and gas market Expand and improve service bases, strengthen solutions business response (remote monitoring)
Marine Machinery	Develop new types of turbochargers to expand business, capture new customers in Europe and China

FOCUS

Structural Transition in Energy Businesses

While responding to the steam power market, where demand to lower environmental load is increasing, we will strengthen our product development for clean gas power generation, which is expected to expand, with a focus on the shift to a low-carbon society. We will also work to expand our solution services utilizing AI and IoT.



We anticipate that steam power generation will continue to serve as a means for responding to the fluctuating load of renewable energy, which continues to grow. We also believe that nuclear power will continue to be utilized as a base load power. Accordingly, these types of energy will likely continue to be a necessary part of power generation in the low-carbon society of the future. MHI Group will aim for growth over the medium to long term by completing the structural transition of its energy businesses.

We have achieved the No.1 global market share in heavy-duty gas turbines in fiscal 2018, and we will strive to further increase our share by introducing products with the world's best efficiency. At the same time, we will develop next-generation products as well as hydrogen-powered gas turbines, which do not emit CO2. For medium-sized gas turbines, we will increase sales of products for multiple applications, such as renewable adjusted flexible operation, distributed power generation, and compressor-driven operations. We will also strive to gain the ability to mass-produce solid oxide fuel cells (SOFC).

Furthermore, we will expand our after-sales services that strive to improve the operation of existing facilities. We will also reinforce our total solutions that meet needs for improving economic

Hydrogen-powered gas turbine

performance from the perspective of both supply and demand and reducing the environmental load. These solutions include energy-saving proposals utilizing AI and IoT: ENERGY CLOUD[®], which offers factory management know-how covering from operation to maintenance; and MHPS-TOMONI®, which enhances the performance of power plants and improves operational efficiency.

In terms of renewable energy, we will move forward with the development of the 10 MW offshore wind turbine, which represents the world's highest output, at MVOW, a joint venture in Denmark.

For realizing a society with well-balanced energy, MHI Group will promote coexistence within society and support renewable energy through our clean products and services.



Solid oxide fuel cells (SOFC)

ENERGY CLOUD® is a registered trademark of Mitsubishi Heavy Industries, Ltd. MHPS-TOMONI® is a registered trademark of Mitsubishi Hitachi Power Systems, Ltd. Strategy

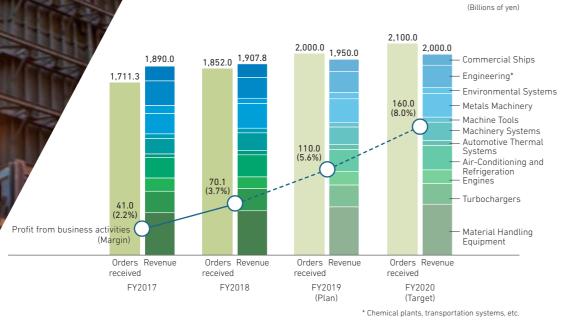
Industry & Infrastructure

The Industry & Infrastructure domain and its diverse range of environmentally friendly products support people's daily lives in countless ways: air-conditioning systems in households and offices; forklifts in logistics; transportation systems and ships in the movement of people and things; and metals machinery, chemical plants, and a wide range of machinery in the industries and societies, help to make people's lives and society happier and more fulfilling. In January 2018, we completed a structural reform that transformed all operations into business companies. In this new stage of growth, through our technologies and products, we will move forward social infrastructures and living environments to the future.

Main SDGs contributed to



Operating Performance



Business Environment and Addressing Social Issues

Recently, achieving economic development while reducing environmental impact has become an increasingly important social issue. Environmental regulations are growing more stringent in various fields, prompting MHI Group to increase social contribution through its technologies and experience. For example, more stringent international emissions regulations on ship exhaust gas will go into effect in 2020. We view that demand for compliant equipment is rising in response. Additionally, needs are continuously rising for turbochargers that help improve fuel consumption and reduce CO₂ emissions in automobiles and for centrifugal chillers adapted for use with low-environmentalimpact refrigerants.

At the same time, the rapid expansion of e-commerce has exacerbated labor shortages in the global logistics market and prompted the need to improve distribution efficiency.

Over the medium to long term, efforts to address social issues such as urbanization and climate change will be of even greater importance.

Business Opportunities in the Near Future

For our diverse range of businesses operated across the globe, we view every need of environmental initiatives and technological innovation in each region or in each industrial field as business opportunities. At the same time, we view every effort to address social issues and respond to global warming, which are now needed to an even greater extent in the global market, as business opportunities. Over the long term, we will capture the changes in infrastructure toward distributed/autonomous configurations as well as changes in flow of resources toward recycling and reuse to create new business opportunities and spur innovation.

Areas of Focus under the 2018 Medium-Term Business Plan

We have divided our business portfolio into three categories: growth investments, earning capacity enhancement, and shift areas of competition/shift to new business models, and are working to strengthen our businesses based on these categories. As for Material Handling Equipment, Thermal Systems and Turbochargers, to expand revenue and profit, we will continue our growth investments in alignment with each strategy to strengthen sales and marketing, as well as developing and launching strategic products. We have positioned Metals Machinery, Engines, Machinery Systems, and Machine Tools under the earning capacity enhancement category. For these businesses, we will strive to enhance efficiency in preparation for business environment changes to secure continuous and steady profit. Focusing on medium- to long-term growth, we will work to achieve differentiation and to shift toward competitive areas for Commercial Ships, thereby strengthening technologies in response to environmental regulations. For Engineering and Environmental Systems, we will work to shift to new business models. Also, in addition to effectively utilizing MHI Group's shared technology function, we will work to mobilize human resources within the domain, thereby enhancing the competitiveness of each business company.

Cultivation of Key Technologies and Creation of Synergies

Toward the realization of sustainable social infrastructure, we will focus on development of environmentally friendly and energy-saving solutions, and on improvement of efficiency in operations with laborsaving and unmanned technologies. Furthermore, collaborating with the corporate shared technology functions and utilizing external resources, we will strive to establish and provide common platforms of digitalization for business companies. Through these efforts, we will work to strengthen our businesses. Strength

	Expertise cultivated in a wide range of product fields and effective utilization of resources within the domain				
	Material Handling Equipment	Third-largest business scale in the world			
	Thermal Systems*1	Extensive product lineup and world-class environmental and energy-saving technologies			
ths	Turbochargers	Development of highly efficient products leveraging high-speed rotational technologies			
	Metals Machinery	Full product lineup and global presence			
	Engineering group*2	Engineering capabilities that create added value through the integration of technologies			
	Transportation Systems	- Advanced system integration capabilities in urban transport and extensive experience with APM^{*3}			
	Chemical Plants	 Advanced EPC*4 management capabilities based on extensive plant experience 			
	Commercial Ships	Superiority over competitors in environmental and energy-saving technologies			

*1 Thermal Systems: Air-conditioning & Refrigeration, Automotive Thermal Systems *2 Engineering group: Engineering, Environmental Systems *3 Automated People Mover (fully automated, driverless vehicles) *4 Engineering, Procurement, and Construction

	Tendency to be affected by short-term economic fluctuations		
W	Engineering group	Volatility in orders received	
	Commercial Ships	Relatively weak cost competitiveness on repeated construction of ships with the same specifications	
loolupoccou			

Weaknesses

•	Material Handling Equipment	 Increasing market for logistics solutions with expansion of e-commerce business
U	Thermal Systems	 Rising awareness toward environmental preservation
	Turbochargers	\bullet Growing trend toward downsized engines with turbochargers in response to environmental an
ortunities		fuel performance regulations
	Engines	• Growing power generation market in line with increases in demand for distributed power system
	Metals Machinery	 Increasing demand for energy savings and low-environmental-impact products, expanding demand for high-value-added products such as high-grade steel sheets
	Engineering group	 Increase in customer needs through the entire plant lifecycle of the EPC business Rising global awareness of environmental issues
	Transportation Systems and Environmental Systems	• Market growth in emerging countries due to economic development and urbanization
	Chemical Plants	• Increasing plant investment in natural gas-producing countries (including the U.S. and Central Asian countries)
	Commercial Ships	Increasingly stringent environmental regulation of maritime transport

_	Rise of manufacturers in emerging countries and sense of uncertainty in the global economy		
	Engineering group	 Emergence of new players due to the arrival of alternative technologies 	
Threats		• Increasing risks due to changes in the external environment (geopolitical risks, etc.) and customer demands	
	Commercial Ships	 Increasingly severe competition as the gap between supply and demand for new ships persists, 	
	commercial Ships	reorganization of South Korean shipbuilding industry	

Dividing Existing Businesses in Three Categories

Expand revenue and prof Material Handling Equipment Thermal Systems Turbochargers	it in growth markets Growth investments:	 Strengthen sales (expansion of direct sales, strengthen sales network, etc.) > Material Handling Equipment, Thermal Systems Promote unmanned and automated operations > Material Handling Equipment Develop and launch strategic products such as low-environmental-impact products > Material Handling Equipment, Thermal Systems, and Turbochargers
environment changes		 Promote further optimization of structure and processes following previous years' PMI and strengthen lifecycle businesses Metals Machinery
Metals Machinery Engines Machinery Systems	Earning capacity enhancement:	 Focus resources into core competencies > Engines
Machine Tools		 Resource sharing and mobilization of human resources Machinery Systems
		 Pursue mass customization and launch new products > Machine Tools
Improve earning capacity through differentiation		Accelerate shift to high-value-added areas such as high-density outfitted ships
Commercial Ships	Shift areas of competition	 Strengthen marine engineering businesses in response to environmental regulations, etc. Commercial Ships
Engineering/ Environmental Systems	Shift to new business models:	 Strengthen lifecycle businesses > Engineering/Environmental Systems

Strategies

FOCUS

Growth in the Mass and Medium-Lot Product Manufacturing Business

The mass and medium-lot product manufacturing business, such as Material Handling Equipment, Thermal Systems, and Turbochargers, is currently driving growth for MHI Group. In these businesses, we will focus on growth investments, including M&A, as we work to achieve further business expansion.



Laser-guided type AGF

In the mass and medium-lot product manufacturing business, we have continued to achieve an annual growth rate of 16% since fiscal 2012 owing to our global expansion initiatives and the series of collaborations with overseas partners, M&A, and so on. In fiscal 2019, we expect to record revenue of ¥1 trillion. To steadily achieve the goals of the 2018 Medium-Term Business Plan, we will implement the following initiatives.

For Material Handling Equipment, demand is increasing due to the spread of e-commerce. At the same time, the need for automation and safety in operation is rising due to labor shortages in the logistics industry. Under these circumstances, we are further enhancing sales and marketing and have acquired direct sales stores in North America that allow us to expand direct sales and enter into new business such as the rental/used vehicle business. We will also strengthen our global collaboration with overseas partners. Furthermore, we will strive to achieve differentiation by providing unmanned and laborsaving solutions such as the laser-guided type AGF* that leverage our technological capabilities. *Automated Guided Forklift

For Air-conditioning & Refrigeration Systems, we foresee stable market growth to continue due to the strengthening of environmental regulations, centered on advanced countries, and the economic growth in emerging countries. In response to this, we will further reinforce our global sales network especially in Europe and China and continue to introduce environmentally friendly products. In addition, for Automotive Thermal Systems, we will



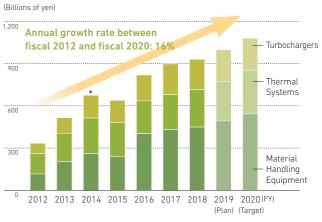
Centrifugal chiller with low-GWP* refrigerant

* Global Warming Potential

expand the electric compressor business with a view to rapid growth of the EV market. To ensure the success of these initiatives, we will strengthen our R&D activities as well in both of these businesses.

For Turbochargers, we will aim to maintain and expand our share in the global markets where we are seeing market growth due to the further tightening of fuel efficiency (CO₂ emissions) regulations. We will also work to increase sales in emerging countries, where motorization continues to progress. At the same time, we will promote the development of products designed for EVs, hybrid vehicles, and plug-in hybrid vehicles in response to the diversification of powertrains. We are also improving our productivity applying IoT, aiming to further strengthen our profitability.

Revenue Results and Forecasts for the Mass and Medium-Lot Product Manufacturing Business



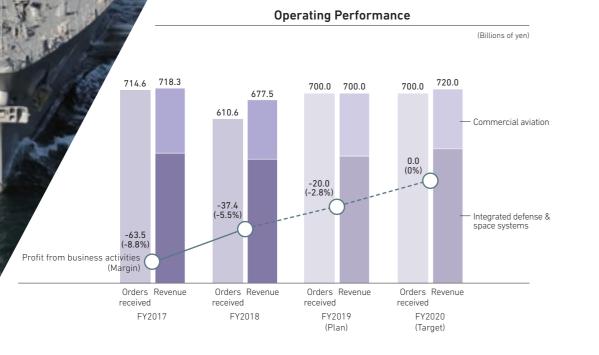
* 15-month accounting period, due to change of account closing at some consolidated subsidiaries

Aircraft, Defense & Space

In the Aircraft, Defense & Space domain, we deal in structural parts, such as fuselage panels and main wings, for commercial aircraft, which are increasing their market presence as a means of transportation. At the same time, we are promoting the development of SpaceJet M90. These 70–90-seater regional jets are more environmentally friendly and comfortable. With the development of SpaceJet M90, we have entered into the final stage of test flights, and we are putting forth the utmost effort to deliver the first SpaceJet M90 by mtd=2020. Furthermore, we contribute to safe and secure livelihoods/through initiatives including development of defense equipment and launching space vehicles with payloads such as communication and observation satellites.

Main SDGs contributed to





Business Environment and Addressing Social Issues

In the commercial aircraft field, demand for the development of more fuel-efficient aircraft has surfaced in response to various factors, including the need to reduce environmental burden and deal with fluctuating oil prices, as well as the increase in long-distance travel and travel frequency due to globalization.

At the same time, as values diversify, world affairs are becoming increasingly complicated. In the defense and space field, by the request of our main customer, the Japanese government, we are doing our part to achieve and maintain societies in which people can live safely and securely.

Business Opportunities in the Near Future

For commercial aircraft, we anticipate market expansion over the next 20 years, with operating fleets doubling during that time. In particular, we expect to see demand for over 5,000 jets in the market for regional jets which have 100 seats or less.

In defense and space, we project growth in space, cyber, and electromagnetic domains resulting from the formulation of the National Defense Program Guidelines for FY2019 and beyond as well as the Medium-Term Defense Program. Additionally, to respond to threats such as cyberattacks targeting critical infrastructure and suspicious ships as well as the intensification of natural disasters, we believe we will see the increased utilization of safety and security technologies. These include cybersecurity technologies that protect control systems, situational awareness technologies using unmanned vehicles, and widearea status observation technologies that analyze satellite images and other data.

Areas of Focus under the 2018 Medium-Term Business Plan

In the commercial aircraft (Tier 1) business, we are working to improve productivity through such efforts as introducing automated equipment. We are also aiming to deliver the first SpaceJet M90 by mid-2020. For the Mitsubishi SpaceJet family, which is currently under development, we are receiving a high level of interest from the market, and we therefore anticipate that this aircraft will become a major pillar for profit in the future.

In the defense business, we are planning to expand into new business fields, such as command and control and unmanned aerial, ground, and maritime systems, while continuing to conduct stable business operations by offering world-class products. At the same time, we will utilize the technologies we have cultivated over the years to expand our peripheral fields, such as MRO,* and our overseas business. In addition, we will promote the expansion into advanced security consumer products. In the space business, we are proceeding with the development of the H3 Launch Vehicle, which will realize low-cost, highly reliable launch services, aiming for the first launch in fiscal 2020.

Cultivation of Key Technologies and Creation of Synergies

For the commercial aircraft (Tier 1) business, we will strengthen existing operations while expanding into new areas with differentiated competitive advantages through the development of advanced materials and advanced engineering and manufacturing processes. Furthermore, we will step up collaboration with the MRJ Business (SpaceJet). We will also aim to enter into high-value-added fields, such as components, and new business fields, such as aircraft operation support.

In the defense and space field, we will integrate our long-cultivated technologies to expand our business territory from land, sea, air, and space to cyberspace and provide total solutions for enabling safety and security.

Strengths	Commercial Aviation	 Long-term customer relationships, a long history of expertise in manufacturing aircraft, and the creation of relationships with parts suppliers based on the foundation of a domestic aircraft industry Design and manufacturing technologies for large composite main wing boxes and other structural components Development of SpaceJet with high levels of efficiency, reliability, and superior operational economics
	Integrated Defense & Space Systems	 Leading-edge technologies fostered through the development of defense and space products Defense: Ability to make proposals for integrated defense systems, and expertise and channels cultivated through international joint collaboration Space: Development capabilities in launch vehicles and launch vehicle engines and world-leading levels of reliability
W	Commercial Aviation	 High degree of reliance on specific customers High sensitivity to foreign exchange fluctuations, as business is concentrated on overseas customers Shortage of experience in commercial aircraft development
Weaknesses	Integrated Defense & Space Systems	 Defense: Limited experience in pursuing and leading export projects Space: Inadequate cost competitiveness in global markets
0	Commercial Aviation	 Doubling of operational fleet over the next 20 years Anticipated demand for over 5,000 aircraft in market for regional jets with 100 seats or less
Opportunities	5 Integrated Defense & Space Systems	 Defense: Cabinet approval of the Three Principles on Transfer of Defense Equipment and Technology Growth in space, cyber, and electromagnetic domains resulting from the formulation of the National Defense Program Guidelines for FY2019 and beyond as well as the Medium-Term Defense Program Space: Growing launch market in line with an expanding need for satellites, including the use of space in national security
Т	Commercial Aviation	 Globalization of aircraft production (business being promoted separately in developed countries and emerging countries) Industry reorganization due to integration and resulting intensification of competition
	Integrated Defense	• Defense: Lower domestic budget for front-line combat equipment expenses due to increased overseas procurement

Threats & Space Systems • Space: Concern regarding price-cutting by new U.S. companies entering the market for overseas launch services

Strategies

	Tier 1	Improve productivity Accelerate labor savings by introducing automated equipment Automate indirect operations through AI/IoT Concentrate production capacities to achieve highly efficient parts manufacturing
		Reduce fixed costs Replace auxiliary/routine man-work with IT systems to reduce labor costs
Commercial Aviation	l	Upgrade and diversify personnel skills, reallocate and equalize deployment of resources Control external expenses Reduce working capital and generate cash flow with advanced procurement processes*1
	MRJ Business (SpaceJet) (secure a long- term, sustainable business)	Internalize outsourced operations using upskilled human resources Strengthen ties with Tier 1 businesses Expand profitability through business synergy and entry into high-value-added markets
		Strengthen sales and customer support structures Enhance human resources and consider partnerships with outside agencies
	business,	 Develop a mainstream product for the North American market and enhance our service system Build a business foundation by promptly establishing a position in the largest regional jet market
	Expansion of exist- ing domestic and peripheral fields	Existing business • Steadily get next core businesses up and running (future fighter, H3 Launch Vehicle) • Expand business scope such as command and control, M&S* ² , etc.
		 Peripheral fields Expand MRO business in maintenance and servicing fields Expand into new peripheral fields (space [including satellite information usage], cybersecurity, unmanned vehicles, etc.)
Integrated Defense & Space Systems	Overseas business expansion	Adapting MHI components for use in overseas equipment • Utilize channels with overseas manufacturers cultivated through existing businesses • Collaborate with Japanese government in parallel with inter-company consultations
Systems		Potential international joint development projects Start international joint development projects with alliance countries (MHI support for Japanese government) Enter joint development projects
	Establishment of dual-use develop- ment businesses	 Utilize core technologies of defense and space business Meet private-sector demand particularly in safety and security field (cybersecurity, situational awareness, wide-area status observation)

*1 Introduce systems for acquisition of specialist skills, including information systems such as AI/IoT/RPA, production processes, procurement operations, CAD/NC programs, etc. *2 Modeling and simulation

FOCU<u>S</u>

Developing and Establishing a Business Structure for the Mitsubishi SpaceJet Family

We are focusing our efforts on pursuing type certificate (TC) acquisition for SpaceJet M90, Japan's first domestically produced passenger jet, with the aim of delivering the first SpaceJet M90 by 2020. Additionally, we are working to establish a structure for the mass production of this jet. At the same time, we are striving to develop a mainstream product for the North American market and enhance our service system.



In June 2019, we presented our new brand, Mitsubishi SpaceJet family, at the Paris Air Show. We chose to rename our Mitsubishi Regional Jet (MRJ) as "SpaceJet" to place emphasis not on a "regional" market segment, but rather on the product value of the SpaceJet brand, which includes its spacious and wide cabin and overhead bins, ultimate comfort, environmentfriendliness, and excellent economic performance. We are focusing on the TC acquisition for the MRJ90, now SpaceJet M90, and are striving to establish a customer support network and an optimal mass production structure that allows us to leverage synergies.

Additionally, we announced SpaceJet M100 as a new concept for aircraft. With 65-76 seats, SpaceJet M100 will have either three-class or two-class cabin configuration and will comply with scope clauses* in the United States. For the global market, we will also be able to expand SpaceJet M100 to a single-class configuration with 88 seats, thereby meeting a wide range of customer needs. Additionally, SpaceJet M100 will boast industry-leading operational economics. We anticipate that the market for jets with 100 seats or less will see demand for over 5,000 regional jets in the next 20 years. We therefore believe there will be strong and stable replacement demand for existing jets throughout the 2020s. Going forward, we will strongly push forward with the development of SpaceJet M100 as an aircraft that

perfectly matches the U.S. and global markets.

Also, we concluded a business transfer contract to acquire the Canadair Regional Jet (CRJ) program from Canada-based Bombardier Inc. Bombardier has been involved in the CRJ program for many years, which focuses on small passenger jets. This business acquisition will help us complement our existing commercial aircraft business, particularly functions for the development, manufacture, sale, and customer support for the Mitsubishi SpaceJet family. By combining the infrastructure and resources that the Group possesses in Japan, Canada, and around the world, this business acquisition will be an effective means for ensuring the future success of the Mitsubishi SpaceJet family. We also believe this acquisition is an important step within the Group's growth strategy to establish a robust global commercial aircraft business.

* Scope clauses are a part of a contract between a major airline and the trade union of its pilots. Scope clauses establish limits on number of seats, aircraft sizes, take-off weight, etc., for regional airlines.



> Human Resource Strategy



We will foster the necessary corporate culture for a global company and develop personnel who will drive sustained growth into the future.

Hideaki Yanai Executive Vice President, Standing Executive in charge of HR

In our 2018 Medium-Term Business Plan, we established the two core HR-related strategies of "promoting Group members' engagement and enhancement of organizational strength" and "acquisition and development of global and regional managerial talent." To realize sustained growth and development for MHI Group, MHI must become a company where the diverse people who support our Group activities all work with confidence. To that end, we are working to ensure that our vision and strategies are shared and thoroughly understood by all employees and we are beginning efforts to promote operational reform, workstyle reform, and diversity. In these ways, we will strive to promote Group member engagement and enhance our organizational strength.

In addition, we aim for management that is flexible and swift. To reach this aim, we are currently enhancing the diversity of our managerial ranks, systematically developing managerial personnel, prompting flexible and diverse workstyles, and improving our engagement with employees. Going forward, we will reallocate our resources in an effort to strengthen our capabilities as an organization. We will also establish a simple and flat management structure and clarify the responsibilities and authority of our management team.

Promoting Group Members' Engagement and Enhancement Our Organizational Strength

We will concentrate on 1) internal sharing of strategies, visions, and goals, 2) reform of work practices, including more flexible delegation of authority (subsidiarity), review of rules, and improvement of work processes and content, and 3) review of our HR

Acquisition and Development of Global and Regional Managerial Talent

In order to continuously produce and secure global and regional managerial talent at every level to lead the sustainable growth of MHI Group, our HR Department is pursuing a broad range of initiatives.

To secure global managerial talent, we will promote and strengthen programs to develop candidates for management positions, thereby achieving the prompt appointment of officers and executives. At the same time, by diligently appointing officers from the perspective of diversity, we will realize a flexible and diverse global management structure that will contribute to the growth of the Group.

We are also promoting various efforts to secure regional managerial talent. We have entered into the second year of our development program that targets outstanding middle managers recommended from Japan, the Americas, Europe, and Asia. In addition to acquiring managerial literacy, this

Program to develop regional managerial talent (implemented in Bengaluru, India)



General meeting

systems and their operation. Making active use of employee awareness surveys, we will implement these measures throughout the Company on a continuous basis. In addition, we will pursue greater diversity in our management.

program helps us energize Group employees from around the world and foster a sense of unity among them through personnel exchanges between regions.

Furthermore, we are actively making use of talent acquisition platforms to strengthen our recruitment of outstanding personnel in the United States and Europe. In Asia, we are developing personnel through the provision of regionally shared educational content. Through such efforts, our HR departments in each region are leading the way with efforts to secure outstanding talent based on local conditions and needs.

Through these efforts, we are seeking to promote the active use of diverse human resources to a greater extent than ever before in hopes that doing so will lead to a stronger global management system.



Group discussion

Promote the Active Role of Female Employees

Diversity is a crucial element of accelerating our global expansion and becoming a highly profitable company. As an effort to promote diversity, we set a target in 2014 of expanding our ranks of women in management positions threefold by 2020. From fiscal 2005 through fiscal 2013, we focused our efforts on expanding childcare leave, shorter working hours,

return-to-work programs, and other programs that support women. Since fiscal 2014, we have been turning our attention to efforts that help women advance their careers. In these ways, we have established an environment that enables diverse and flexible workstyles for both our male and female employees, guided by the following four themes.

1. Increasing the number of female employees

In addition to establishing targets and strengthening the recruitment of female technicians, we are implementing required career-planning sessions for women in their third year of work. By doing so, we are working to strengthen the pipeline for the appointment of women to managerial positions in the future.



Panel discussion with employees on childcare leave

Managerial training for women

2. Career support

We have in place various systems that support a work-life balance to ensure that women can continue their careers, realize personal growth, and exhibit even higher performance. These include work-from-home programs, childcare support seminars, and nursing care seminars.

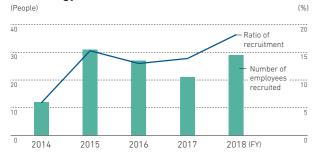
3. Systematic development of female managers

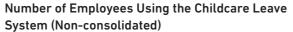
We have established frameworks for systematically developing and appointing women candidates for promotion to managerial positions. These frameworks involve such efforts as dispatching female employees to external organizations for managerial training and strengthening follow-up support in the development of women candidates for promotion. In these ways, we are working to gradually develop female managers.

4. Fostering of an open and diverse corporate culture

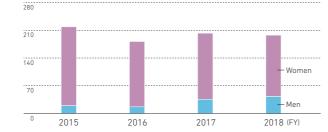
We actively communicate the commitments of our top management, starting with the chairman and the president, through in-house lectures, the corporate intranet, and Group reports. In addition, we hold seminars aimed at reforming the awareness of our personnel in managerial positions. In these ways, we are working to change the awareness of each employee and establish an environment in which both men and women can pursue diverse and flexible workstyles.

Ratio of Female Recruitment (Specializing in Technology) (Non-consolidated)





(People





I will support and encourage ever more female employees to seize opportunities for career advancement.

Since April 2019 I have been in charge of women's career development at MHI, specifically in technologyrelated areas. From the beginning, I have been holding interactive discussions with our female employees to learn how well they understand MHI Group's support system, whether it meets their needs, and so on. MHI Group already has a system in place, so what needs to be addressed is making the system widely known and understood, not only by those who themselves would use it but also by those around them. Once this is achieved, more female employees will be encouraged by those around them to use the system, and this I think will make it easier for women to work. At the same time. however, if too much fuss is made, female employees may distance themselves from trying out new opportunities, so it's important to create workplaces where communication can be conducted as frankly as possible. In my new position I look forward to receiving advice from Director Ahmadjian and I hope to create opportunities to work with her in hearing directly what women in management positions have to say. In the future, I also hope to deepen

Interview of a Female Officer

We asked Kimiko Ogino—MHI Group's first female officer to rise through the ranks—about promoting the active role of female employees.

Kimiko Ogino

exchanges with female managers at other companies, to engage in broad exchanges of information.

When I joined MHI, it was considered "long" if a female employee stayed with the company for five years, and I myself had no conviction to keep working for the long haul. But when I got married, my superior insisted, with great earnestness, that there was no need for me to quit. That support, together with the support and understanding I received from my family, enabled me to keep working as I raised my children. And as I continued to work and gain experience in management, I increasingly came to appreciate both my job itself and how it expanded my horizons as a person. Women possess outstanding communication skills, and to apply those skills to MHI's benefit also, I want to convey to all female employees not to shut themselves off from possibilities. Instead, when opportunities are presented to them I hope they will at least give them a try. I think one impediment is that they are convinced from the outset that they will inevitably have to sacrifice either their work or their private life. So my duty, I believe, is to rid them of that notion.

> Initiatives in the Hydrogen Supply Chain Aimed at Realizing a Carbon-Free Society

The Paris Agreement, which was adopted in December 2015, calls for keeping the average global temperature rise well below 2°C above pre-industrial levels. It also calls for efforts to limit this temperature increase even further to 1.5°C in consideration of countries that are particularly vulnerable to climate change. Reaching this target means that we limit global greenhouse gas emissions in the second half of this century to a level that allows for these emissions to be absorbed naturally by ecosystems. In other words, it means that we need to reduce the amount of greenhouse gas emissions by human activities to substantially zero.

Power generation systems that do not rely on fossil fuels are crucial to reducing greenhouse gas emissions in an effective manner. Accordingly, the introduction of renewable energy such as photovoltaics (PV) and wind power is expected to further expand going forward. At the same time, there will likely be a growing need for technologies that support renewable energy such as adjusted flexible operation. The ways of producing hydrogen and stably using it are being examined to meet requirements for fuel that does not emit CO₂ used for transportation or for industrial heat sources for which renewable energy is difficult to apply.

electrolysis, which uses renewable energy as its power source. However, to supply hydrogen produced through water electrolysis in an economically viable manner, it is necessary to realize such accomplishments as the widespread application of renewable energy and innovation in water electrolysis technologies. This means that a considerable amount of time is needed before we can produce hydrogen efficiently using water electrolysis. To fill in the gap until such accomplishments are reached, it is imperative that we realize another carbon-free production method for hydrogen over the medium term. We believe this can be accomplished by combining the production of hydrogen using reformed fossil fuels such as natural gas with the application of the carbon capture utilization and storage (CCUS) process, which recovers the large amount of CO₂ that is generated when producing hydrogen in this way and either reuses it or stores it in the ground so that it will not enter the atmosphere.

MHI Group possesses a wide range of products and technologies related to a CO₂-free hydrogen supply chain. Among these, this section introduces our hydrogen combustion gas turbines, ammonia plants, and CO₂ capture devices.

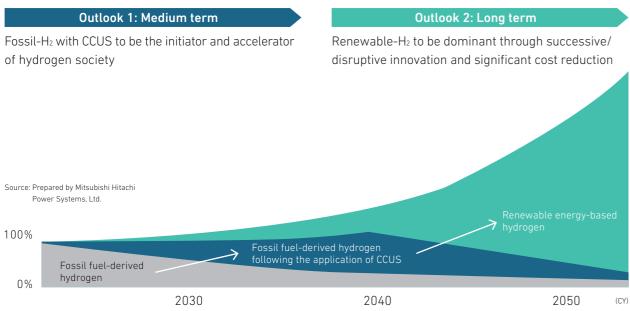
Power Generation Systems That Use Hydrogen Fuel

Mitsubishi Hitachi Power Systems, Ltd. (MHPS) has invented hydrogen-fired gas turbine systems that only require the conversion of burners in gas turbines at existing power plants in order to be used. Accordingly, this system is expected to help reduce the cost-related hurdles to convert to hydrogen fuel, which in turn will promote the smooth transition to a hydrogen society. With support from the New Energy and Industrial Technology Development Organization (NEDO), MHPS is pursuing the development of hydrogen-mixed combustion burners that mix hydrogen with natural gas used as fuel as well as hydrogen-specialized combustion burners that generate power using only hydrogen. As hydrogen burns at a faster rate than natural gas, there is a greater risk of backfire occurring compared with burning natural gas on its own. Accordingly, for burners used in hydrogen gas turbines, there is a need to work toward reducing NOx emissions and stabilizing the combustion process itself, centered on making improvements to avoid backfire. There is also a need to enhance the marketability in terms of such factors as lower costs and longer life in conjunction with pursuing their development and practical application.

In 2018, MHPS successfully developed a burner that is able to use natural gas with a hydrogen mixture of 30%. Test combustion using these newly developed hydrogen-mixed combustion burners showed that NOx emissions caused by hydrogen combustion can be kept at conventional levels, and that the operation can be carried out without the occurrence of backfire or a remarkable increase in combustion pressure fluctuations. Serving as a

One way to produce hydrogen is through water

Outlook for Hydrogen Ratio by Source over the Medium to Long Term



technology that can respond to outputs equivalent to 700 MW (gas turbine combined cycle [GTCC] system inlet temperature of 1.600°C), these hydrogen-mixed combustion burners can deliver an approximately 10% reduction in CO₂ emissions when generating power, compared with conventional natural gasfired GTCC systems.

In addition, MHPS began participation in a hydrogen conversion project for the Magnum Power Plant (GTCC with a total output of 1.32GW) in the Netherlands, which is operated by Swedish power company Vattenfall AB. This project aims to convert one of the three power generation facilities at the Magnum Power Plant, which centers on the M701F gas turbine supplied by MHPS, to 100% hydrogen-specialized combustion by 2025, thereby confirming the feasibility of converting to hydrogen combustion. With natural gas-fired systems, one 440 MW GTCC can emit up to 1.30 million tons of CO₂ per year, and converting such a facility to hydrogen fuel will significantly reduce this emission, almost eliminating it altogether.



Hydrogen combustion gas turbine

Realizing the Stable Use of Hydrogen

To enable the stable and large volume use of hydrogen needed to serve as fuel for power generation systems and other purposes, it is necessary to build a supply chain that covers all steps from hydrogen production to hydrogen transport and storage.

Comprehensive hydrogen usage plans are shown globally that take into account the perspective of hydrogen transport, storage, and use from the stage of production. These include systems that utilize the carbon capture and storage (CCS) method to process the CO₂ that is emitted during the production of fossil fuel derived hydrogen. Particularly in Europe, a region that benefits from well-developed pipelines of natural gas, hydrogen gas utilization is being promoted as a kind of comprehensive infrastructure that transcends national borders.

Meanwhile, hydrogen must be liquefied in order to transport it in large volumes over long distances or across oceans. In light of this, R&D activities are being advanced on three kinds of hydrogen transport media (energy carriers): liquefied hydrogen, organic hydride, and ammonia (NH₃). Among these three, we concluded that ammonia possesses the merits listed below and is expected to play an important role as a CO₂-free fuel. The transport of hydrogen using ammonia is also an area in which MHI Group's technologies can make a significant contribution.

- If pressurized at room temperature, ammonia becomes a liquid in the same manner as liquefied petroleum gas (LPG). This means that ammonia can be handled as easily as LPG and that existing infrastructure can be utilized.
- 2. Ammonia is already being internationally distributed in high volumes as an intermediate substance for fertilizer and other chemicals.
- 3. Ammonia itself can be used as fuel without having to convert it back to hydrogen.

On the other hand, ammonia is toxic and emits an odor when it leaks, making the use of ammonia nearby ordinary households an issue. In consideration of this issue, ammonia will likely be used primarily in locations where it can be managed thoroughly, such as at power plants and factories and on cargo vessels.

For micro gas turbines and other small gas turbines, research is being conducted on power generation methods involving the direct burning of ammonia.

In addition, for large gas turbines, MHPS is examining power generation systems that burn hydrogen that has been efficiently converted from ammonia using the waste heat of gas turbines.

The Haber–Bosch process, made practical by German chemists Fritz Haber and Carl Bosch in 1913, has been the main industrial procedure for the production of ammonia. This process involves synthesizing ammonia from hydrogen and nitrogen using an iron-based catalyst. Since 1958, Mitsubishi Heavy Industries Engineering, Ltd. (MHIENG) has been supplying a large number of ammonia plants to various countries around the world. In current ammonia synthesis, natural gas is generally used as a feed stock.

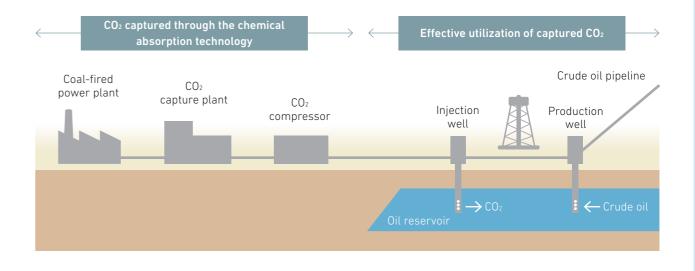


Ammonia pla

Capturing CO₂

To successfully build a CO₂-free supply chain for hydrogen fuel mentioned above, CO₂ capture plant for the implementation of CCUS are essential. MHIENG boasts the world's best track record in the field of commercial CO₂ capture plants, possessing technologies that can capture over 90% of the CO₂ emitted from combustion exhaust gas (KM CDR Process® developed in cooperation with The Kansai Electric Power Co., Inc.).

In January 2017, MHIENG supplied the world's largest CO₂ capture plant to a coal-fired power plant in the U.S. state of Texas. The CO₂ captured from this plant is used for enhanced oil recovery (EOR) in Texas's West Ranch Oilfield, which is an aging oil field. By injecting CO₂ into this oil field, the recovery rate of crude oil is being enhanced.



In addition to the initiatives introduced in this section, MHI Group is promoting the development of technologies related to hydrogen supply chains in a broad range of fields. Going forward, the Group will contribute to the establishment of hydrogen supply chains as an effort to combat climate change.



CO₂ capture plant

KM CDR Process® is a registered trademark of Mitsubishi Heavy Industries Engineering, Ltd., in Japan, the United States of America, European Union (EUTM), Norway, Australia, and China.

> Members of the Board of Directors

As of July 1, 2019

Director, Executive Vice President, GC*4

Masahiko Mishima

Director, Senior Executive Vice President, CFO*3 Masanori Koguchi

President and CEO*1, CSO*2

Seiji Izumisawa

Director, Full-time Audit and

Toshifumi Goto

Supervisory Committee Member

Chairman of the Board

Shunichi Miyanaga

Director

Naoyuki Shinohara

(Former Professor, The University of Tokyo, Policy Alternatives Research Institute)

Director, Audit and Supervisory Committee Member

Hiroo Unoura (Executive Advisor, Nippon Telegraph and Telephone Corporation)

Supervisory Committee Member Hiroki Kato

Director, Full-time Audit and

*1 Chief Executive Officer *2 Chief Strategy Officer *3 Chief Financial Officer *4 General Counsel



Director

Ken Kobayashi

(Chairman of the Board, Mitsubishi Corporation)

Director, Audit and Supervisory Committee Member

Christina Ahmadjian

(Professor, Hitotsubashi University Graduate School of Business Administration) Director, Audit and Supervisory Committee Member

Nobuyuki Hirano

(Member of the Board of Directors, Chairman (Corporate Executive), Mitsubishi UFJ Financial Group, Inc., Member of the Board of Directors,

Corporate Governance

As corporate governance becomes more important in today's world, the roles demanded of the Board of Directors have changed and expanded. Previously, the Board's role was to oversee executive functions from the perspective of pursuing stable profits and maintaining legal compliance. Today, the Board is further called upon to take steps to broadly improve the Company's overall corporate value and strengthen its sustainability through proactive debate with corporate officers. To achieve those ends, the Board is required to 1) maintain and strengthen the diversity of experience and high level of discernment of its members, 2) engage in ongoing dialogue with corporate officers, and 3) confirm that the Company's activities are aligned with the demands of society and all stakeholders, and promote greater transparency in explaining its activities.

Duly recognizing these changes, between fiscal 2012 and fiscal 2017 MHI Group fundamentally reformed its business structure and corporate governance, effecting changes to its organization and business systems, including to its Board of Directors. In addition, the Company significantly strengthened its response to and management of emerging risks, successfully exiting from a period of stagnation caused by internal and external organizational factors.

In some guarters, however, the old way of thinking that if the Company focuses on making good products it can achieve stable operations, still persists. For this reason, there is a need for management and executives to cooperate in nurturing a corporate culture oriented to responding in good faith to the needs of global markets and customers.

Because MHI Group encompasses numerous businesses whose markets or technologies have generally matured, it is necessary to build up highly profitable niche businesses, develop businesses with future growth potential, and explore new areas of business in order for the Company to grow. This has to be balanced with focusing on our current core businesses where we have a competitive edge and considerable business scale. It will also be important to evaluate how these businesses are delivering on the expectations of our various stakeholders. We have to manage our product portfolio from a comprehensive and strategic view point, optimizing overall growth potential while satisfying each stakeholder's needs as much as possible. Also, for MHI Group—a manufacturing conglomerate with many businesses that generate returns over the long term-it is imperative that we evaluate how well our management resources (human, physical, and financial) match our short-, medium-, and long-term business strategies. I truly believe that the efforts taken to make these evaluations and management frameworks as objective and easy to understand as possible will lead to ever-higher levels of governance.

Shunichi Miyanaga

Chairman of the Board

We are taking all stakeholders into consideration and working to enhance corporate governance on an ongoing basis.

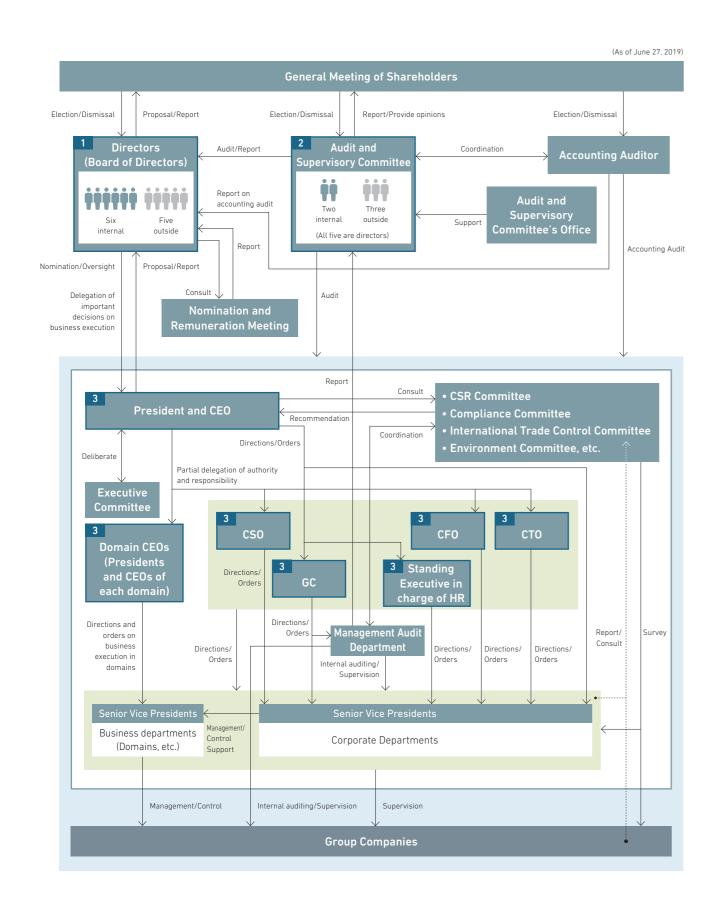
Masahiko Mishima

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 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. MHI is also working to develop transparent, "Japanese-style global management" that focuses on diversity and harmony to ensure that it can continue to realize stable growth over the medium to long term.

Recent	Corporate Governance Reforms Directors Remuneration Organization Engagement Structure of corporate governance
FY	Details
2005	 Increased the number of outside directors from one to two and outside statutory auditors from two to three Reduced the number of directors from 28 to 17 and shortened the term of office for directors from two years to one Introduced an executive officer system Established the Internal Audit Department
2006	 Commenced shareholder relations (SR) visits for domestic institutional investors Abolished the system of director retirement allowances and bonuses Introduced performance-linked remuneration and stock option system for directors
2007	Increased the number of outside directors from two to three
2011	Commenced SR visits in the United States and the United Kingdom
2014	 Reduced the number of directors from 19 to 12 Increased the ratio of outside directors from 15% to 25% Introduced the Chief Officer System
2015	 Transitioned to a Company with an Audit and Supervisory Committee Set the ratio of outside directors to more than one-third (five out of 14 total directors) Introduced a new stock remuneration system for officers
2016	 Established the Nomination and Remuneration Meeting Conducted Board evaluation of Board of Directors' effectiveness and carried out a meeting of independent outside directors Reduced the number of directors from 14 to 11 Increased the ratio of outside directors form 25% to 45.5%
2017	Restructured into three business domains
2019	 Abolished the Advisors System (includes transitional measures to be completed by the end of the 2021 Medium-Term Business Plan) Turned the Nomination and Remuneration Meeting into an advisory body for the Board of Directors





Corporate Governance Structure and Roles

MHI has adopted the form of a Company with an Audit and Supervisory Committee as its corporate structure under the Companies Act. Our corporate governance structure is as follows.

1 Directors (Board of 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. Also, directors are classified as directors who also serve as Audit and Supervisory Committee members and those who do not, and both types are appointed at the General Meeting of Shareholders. Each director has the duty of due care of directors based on their contract of service with the Company.

In addition, in accordance with a resolution by the Board of Directors based on the Company's Articles of Incorporation, the Company delegates decisions on the execution of important operations to the president and CEO. This approach involves swifter decisionmaking and enhancing the flexibility of business execution while also placing the authority of highly precise oversight of business execution with the Board of Directors.

2 Audit and Supervisory Committee

The Audit and Supervisory Committee monitors and verifies various aspects of the Company's operations, including the execution of duties of directors, the appropriateness of business report, etc., adequacy of audits by the accounting auditor, and the effectiveness of internal control systems. The results of this monitoring and verification are provided to the Company's shareholders via audit reports. In addition, the Audit and Supervisory Committee decides on opinions pertaining to the selection of and remuneration for directors who are not Audit and Supervisory Committee members. The committee is also responsible for determining the details of agenda items related to the appointment of accounting auditors, among other duties.

The Audit and Supervisory Committee comprises five directors, the majority of whom (three) are

outside directors. In addition, to ensure the effectiveness of the Audit and Supervisory Committee's activities, two full-time members of the Audit and Supervisory Committee are mutually selected by the committee's members. One of these full-time members has extensive work experience in accounting and financial divisions, giving him a considerable amount of insight on financial and accounting affairs.

To support auditing activities, the 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.

3 Chief Officers and Standing Executives in Charge of Operations

The CEO^{*1} takes charge of overall business operations, and the domain CEOs take control of executing businesses within their individual domains based on overall Group strategies. The CSO^{*2} is in charge of the planning of all business strategies and the CFO*3 takes charge of finance, accounting, and management planning. The CTO*4 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 CSO, 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^{*5} 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, and legal affairs. The standing executive in charge of HR takes overall responsibility for human resources and labor relations.

*1 Chief Executive Officer

- *2 Chief Strategy Officer
- *3 Chief Financial Officer
- *4 Chief Technology Officer
- *5 Human Resources

Outside Directors

The Company has five outside directors (of whom three are Audit and Supervisory Committee members). Outside directors are appointed to ensure the stability and speed of management decision-making at a level that is befitting of a global corporation. To that end, the outside directors provide beneficial views and candid assessments on the Company's management from diverse and objective standpoints. These individuals have diverse experience and insight in such areas as corporate management, public finance, and corporate governance. Each of the outside directors meets MHI's independence criteria for outside directors,* and, based on the judgment that all outside directors are independent from its internal management team, the Company has reported them as independent directors to the Tokyo Stock Exchange and other financial instruments exchanges in Japan.

Each outside director is independent from internal management and engages in the supervision or audit of management. The outside directors receive reports on the status of the establishment and operation of internal control systems and the results of internal audits, and they state their opinions based on their respective insight and beliefs.

The Audit and Supervisory Committee, a majority of whose members are outside directors, also conducts audits and other activities 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.

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

Board Evaluation

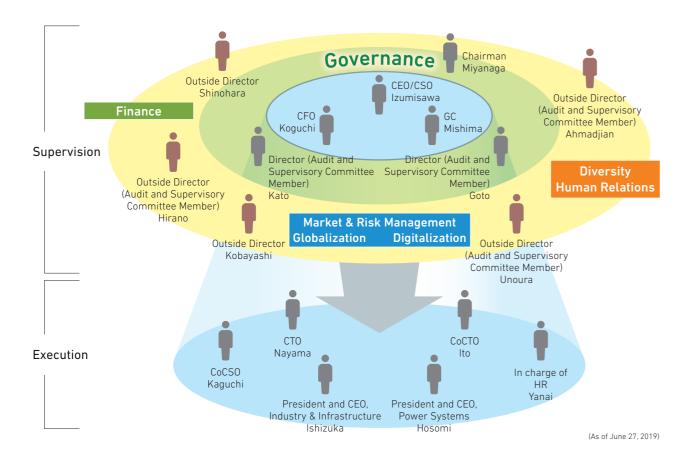
MHI took the enactment of Japan's Corporate Governance Code as an opportunity to analyze and evaluate the effectiveness each year of the overall Board of Directors'. We seek to increase the effectiveness of the Board of Directors and ensure it is substantially fulfilling its duty of accountability to

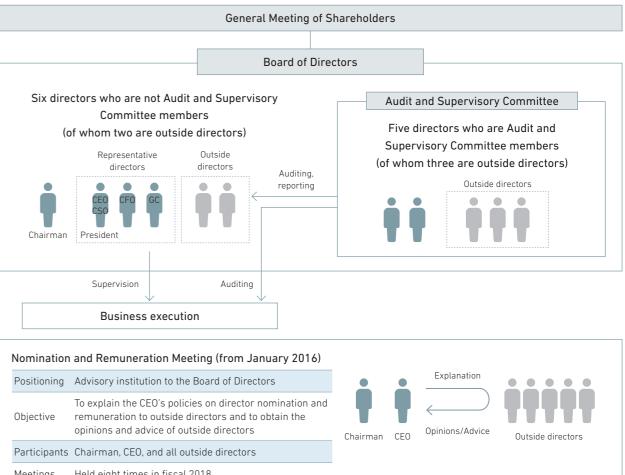
Nomination and Remuneration Meeting

The Nomination and Remuneration Meeting is composed of five outside directors, the chairman of the Board 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

Structure for Supervision and Execution

The Board of Directors comprises members with a variety of backgrounds, ensuring a balanced structure with which to supervise people handling business execution.





Objective	To explain the CEO's policies on director nomina remuneration to outside directors and to obtain opinions and advice of outside directors
Participants	Chairman, CEO, and all outside directors
Meetings	Held eight times in fiscal 2018

shareholders by verifying the overall effectiveness and role of the Board of Directors.

Based on a questionnaire of all directors. Board of Directors discussions, and so on, the Board of Directors confirmed that it functioned effectively in fiscal 2018.

and dismissal of the CEO and other chief officers. and matters related to remuneration.* The aim of this meeting is to further augment transparency and fairness. In fiscal 2018, the Nomination and Remuneration Meeting met eight times.

* Excluding directors who are serving as Audit and Supervisory Committee members

Officers' Remuneration Structure

Remuneration of Directors (Excluding Audit and Supervisory Committee Members and Outside Directors)

The remuneration of directors consists of base remuneration, performance-linked remuneration, and stock remuneration from the viewpoint of reflecting business performance and sharing interests with shareholders.

Performance-linked remuneration is determined based on consolidated earnings while also taking into account the roles of each director and the business performance 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 the individual role of each director and the Company's business performance, etc.

After revising the share remuneration system through a resolution passed at the 94th General Meeting of Shareholders, which was held on June 27, 2019, the standard for the remuneration of the Company's president was set at roughly 30% base remuneration, 40% performance-linked remuneration, and 30% stock remuneration (in the event that profit before income taxes reached ¥200.0 billion; calculated based on the fair value of stock award points granted during fiscal 2018), making for a remuneration structure in which the higher a director's rank is, the greater his or her performance-linked

remuneration will be. Also, the Company has established profit before income taxes as the core indicator for determining performance-linked remuneration and stock remuneration in order to reflect the results of the Company's business activities, including financial income and expenses, in these remunerations. In fiscal 2018, the Company's profit before income taxes totaled ¥182.6 billion, which more than cleared its target (initial forecast) of ¥170.0 billion, which was set at the start of fiscal 2018.

Outside Directors

The Company expects that the outside directors offer their objective opinions and guidance, primarily on their vision for the Company over the medium to long term, from an independent standpoint. Accordingly, the outside directors are only paid a base remuneration, which is set at an appropriate amount.

Directors Who Serve as Audit and Supervisory **Committee Members**

Directors who serve as Audit and Supervisory Committee members are only paid a base remuneration. The amount for this base remuneration is determined in consideration of each member's roles and responsibilities and based on whether he or she is a full-time or part-time member. However, the base remuneration for full-time Audit and Supervisory Committee members can be reduced in consideration of the status of the Company's management and other factors.

Methods for Determining Each Type of Remuneration

Base remuneration: Standard amount based on role + Additional amount based on duties

• The standard amount based on role is determined in accordance with a director's role and the details of his or her duties, etc.

The additional amount based on duties is determined within a range that shall not exceeded ¥500.000 a month.

Performance-linked remuneration: Role-based payment coefficient × Profit before income taxes for the given fiscal year ÷ 10,000 ×

- The role-based payment coefficient is determined in accordance with a director's role and the details of his or her duties, etc.
- The coefficient of business results evaluates the performance and results of a business of which a director is in charge. It is determined within a range from 1.3 to 0.7.

• Performance-linked remuneration is paid when the Company records a profit before income taxes and carries out dividend payments. Stock remuneration: Role-based standard points × Coefficient of business results

- As a general rule, shares and cash are delivered to directors after three years have passed since the granting of stock award points
- Role-based standard points are determined in accordance with a director's role and the details of his or her duties, etc.
- The coefficient of business results is based on profit before income taxes in the previous fiscal year.
- In the event that a director engages in improper conduct, the Company suspends the granting of stock award points and the delivery of shares to said director. There are also cases where the Company asks such a director to submit a payment equivalent to the amount of shares that have been delivered to him or her.

Remuneration of Directors (Fiscal 2018)

		Monetary remuneration			Stock ren		
	Base rem	uneration	Performance-lin	ked remuneration			Total amount of
Position	People	Total amount (Millions of yen)	People	Total amount (Millions of yen)	People	Total amount (Millions of yen)	remuneration (Millions of yen)
Directors who are not Audit and Supervisory Committee members	7	260	5	187	4	93	540
(Of which, outside directors)	(2)	(30)	(—)	(—)	(—)	()	(30)
Directors who are Audit and Supervisory Committee members	6	185	—	—	—	_	185
(Of which, outside directors)	(3)	(55)	(—)	(—)	(—)	()	(55)
Total	13	445	5	187	4	93	726
(Of which, outside directors)	(5)	(85)	()	(—)	(—)	(—)	(85)

Notes

1. The recipients include one director who was not an Audit and Supervisory Committee member and one director who was an Audit and Supervisory Committee member who stepped down in fiscal 2018.

2. The maximum permitted monetary remuneration amount for directors who are not serving as Audit and Supervisory Committee members is ¥1,200 million per year (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 254,000 stock award points granted in total during fiscal 2018 (equivalent to 25,400 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 MHI shares 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. 4. The maximum permitted monetary remuneration amount is ¥300 million per fiscal year for directors who are serving as Audit and Supervisory Committee members (resolution of the 90th Ordinary General Meeting of Shareholders on June 26, 2015).

Remuneration of Directors*



* Remuneration of directors who are not Audit and Supervisory Committee members (excluding outside directors)

Abolishment of Advisors System

MHI abolished the Advisors System in June 2019. Under the former Advisors System, executives who had at one time served as Company chairman or president were appointed as open-tenure senior executive advisors or executive corporate advisors. The decision to abolish this system was made in line with recent business structure reforms, ongoing reviews of the Company's organization and systems, and the continuing evolution of MHI Group into a truly global corporation. In addition, the Company came to this decision through deliberations by the Nomination and Remuneration Meeting and the Board of Directors.

The Company will also implement the procedures listed on the right as transitional measures for Termination of the Advisors System, with the aim of completing these measures by the end of the 2021 Medium-Term Business Plan.

		(People)
		25
		20
		15
	 Stock remuneration Performance-linked remuneration 	10
	Number of subject directors (including those who assumed positions or stepped down during the fiscal year) — Base remuneration	5
2017	2018 (FY)	0

Transitional Measures for Termination of the Advisors System

(Aim to be completed by the end of the 2021 Medium-Term Business Plan)

- 1. Executives with experience serving as Company chairman or president will be commissioned to a position as senior executive advisor or executive corporate advisor for a fixed tenure. Appointments to senior executive advisor shall be limited to one officer at any given time.
- 2. After retirement from the position of senior executive advisor or executive corporate advisor, the officer will be commissioned as an honorary advisor.
- 3. An honorary advisor shall in principle be appointed for a period of two years, on a non-standing basis and without remuneration.

Following completion of the transitional measures, executives with experience serving as Company chairman or president shall not be commissioned as a senior executive advisor or executive corporate advisor, but only as an honorary advisory (in principle, for a period of two years, on a non-standing basis and without remuneration).

I would like to see MHI proactively convey how it can contribute to society.

Christina Ahmadiian Professor, Hitotsubashi University Graduate School of Business Administration

Q What are your impressions concerning the changes in governance and management effected by MHI up to now?

A The situation has completely changed from what it was seven years ago when I became a director. In those days, very little real discussion took place at Board of Directors' meetings. Now, by sharing important issues we can engage in focused debates; we have a deeper understanding from hearing directly what the heads of the various domains have to say; and we talk more about Companywide strategies such as innovation, corporate value, and what it takes to be a truly global company. The discussions themselves have become more lively, and the atmosphere is much more positive, too. In my role as a member of the Audit and Supervisory Committee also, by focusing on important topics and listening to the views of the people concerned, now we are able to discuss issues on a deeper level at Board meetings.

Q What do you see as the major challenges facing MHI Group in the years ahead?

A I think human resources is truly the most important issue at hand today. This is a topic increasingly discussed at Board meetings, but I think we should talk even more about issues such as diversity, global human resources, and motivation. Attracting and developing outstanding human resources will continue to be of vital importance, as will be achieving synergies by joining forces, through communication, as united members of MHI.

Q How were Nomination and Remuneration Meetings conducted, and what discussions took place?

A For nearly two years we carried on discussions on a point of critical importance: the Company president and CEO. And instead of starting with discussions of who should be the next president, we debated what type of person is best suited to serve in MHI's top position. In the course of these discussions, the shared opinion of all outside directors was that the next leader of MHI needed to be younger, to have global experience, and to be keen on innovation. The number of meetings, along with the length of each meeting, also increased significantly. Going forward, I think two important issues will be to start early to look at candidates or likely candidates to be the next president, and to plan for succession of future outside directors.

Q What would you like to see President Izumisawa do most?

A I think MHI has a bright future in businesses such as power systems, renewable energies, mobility, and space. So what I hope President Izumisawa will do is to convey, both inside the Company and out, that the social issues the world faces today can be resolved only by companies with abundant human resources, engaging in activities of global scope, and possessing ample capital-companies like MHI.

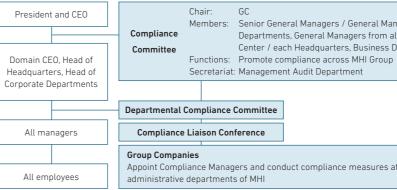
Compliance

MHI Group attaches importance to complying with applicable laws and social norms and is promoting fair and honest business practices. For the promotion of such practices, MHI Group established the Compliance Committee, which is chaired by the General Counsel (executive vice president). The Compliance Committee draws up and implements Groupwide compliance promotion plans and confirms their progress. In addition, the Committee works to strengthen compliance on a continuous basis through such means as sharing compliancerelated initiatives and cases within the Group.

As a global organization, MHI Group employs thousands of individuals from different backgrounds, nationalities, and cultures. This diversity of talent and perspectives is one of our greatest assets. Having diverse backgrounds, it is important to work together and promote our business under a common corporate culture.

To that end, MHI Group has formulated the "MHI Group Global Code of Conduct." Through such efforts as e-learning and the distribution of booklets, we strive to disseminate this code of conduct among MHI Group employees around the world. At the same time, we have formulated the "Compliance Promotion Global Policy," clarifying basic matters and rules for promoting compliance, such as the organizational framework, roles, and administration standards. To increase awareness of compliance among individual employees, we conduct discussion-based training

Compliance Promotion System



every year that focuses on various compliancerelated themes. We also conduct e-learning and training programs for Group employees on antitrust, anti-bribery, and export-related laws and regulations. In addition, we are striving to further enhance compliance awareness through the compliance guidebook, which targets employees engaging in technical work on the frontlines of manufacturing.

In regard to overseas, where compliance is expected to be enforced to an even greater extent, we created the role of Compliance Manager in the Americas, Europe, Asia Pacific, and China. Through compliance liaison conferences and compliance monitoring in each country and region, these managers are making efforts to reinforce compliance at overseas Group companies.

MHI Group has also set up whistleblowing hotlines in Japan and overseas in an effort to swiftly respond to various compliance-related risks, including compliance violations or actions that run the risk of becoming compliance violations.

		.9 .0 .0	
Approximately 90,30	0 (FY201	8)	
			FY/cases
Number of whistleblowing cases, by type	2016	2017	2018
l abor and the work environment	42	49	81

Number of participants in compliance training (e-learning)

Number of whistleblowing cases, by type	2016	2017	2018
Labor and the work environment	42	49	81
Overall discipline and breaches of manners	28	17	13
Transaction-related laws	11	11	15
Consultations and opinions	3	0	1
Other	34	36	32
Total (number of corrections and improvements)	118 (64)	113 (59)	142 (65)

(as of January 1, 2019)

Senior General Managers / General Managers of Business Strategy Office / Corporate Departments, General Managers from all Administration Departments of Research & Innovation Center / each Headquarters, Business Domains, and Segments

Whistleblowing Hotlines

Appoint Compliance Managers and conduct compliance measures at the respective company in line with directions from

Business Risk Management

Throughout its history, MHI Group has achieved sustained growth by taking up diverse new challenges and initiatives in numerous business areas. At the same time, on occasion we have experienced losses on a large scale. In recent years especially, with the globalization of its business activities, the expanding scale of individual projects, and ongoing development of increasingly complex technologies, the scale of attendant risks is becoming larger than ever before.

In order for MHI Group to mark sustained growth amid an ever-changing business environment, it is necessary to continue to take up challenges in new fields, new technologies, new regions, and new customers as well as to improve and strengthen

operations in its existing business markets. Such challenges will entail business risks, and a company's ability to curb risks wields significant influence on its business results and growth potentials.

To promote challenges of this kind and prepare for the next leap into the future, MHI Group, applying its past experience and lessons learned, aims to create the mechanisms that will ensure the effective execution of business risk management. At the same time, we reinforce advanced, intelligent systems and process monitoring, both of which support top management's strategy decisions. Through these approaches, we will pursue "controlled risktaking" that will enable us to carry out carefully planned challenges toward expanding our business.

perfect combination for continually increasing our

corporate value. In this sense, it is very important

that all business participants, from people engaged

in the actual business to management, comprehend

and control risks in business, from processes to

(Matrix of Business Risk Management).

strategies. For details, please see the chart below

Business Risk Management Structure

Through the following measures, MHI Group is pursuing more organized business risk management and clarifying the roles of management, business segments, and corporate departments.

Observe and practice the Business Risk Management Charter as the Company's foremost set of rules

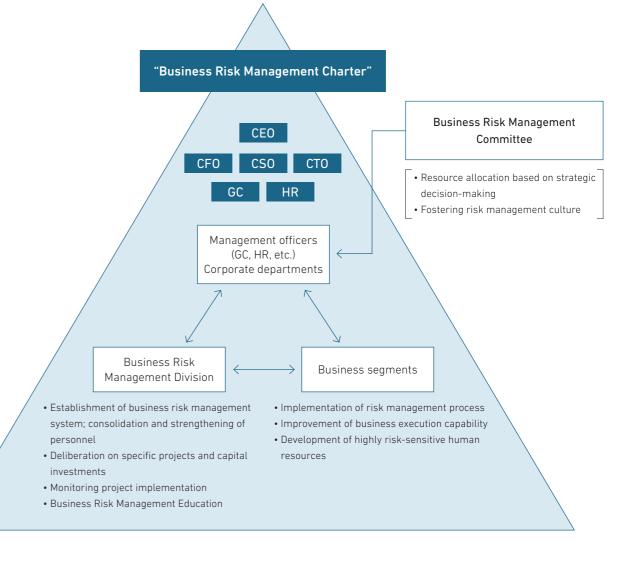
 \rightarrow Clarify, observe, and practice risk management targets, etc.

Outline of Business Risk Management

No corporation can avoid taking risks. We believe that risk management is a part of governance and functions only when the elements of systems and processes, corporate culture, and human resources are in place. For our Group to succeed in the global market, we need to take bold and daring risks, but we also need to manage those risks. That is the

Matrix of Business Risk Management





2



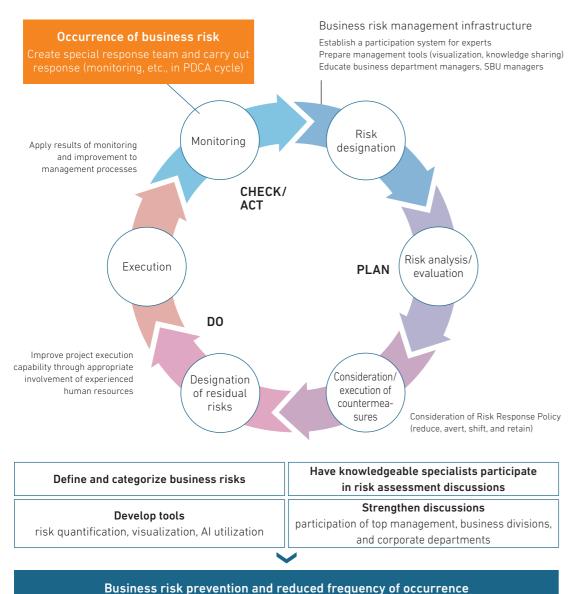
 \rightarrow Share information on important risks and discuss policy response by top-level management

> Efforts toward Cybersecurity

Content of Activities

With the Business Risk Management Department acting since April 2016 as the responsible department, MHI Group engages in business risk management activities bringing together management, business segments, and corporate departments. The chart below (Business Risk Management Process) outlines specific activities. In addition to improving systems and processes to prevent

Business Risk Management Process



business risks and reduce the frequency with which

human resources in charge of business risk manage-

ment and cultivate a culture of responding to risks

through such efforts as providing training with the

involvement of the Group's management team and

including special features on business risk manage-

ment in the Company newsletter (April 2018).

such risks manifest themselves, we also develop

Providing a large number of critical infrastructures to society, MHI Group recognizes its responsibility in protecting business information (including intellectual property, technical information, sales information, personal information, etc.). To fulfill this responsibility, MHI has established a cybersecurity policy and is engaged in ensuring and enhancing its cybersecurity.

Based on this policy, a cybersecurity program has been implemented under the control of the CTO to minimize the risks of cyberattacks. Cybersecurity governance (establishing standards, implementation of measures, self-assessments, and internal audits), incident response, training and awareness, etc., are performed under this program. At the same time, MHI Group is contributing to the establishment of a global framework.

Cybersecurity Governance

MHI Group has defined a cybersecurity standard according to the NIST-CSF^{*1} providing a multi-layer protection mechanism as well as threat detection and prevention.

Vulnerability test and analysis of collected threat information have been implemented to maintain and improve cybersecurity. Periodic self-assessments and internal audits are also performed to examine the compliance of security measures against MHI Group cybersecurity standard. Through these activities, MHI Group is gaining intelligence of the latest cybersecurity threats which are becoming more sophisticated every day.

In addition, industrial control systems provided in MHI Group products are secured through the implementation of a framework that controls cyberrisks for control systems. Furthermore, MHI Group will continue enhancing and developing next-generation solutions in this area. *1 National Institute of Standards and Technology Cybersecurity Framework

Response to Cybersecurity-Related Incidents

In the event of a cybersecurity incident, a Computer Security Incident Response Team (CSIRT) immediately handles analysis and examination of cybersecurity-related incidents, recovers systems after an incident, and carries out measures to prevent reoccurrence. If necessary, the incidents are to be reported to relevant government agencies.

Cybersecurity Education

MHI Group maintains and improves cybersecurity literacy among all employees on a regular basis, by conducting cybersecurity education.

Contributing to the Establishment of a Global Cybersecurity Framework

Through participation in the Study Group for Industrial Cybersecurity,*2 the Charter of Trust,*3 and other cybersecurity initiatives, MHI Group is contributing to the establishment of a global cybersecurity framework. *2 An initiative by the Ministry of Economy. Trade and Industry to examine industrial cybersecurity measures, MHI began participation in this initiative in December 2017 *3 An initiative by private corporations to build trust in cybersecurity. MHI began participation in this initiative in April 2019.





Outside Director, Audit and Supervisory Committee Member

Hiroo Unoura

(Executive Advisor, Nippon Telegraph

and Telephone Corporation)

Chairman of the Board **Shunichi Miyanaga**

Outside Director **Ken Kobayashi** (Chairman of the Board, Mitsubishi Corporation)

Governance and Management Reform in the Eyes of Outside Directors

Miyanaga: Today, MHI is in the process of transformation, but there are still areas where we remain too bound to tradition. This is why I was eager to hear your views as representatives of Mitsubishi Corporation and NTT: two large companies with long histories that today are robustly taking on new forms of challenges.

Mitsubishi Corporation is a company that we have been doing business with for a long, long time. Significant changes have already occurred in terms of the company's workstyle and business model, and further changes are in the pipeline. Mr. Kobayashi, in your position, you are very familiar with how these changes are being carried out, so I would like to hear your advice and invite your questions on various matters.

Mr. Unoura, at MHI we have long approached information from the standpoint of a manufacturer. Today, though, when skewed information circulates in enormous quantity, I would like to ask your advice as to how we should deal with this information flow. NTT is a company that has carried out changes in response to its global business environment, and I would like to hear your views on how to handle information, the forms of communication accompanying advances in communication technology, and so on. I'd also like to hear what differences you see between NTT's reforming areas akin to software and our undertaking of reforms in the area of hardware. **Kobayashi:** Through our business ties over many years, I have acquired a fair understanding of MHI's history and culture, so I believe that, based on that understanding, I can form views and opinions about today's MHI and perhaps offer something useful in that respect.

From my perspective as an outside director, I think MHI has already changed a great deal. Whereas historically the Company has been involved in heavy industry, recently it has been expanding into all-new areas and has become involved in the solutions business as well. What has changed most is the structural shift from numerous business divisions that worked independently, each pursuing their own best path, to bundling them into a small number of domains and partially integrating their businesses. Watching how the Company has aggressively undertaken M&A activities and put together its new domains, I truly get a sense that MHI has changed.

I think the social role of all business corporations is to simultaneously pursue three values—economic value, social value, and environmental value; and I think that, when implementing changes, these constitute both goals and standards for all corporations. This holds true too, I think, for all three of our companies, but it's in the way they manifest themselves that each has its own distinctive features. In the case of MHI, I feel the Company is advancing step by step toward a new corporate form, while ensuring it doesn't veer too far from its inherently vital core.

Many of those who work at MHI, a company with a long history and one rich in traditions, are engineers who are experts in their respective fields. I think it is wonderful how they can freely discuss any doubts or concerns they may have regarding aspects of management. It's important, too, how the Company as a whole is dealing with various risks. When people of different backgrounds are able to voice doubts or opinions about issues facing the company, new perspectives can sometimes help identify risks. This, I think, is an important point to keep in mind throughout the Company's evolution.

Unoura: I personally had no experience with the hardware business of the kind undertaken by MHI, but I came to realize that there were aspects in which

On the Subject of Cybersecurity

Unoura: Cybersecurity is distinct in that the perpetrator isn't visible, and it isn't possible for a single individual, a company, or even a country to defend itself in isolation against a cyberattack. Potential cyberattacks can be dealt with only when there is a collective security framework in place.

Such a framework requires conscious sharing in three ways. First, information. Second, working together in taking steps to ensure cybersecurity. This involves collaborating in exercises as an entire supply chain. Third—and this is an aspect in which I was involved in areas that were closely related. I consider it my mission to help MHI make big changes to its business model in response to the major changes taking place in the industry as a whole. I consciously try to speak from a perspective different from others, which I think ultimately will make a positive contribution to MHI.

Kobayashi: The era has ended when it sufficed for a manufacturer to make products by applying its strengths in technology. Even in the area of power generation, the time has come when survival requires not only the production of boilers and turbines but also the development of a business in power solutions that serve the needs of countries, cities, and large corporations. When the scope of such solutions is expanded to include urban development, it becomes necessary for them to satisfy what the world demands environmentally and socially. Awareness of this kind is beginning to take root in each of MHI's domains, and it's extremely fortunate that MHI has brought Mr. Unoura onto the team at this juncture.

Unoura: Consumer-targeted services are the ultimate result of what MHI does, and it is here I think the time is coming when vast changes will occur in how to create value. How MHI will change as society undergoes major change will perhaps be close to what we at NTT are doing for the general public in targeting "Society 5.0," the society of the future. Let's take up this challenge together.

little progress has been made as of yet—we need to share outstanding, expert human resources. Collective cybersecurity requires the creation of a network encompassing everyone who is involved in cybersecurity as well as mechanisms that enable diversion of personnel to cybersecurity duties. **Miyanaga:** Cybersecurity isn't something to be feared. The benefits to be reaped by dealing with it seriously outweigh the risks so we should take up many challenges together and, especially, do our best to forge synergies among dependable companies.



We will share information among companies exposed to reputational risk to create stable collaborative systems—systems that will contribute in various ways to boosting our cybersecurity.

Shunichi Miyanaga

Kobayashi: Nowadays, cyberattacks are increasingly carried out by organized criminals. For a company like MHI, connected as it is through a supply chain down to individual workplaces, it's necessary to pursue sharing of human resources and information among companies in order to defend itself. **Unoura:** What's quintessentially scary in a society embracing artificial intelligence (AI) is the emergence of false data being treated as true. If someone were to tamper with machines and send totally false data, systems could be brought to a halt extremely easily. In this way, going forward, an unimaginable number of invisible enemies will launch cyberattacks; so unless MHI teams up, for example, with power companies, it will be impossible to know which data is false and which is true. In the United States, there are industry organizations for sharing information known as ISACs—Information Sharing and Analysis Centers.

In Japan too, information-sharing ISACs already exist in the banking and telecom industries, but it's critical that such organizations spread out further. If we are to firmly carry out fundamental defensive measures, it's crucial that we take initiatives collectively, including broad sharing of information.

Miyanaga: Sharing information among companies exposed to reputational risk may not ensure total security. However, I still believe we stand to benefit from creating stable collaborative systems systems that will contribute in various ways to boosting our cybersecurity.

Kobayashi: The initiatives we take going forward will play a role within our ESG and SDGs programs. If economic and social values evolve and enable the realization of a more efficient society, I believe a time will come when we will be able to allocate more resources to creating environmental value.



If economic and social values evolve and enable the realization of a more efficient society, I believe a time will come when we will be able to allocate more resources to creating environmental value. Ken Kobayashi

On the Issue of Climate Change

Kobayashi: Responses to climate change are very much related to the energy policies adopted by each country. In the case of Japan, its inescapable position as an island nation without energy resources has compelled the government to draw up a future vision on energy and power supplies. And what's important here is how to come to terms with the environment: how to achieve a proper balance among renewable Dealing with climate change demands innovation, too. I believe that the central role in driving innovation will be played by companies that have been extensively involved in the energy sector. Hiroo Unoura

energies, nuclear power, and also gas, oil, and coal. The relative proportion of thermal power is projected to decrease within the power mix of the future. MHI today is making substantial advances in the area of renewable energies, and our response to issues surrounding climate change has been extremely quick and laudable.

Unoura: The issue of climate change, like that of cybersecurity, isn't something that can be dealt with by one company in isolation. It's extremely difficult, while aiming to achieve a sustainable society, to resolve a variety of challenges amid current trends. What's necessary is for people who have traditionally been involved in the energy sector to undergo a major change—transform themselves—a task I see as very important. When I was invited to serve as an outside director at MHI, what interested me most was that, going forward, the energy issue would become a really big focus. Amid this environmental challenge, how does the Company plan to create energy, or how to use it? My hope is that there are areas where I can contribute while offering any questions I might have concerning these matters. Miyanaga: Compared to other energy sources, coal undeniably isn't a clean energy in terms of its carbon footprint; but if we were to stop using coal immediately, our social and industrial structures would undergo dramatic changes—a situation we must avoid. To my mind, Mitsubishi Hitachi Power Systems' coal-fired power generation technologies are of the highest level in the world. To accelerate moves to incorporate and adapt these technologies to society in the most appropriate form, both environmentally and with respect to energy efficiency, we



have a responsibility to explain how to facilitate use of renewable energies, set a goal, and proceed toward achieving it, including, to some degree, quantitatively.

Inevitably, it will be costly if we deny the future potential of current technologies and bring a halt to business opportunities of the kind we have conceived up until now. For that reason, for MHI Group, the energy issue doesn't necessarily have a bright outlook in terms of the most recent economic values. However, we have businesses in several industrial areas. So, one advantage that will come out of this severe situation will be the emergence of new business opportunities such as distributed power supplies, which represent a technology in a field that differs from conventional power plants.

The issue of climate change and how to respond to it are difficult to grasp as a whole, owing to the long periods of time involved and complex influencing factors. No matter how many projections you make, uncertainties pop up where you least expect them. So, the way to do business worldwide too will inevitably change with each passing year.

Unoura: Dealing with climate change demands innovation, too. Personally, I believe that the central role in driving innovation will be played by companies that have been extensively involved in the energy sector. Technologies will also likely emerge from small entities, but basically I think it's the speed at which these experienced energy-sector companies innovate—companies like MHI—that will set the pace of change for the world as a whole. For this reason, I think it's imperative for MHI to undergo vast changes, and to accelerate the speed at which it changes.

> Financial and Non-Financial Highlights

INPUT	>	OUTPUT		> OUTCOME
As of March 31, 2018 Total assets ¥ 5,248.7 billion	(Year-on-year change) Research and development expenses 4152.1 billion 14.0% DOWN	Orders received ¥ 3,853.4 billion DOWN	EBITDA ¥ 311.6 billion 34.5%	Profit attributable to ow ¥101.3 bill
Total equity ¥1,693.8 billion	Capital investment ¥147.3 billion 7.0%	Revenue ¥ 4,078.3 billion DOWN	EBITDA margin 7.6%	Free cash flows ¥ 243.0 bill
Interest-bearing debt ¥813.1 billion		Profit from business activities ¥ 186.7 billion 221.0% UP	Greenhouse gas (CO2) emissions*2 242 kilotons	^{ROE} 7.2%
Number of employees 80,652 people	Number of overseas employees 28,875 people ^{3.3%} OP			Dividend payments (for ¥ 43.7 billion
Number of patents held 24,487	MHI Group has adopted the International (IFRS) from fiscal 2018. Actual financial r shown here in accordance with IFRS.			Reduction in CO ₂ from u (Compared with fiscal 1 65,331

Efforts toward the Task Force on Climate-related Financial Disclosures

Offering solutions to address the issue of climate change is MHI Group's contribution and responsibility to society. Efforts to do so are part of the Group's business strategy and determined after Groupwide discussion. Reducing environmental burden is an issue that spans across the entire Group. However, we conducted the analysis below centered on the energy-related products business, which has the biggest impact on the environment.

Climate scenario for the Under 2°C Increase Goal

FOCUS

Global growth in electricity demand United States and Europe: Shift to no carbon \rightarrow Progression of electrification Southeast Asia: Increase in electricity

- demand due to economic growth • Global growth in the ratio of renew-
- able energy Discontinuation of thermal power (coal) in the United States and Europe, but continued use of thermal power as a primary energy source in Southeast Asia
- Steady demand for thermal (gas) and nuclear power

opportunities Downward trend in the market for new

coal-fired thermal power facilities Meanwhile, continued need for the introduction of coal-fired thermal power with low environmental burden from the perspective of national energy security

Climate-related risks and

• Operation of existing power facilities to ensure stable supply. Remodeling needs to promote the shift to low carbon (Response to SOx, NOx, dust regulations)

Solid medium- to long-term demand in market for new gas power facilities following growth in the LNG market

Growth in offshore wind turbine market

Expansion from the United States and Europe into greater North America and Asia (approx. 4–6 GW per year)

Business strategies and risk management

Optimization of resources with a view to the market after 2021 (reorganization, personnel shifts, etc.) Provision of solutions for low-carbon

- needs • Expansion of AQCS adoption
- Introduction of state-of-the-art technologies (IGCC, highly efficient USC, CCS/CCUS) Provision of Al/IoT technology
- solutions

Maintaining and expanding market share by further strengthening orders received, centered on largescale gas turbines

Co-existence with renewable energy and shift to a carbon-free society in the future (hydrogen-powered gas turbines. etc.)

Response to expanding markets by bolstering mass production structure • Introduction of 174-9.5 MW turbine with world's largest output

Financial impact

Reflection and disclosure of financial impact within business forecast, etc. Proposals of high-quality energy infrastructure using not just numerical figures but also the Key Index

Approach (QoEn Index).

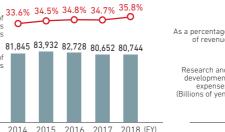
Number of Employees/ Ratio of Overseas Employees Ratio of 33.6% 34.5% 34.8% 34.7% 35.8%

overseas employees

Number of

emplovees

Research and Development Expenses/ As a Percentage of Revenue^{*4}



Revenue/Overseas Sales Ratio*4

Number of Patents Held*5

18,765





*2 Data is for MHI on a non-consolidated basis. However, figures for fiscal 2013 include the Nagasaki, Takasago, and Yokohama plants of Mitsubishi Hitachi Power Systems, Ltd. *3 Base lines were determined (base year/comparison target) in accordance with the characteristics of each product. Using these base lines, the amount of CO₂ reduced through product use was calculated in accordance with such factors as the number of products in operation and the number of units sold in the relevant fiscal year

*4 In regard to revenue, the figures up until fiscal 2016 are net sales (JGAAP).

*5 Data is for MHI and major consolidated subsidiaries. The three major European countries are the United Kingdom, Germany, and France. *6 In principle, figures are for MHI on a non-consolidated basis and Mitsubishi Hitachi Power Systems, Ltd.





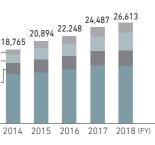
using MHI's products*3 1990 levels)

kilotons

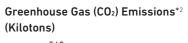


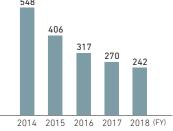






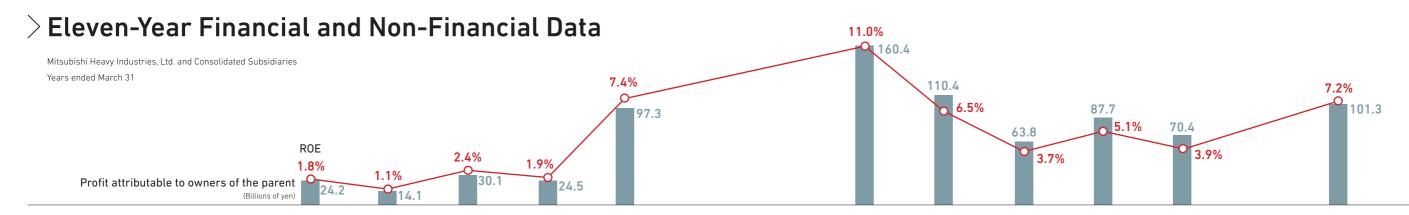






Industrial Accident Frequency Rate^{*6}





	2009/3	2010/3	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	< jgaap 2018/3	IFRS→ 2018/3	2019/3	
Verse and ad Marsh 21 areas of Marsh 21	2007/3	2010/3	2011/3	2012/3		2014/3	2015/5	2010/3	201773	2010/3	2010/3	2017/3	AUT C
Years ended March 31 or as of March 31 Billions of yen	2008 Medium-Te	erm Business Plan	2010 Medium-1	Term Business Plan	2012 Medium-Term Business Plan			2015 Medium-Te	erm Business Plan			2018 Medium-Term Business Plan	Millions of U.S. dollars*1
Orders received	¥ 3,268.7	¥ 2,476.2	¥ 2,995.4	¥ 3,188.8	¥ 3,032.2	¥ 3,420.0	¥ 4,699.1	¥ 4,485.5	¥ 4,275.6	¥ 3,875.7	¥ 3,868.7	¥ 3,853.4	\$34,718
Revenue	3,375.6	2,940.8	2,903.7	2,820.9	2,817.8	3,349.5	3,992.1	4,046.8	3,914.0	4,110.8	4,085.6	4,078.3	36,745
Profit from business activities	105.8	65.6	101.2	111.9	163.5	206.1	296.1	309.5	150.5	126.5	58.1	186.7	1,682
Profit before income taxes	64.9	28.1	39.4	69.8	155.4	214.4	232.6	132.6	169.7	128.0	39.2	182.6	1,645
Profit attributable to owners of the parent	24.2	14.1	30.1	24.5	97.3	160.4	110.4	63.8	87.7	70.4	(7.3)	101.3	912
Research and development expenses	¥ 101.3	¥ 129.2	¥ 123.2	¥ 121.4	¥ 120.0	¥ 138.5	¥ 145.5	¥ 150.6	¥ 160.7	¥ 176.8	¥ 176.8	¥ 152.1	\$ 1,371
Capital investment	196.6	177.1	126.6	120.7	118.8	148.6	156.1	175.5	204.4	158.4	158.4	147.3	1,327
Depreciation	153.8	140.4	134.4	126.2	119.4	134.9	157.0	158.7	172.7	176.1	176.1	124.9	1,125
Fotal assets	¥ 4,526.2	¥ 4,262.8	¥ 3,989.0	¥ 3,963.9	¥ 3,935.1	¥ 4,886.0	¥ 5,520.3	¥ 5,500.7	¥ 5,481.9	¥ 5,487.6	¥ 5,248.7	¥ 5,142.7	\$46,335
Fotal equity	1,283.2	1,328.7	1,312.6	1,306.3	1,430.2	1,774.2	2,120.0	1,999.7	2,104.1	2,164.4	1,693.8	1,748.8	15,756
Interest-bearing debt	1,612.8	1,495.3	1,325.6	1,157.1	1,031.2	957.4	975.5	1,052.1	925.5	813.1	813.1	665.1	5,992
Cash flows from operating activities	¥ 79.5	¥ 117.9	¥ 337.8	¥ 200.3	¥ 288.3	¥ 296.2	¥ 212.8	¥ 270.0	¥ 95.9	¥ 345.1	¥ 405.7	¥ 404.9	\$ 3,648
Cash flows from investing activities	(156.5)	(180.7)	(137.2)	(47.0)	(76.7)	(151.5)	(174.1)	(262.4)	8.7	(137.1)	(238.1)	(161.8)	(1,458)
Free cash flows	(77.0)	(62.7)	200.5	153.3	211.6	144.6	38.6	7.5	104.6	207.9	167.5	243.0	2,189
Cash flows from financing activities	262.0	(105.2)	(169.7)	(183.6)	(154.2)	(136.6)	(45.8)	(23.1)	(162.0)	(152.1)	(112.3)	(255.5)	(2,302)
Per share information of common stock*2 Yen													U.S. dollars
Profit attributable to owners of the parent–basic	¥ 72.16	¥ 42.20	¥ 89.74	¥ 73.14	¥ 290.09	¥ 478.13	¥ 329.04	¥ 190.17	¥ 261.24	¥ 209.82	¥ (21.79)	¥ 301.95	\$ 2.720
otal equity	3,699.45	3,807.98	3,761.68	3,740.84	4,109.00	4,599.86	5,306.47	5,003.00	5,299.14	5,431.02	4,153.46	4,262.24	38,402
Cash dividends	60.00	40.00	40.00	60.00	80.00	80.00	110.00	120.00	120.00	120.00	120.00	130.00	1.171
Ratios													
Overseas sales ratio	48.9%	50.3%	49.0%	41.9%	44.8%	49.3%	53.4%	55.4%	53.5%	54.2%	55.1%	54.0%	
Ratio of profit from business activities	3.1%	2.2%	3.5%	4.0%	5.8%	6.2%	7.4%	7.6%	3.8%	3.1%	1.4%	4.6%	
Return on equity*3	1.8%	1.1%	2.4%	1.9%	7.4%	11.0%	6.5%	3.7%	5.1%	3.9%	(0.5)%	7.2%	
Return on assets*4	0.5%	0.3%	0.7%	0.6%	2.5%	3.6%	2.1%	1.2%	1.6%	1.3%	(0.1)%	2.0%	
Current ratio	158.7%	181.7%	167.9%	153.9%	155.0%	139.2%	146.2%	135.7%	139.4%	141.0%	122.2%	122.1%	
D/E ratio*5	126%	113%	101%	89%	72%	54%	46%	53%	44%	38%	48%	38%	
quity ratio*	27.4%	30.0%	31.6%	31.7%	35.0%	31.6%	32.3%	30.5%	32.5%	33.3%	26.6%	27.8%	
Dividend payout ratio*7	83.2%	94.8%	44.6%	82.0%	27.6%	16.7%	33.4%	63.1%	45.9%	57.2%	_	43.1%	
IHI Group has adopted the International Financial Reporting Standards (IFRS) fr	rom fiscal 2018. Actual financi	ial numbers for fiscal 2017 ar	re also shown here	n-financial indexe	e								
n accordance with IFRS. The IFRS categories under Japanese GAAP are as follo corresponds to operating income; profit (loss) attributable to owners of the parer	ws: revenue corresponds to r	iet sales; profit from busines:	s activities										
equity corresponds to total net assets; earnings (losses) per share correspond to corresponds to shareholders' equity ratio.	profit (loss) per share; and ra	tio of equity attributable to ov	vners of the parent NL	umber of employee	S	80,583	81,845	83,932	82,728	80,652	80,652	80,744	
"Profit from business activities" on the consolidated statement of profit or loss	or" is coloulated by subtractio	a "cost of colos" "colling gon	oral and	Number of oversea	. ,	19,909	27,489	28,941	28,751	27,954	27,954	28,875	
ministrative expenses," and "other expenses" from "revenue" and adding "sha ther income" to the resulting amount. "Other income" and "other expenses" co	re of profit (loss) of investmer	nts accounted for using the e	quity method" and NL	umber of female m	anagers ^{*8, 9}	74	85	102	126	149	149	171	Consolidated
 Income visit of the resulting information of the income visit of the expenses on spaces on fixed assets, and others. U.S. dollar amounts in this report are translated from yen, for convenience only 	-		Ind	dustrial accident fr	equency rate	0.23	0.15	0.20	0.37	0,28	0.28	0.16*9	0.21
2. The Company conducted a 1-for-10 reverse stock split on common shares or and earlier is calculated as if the reverse stock split had been conducted at ti	n October 1, 2017. The interim	dividend for fiscal 2017 and o	data for fiscal 2016 🛛 En	ergy input ^{*10} (TJ)		9,796	9,885	7,398	5,976	5,179	5,179	4,522	14,723
based on these assumptions. Return on equity = profit attributable to owners of the parent / (total equity -			Gr	eenhouse gas (CO ₂	emissions ^{*12} (Kilotons)	538	548	406	317	270	270	242	794
 Return on assets = profit attributable to owners of the parent / total assets D/E ratio = interest-bearing debt / total equity 	- share subscription rights - i	ion-controlling interests/	Sc	cial contribution ex	(penses (Billions of yen)	14	19	21	25	17	17	18	
3 b) Late - Indiversity and the state of	nt Ilidated basis. Iowever, figures for fiscal 2013												

Power Systems, Ltd. *13 Includes MHI on a non-consolidated basis and 163 Group companies.

68

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Consolidated Financial Statements [IFRS] Consolidated Statement of Financial Position

Mitsubishi Heavy Industries, Ltd. and Consolidated Subsidiaries As of March 31, 2019, 2018 and transition date

		Millions of yen		Thousands of U.S. dollars
SSETS	Transition date (As of April 1, 2017)	As of March 31, 2018	As of March 31, 2019	As of March 31, 2019
Current assets:				
Cash and cash equivalents	¥ 242,404	¥ 299,237	¥ 283,235	\$ 2,551,896
Trade and other receivables	717,483	759,902	717,414	6,463,771
Other financial assets	38,953	27,591	25,180	226,867
Contract assets	743,118	744,707	625,749	5,637,886
Inventories	833,606	748,574	739,252	6,660,527
Indemnification asset for South African projects	409,521	445,920	546,098	4,920,245
Other current assets	271,137	214,992	222,420	2,003,964
otal current assets	3,256,226	3,240,925	3,159,352	28,465,195
Ion-current assets:				
Property, plant and equipment	791,265	773,186	784,849	7,071,348
Property, plant and equipment Goodwill	791,265 120,552	773,186 121,563	784,849 121,117	7,071,348
Goodwill	120,552 124,954	121,563	121,117	1,091,242
Goodwill Intangible assets	120,552 124,954	121,563 103,023	121,117 107,799	1,091,242 971,249
Goodwill Intangible assets Investments accounted for using the equity method	120,552 124,954 145,754	121,563 103,023 205,198	121,117 107,799 209,929	1,091,242 971,249 1,891,422
Goodwill Intangible assets Investments accounted for using the equity method Other financial assets	120,552 124,954 145,754 523,130	121,563 103,023 205,198 485,047	121,117 107,799 209,929 447,888	1,091,242 971,249 1,891,422 4,035,390
Goodwill Intangible assets Investments accounted for using the equity method Other financial assets Deferred tax assets	120,552 124,954 145,754 523,130 102,442	121,563 103,023 205,198 485,047 121,138	121,117 107,799 209,929 447,888 124,464	1,091,242 971,249 1,891,422 4,035,390 1,121,398
Goodwill Intangible assets Investments accounted for using the equity method Other financial assets Deferred tax assets Other non-current assets	120,552 124,954 145,754 523,130 102,442 182,675	121,563 103,023 205,198 485,047 121,138 198,673	121,117 107,799 209,929 447,888 124,464 187,320	1,091,242 971,249 1,891,422 4,035,390 1,121,398 1,687,719

-		Millions of yen		Thousands of U.S. dollars
LIABILITIES AND EQUITY	Transition date (As of April 1, 2017)	As of March 31, 2018	As of March 31, 2019	As of March 31, 2019
Liabilities				
Current liabilities:				
Bonds, borrowings and other financial liabilities	¥ 552,209	¥ 517,537	¥ 444,116	\$ 4,001,405
Trade and other payables	750,867	801,154	862,174	7,768,033
Income taxes payable	31,233	27,251	27,024	243,481
Contract liabilities	831,707	914,697	875,294	7,886,242
Provisions	257,679	202,797	216,531	1,950,905
Other current liabilities	221,057	188,121	161,717	1,457,041
Total current liabilities	2,644,754	2,651,558	2,586,859	23,307,135
Non-current liabilities:				
Bonds, borrowings and other financial liabilities	693,335	656,129	532,961	4,801,883
Deferred tax liabilities	6,976	6,738	4,012	36,147
Retirement benefit liabilities	127,730	142,242	154,105	1,388,458
Provisions	10,611	18,747	43,859	395,161
Other non-current liabilities	82,158	79,474	72,103	649,635
Total non-current liabilities	920,811	903,332	807,042	7,271,303
Total liabilities	3,565,566	3,554,891	3,393,901	30,578,439
Equity				
Share capital	265,608	265,608	265,608	2,393,080
Capital surplus	187,433	185,937	185,302	1,669,537
Treasury shares	(4,609)	(4,081)	(5,572)	(50,202)
Retained earnings	844,450	830,057	888,541	8,005,595
Other components of equity	111,321	118,015	96,998	873,934
Equity attributable to owners of the parent	1,404,205	1,395,537	1,430,878	12,891,954
Non-controlling interests	277,228	298,327	317,943	2,864,609
Total equity	1,681,434	1,693,865	1,748,821	15,756,563
Total liabilities and equity	¥5,247,000	¥5,248,756	¥5,142,723	\$46,335,012

-		Millions of yen		Thousands of U.S. dollars
IABILITIES AND EQUITY	Transition date (As of April 1, 2017)	As of March 31, 2018	As of March 31, 2019	As of March 31, 2019
iabilities				
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		Millions of yen		Thousands of U.S. dollars
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Non-current liabilities:				
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Provisions	10,611	18,747	43,859	395,161
Other non-current liabilities	82,158	79,474	72,103	649,635
Total non-current liabilities	920,811	903,332	807,042	7,271,303
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Equity				
Share capital	265,608	265,608	265,608	2,393,080
Capital surplus	187,433	185,937	185,302	1,669,537
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Retained earnings	844,450	830,057	888,541	8,005,595
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Total equity	1,681,434	1,693,865	1,748,821	15,756,563
	VE 0/ 8 000	¥5,248,756	VE 1/0 700	\$46,335,012
otal liabilities and equity	¥5,247,000	ŦJ,Z40,730	¥5,142,723	#40,333,012

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Consolidated Statement of Profit or Loss

Mitsubishi Heavy Industries, Ltd. and Consolidated Subsidiaries For the fiscal years ended March 31, 2018 and 2019

	Millions of	/en	Thousands of U.S. dollars	
	2018	2019	2019	
Revenue	¥4,085,679	¥4,078,344	\$36,745,148	
Cost of sales	3,367,065	3,310,210	29,824,398	
Gross profit	718,613	768,133	6,920,740	
Selling, general and administrative expenses	545,068	541,714	4,880,746	
Share of profit or loss of investments accounted for using the equity method	2,670	10,937	98,540	
Other income	24,744	64,503	581,160	
Other expenses	142,782	115,135	1,037,345	
Profit from business activities	58,176	186,724	1,682,349	
Finance income	5,884	7,650	68,925	
Finance costs	24,828	11,749	105,856	
Profit before income taxes	39,232	182,624	1,645,409	
Income taxes	22,644	54,153	487,908	
Profit	16,588	128,471	1,157,500	
Profit (loss) attributable to:				
Owners of the parent	(7,320)	101,354	913,181	
Non-controlling interests	23,909	27,116	244,310	

	Yen		U.S. dollars
Earnings (loss) per share attributable to owners of the parent	2018	2019	2019
Basic earnings (loss) per share	¥(21.79)	¥301.95	\$2.721
Diluted earnings (loss) per share	(21.80)	301.44	2.716

Consolidated Statement of Comprehensive Income

Mitsubishi Heavy Industries, Ltd. and Consolidated Subsidiaries For the fiscal years ended March 31, 2018 and 2019

	it
ltem	s that will not be reclassified to profit or loss:
Ne	et gain (loss) from financial assets measured at FVTOC
Re	measurement of defined benefit plans
Sł	hare of other comprehensive income or loss of entities
ā	accounted for using the equity method
То	accounted for using the equity method tal s that may be reclassified to profit or loss:
To	tal
To tem Ca	tal s that may be reclassified to profit or loss:
To I tem Ca He	tal s that may be reclassified to profit or loss: Ish flow hedges
To Ca He Ex Sh	tal s that may be reclassified to profit or loss: Ish flow hedges edge cost

Total other comprehensive income

Comprehensive income

Comprehensive income attributable to:

Owners of the parent

Non-controlling interests

12,753) (114,902)	2019 ¥128,471	Millions 2018 ¥16,588
28,471 \$1,157,500 12,753) (114,902)		
12,753) (114,902)	¥128,471	¥16.588
		,
(6,996) (63,032)	(12,753)	27,984
	(6,996)	12,739
(178) (1,603)	(178)	1,476
19,928) (179,547)	(19,928)	42,201
(893) (8,045)	(893)	2,488
(242) (2,180)	(242)	_
4,637 41,778	4,637	(697)
(8,828) (79,538)	(8,828)	(973)
(5,326) (47,986)	(5,326)	817
25,254) (227,534)	(25,254)	43,018
929,957	¥103,216	¥59,607
76,624 \$ 690,368	¥ 76,624	¥33,006
26,592 239,589	26,592	26,601

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MHI REPORT 2019

73

Consolidated Statement of Changes in Equity

Mitsubishi Heavy Industries, Ltd. and Consolidated Subsidiaries For the fiscal years ended March 31, 2018 and 2019

				Millions	s of yen			
		Equity a	attributable to o	owners of the	parent		Nee	
	Share capital	Capital surplus	Treasury shares	Retained earnings	Other components of equity	Total	Non- controlling interests	Total equity
Balance as of April 1, 2017	¥265,608	¥187,433	¥(4,609)	¥844,450	¥111,321	¥1,404,205	¥277,228	¥1,681,434
Profit (loss)				(7,320)		(7,320)	23,909	16,588
Other comprehensive income					40,326	40,326	2,692	43,018
Comprehensive income (loss)				(7,320)	40,326	33,006	26,601	59,607
Transfer to retained earnings				33,633	(33,633)	_		_
Purchase of treasury shares			(21)			(21)		(21)
Disposal of treasury shares		64	360			425		425
Dividends				(40,305)		(40,305)	(6,128)	46,434
Other		(1,560)	189	(400)		(1,772)	626	(1,145)
Total transactions with owners	_	(1,496)	528	(40,706)	_	(41,673)	(5,502)	(47,176)
Balance as of March 31, 2018	¥265,608	¥185,937	¥(4,081)	¥830,057	¥118,015	¥1,395,537	¥298,327	¥1,693,865
Profit				101,354		101,354	27,116	128,471
Other comprehensive income (loss)					(24,729)	(24,729)	(524)	(25,254)
Comprehensive income (loss)				101,354	(24,729)	76,624	26,592	103,216
Transfer to retained earnings				(3,712)	3,712	-		-
Purchase of treasury shares			(2,116)			(2,116)		(2,116)
Disposal of treasury shares		22	1			24		24
Dividends				(41,974)		(41,974)	(6,348)	(48,323)
Other		(657)	623	2,816		2,782	(628)	2,154
Total transactions with owners	_	(635)	(1,491)	(39,157)	-	(41,284)	(6,976)	(48,261)
Balance as of March 31, 2019	¥265,608	¥185,302	¥(5,572)	¥888,541	¥ 96,998	¥1,430,878	¥317,943	¥1,748,821

				Thousands of	f U.S. dollars			
		Equity a	attributable to	owners of the p	parent			
	Share capital	Capital surplus	Treasury shares	Retained earnings	Other components of equity	Total	Non- controlling interests	Total equity
Balance as of March 31, 2018	\$2,393,080	\$1,675,259	\$(36,769)	\$7,478,664	\$1,063,293	\$12,573,538	\$2,687,872	\$15,261,419
Profit				913,181		913,181	244,310	1,157,500
Other comprehensive income (loss)					(222,803)	(222,803)	(4,721)	(227,534)
Comprehensive income (loss)				913,181	(222,803)	690,368	239,589	929,957
Transfer to retained earnings				(33,444)	33,444	-		-
Purchase of treasury shares			(19,064)			(19,064)		(19,064)
Disposal of treasury shares		198	9			216		216
Dividends				(378,178)		(378,178)	(57,194)	(435,381)
Other		(5,919)	5,613	25,371		25,065	(5,658)	19,407
Total transactions with owners	-	(5,721)	(13,433)	(352,797)	-	(371,961)	(62,852)	(434,822)
Balance as of March 31, 2019	\$2,393,080	\$1,669,537	\$(50,202)	\$8,005,595	\$ 873,934	\$12,891,954	\$2,864,609	\$15,756,563

Consolidated Statement of Cash Flows

Mitsubishi Heavy Industries, Ltd. and Consolidated Subsidiaries For the fiscal years ended March 31, 2018 and 2019

—	Millions of yen		Thousands of U.S. dollars	
	2018	2019	2019	
Cash flows from operating activities:				
Profit before income taxes	¥ 39,232	¥ 182,624	\$ 1,645,409	
Depreciation, amortization and impairment loss	279,151	198,761	1,790,800	
Finance income and costs	7,286	5,824	52,473	
Share of loss (gain) of investments accounted for using the equity method	(2,670)	(10,937)	(98,540	
Loss (gain) on sale of property, plant and equipment and intangible assets	(1,693)	(41,218)	(371,366	
Loss (gain) on disposal of property, plant and equipment and intangible assets	7,022	6,519	58,735	
Decrease (increase) in trade receivables	(9,135)	34,863	314,109	
Decrease (increase) in contract assets	4,066	115,185	1,037,796	
Decrease (increase) in inventories and advanced payments	99,260	17,229	155,230	
Increase (decrease) in trade payables	64,385	51,014	459,626	
Increase (decrease) in contract liabilities	79,649	(33,589)	(302,630	
Increase (decrease) in provisions	(48,302)	46,578	419,659	
Increase (decrease) in retirement benefit liabilities	11,033	2,162	19,479	
Decrease (increase) in indemnification asset for South African projects	(40,410)	(110,615)	(996,621	
Others	(57,778)	(15,480)	(139,472	
Subtotal	431,098	448,924	4,044,724	
Interest received	4,032	5,149	46,391	
Dividends received	17,438	15,232	137,237	
Interest paid	(8,456)	(6,664)	(60,041	
Income taxes paid	(38,360)	(57,718)	(520,028	
Net cash provided by operating activities	405,752	404,924	3,648,292	
ash flows from investing activities:				
Purchases of property, plant and equipment and intangible assets	(267,103)	(224,263)	(2,020,569	
Proceeds from sales of property, plant and equipment and intangible assets	8,231	43,509	392,008	
Purchases of investments (including investments accounted for using the equity method)	(105,442)	(8,547)	(77,006	
Proceeds from sales and redemption of investments (including investments accounted for using the equity method)	114,089	26,975	243,039	
Disbursement of loans	(1,993)	(5,088)	(45,841	
Collection of loans	15,898	3,167	28,534	
Others	(1,872)	2,377	21,416	
Net cash used in investing activities	(238,193)	(161,869)	(1,458,410	
ash flows from financing activities:				
Net increase (decrease) in short-term borrowings	25,446	(60,613)	(546,112	
Proceeds from long-term borrowings	3,859	7,039	63,420	
Repayment of long-term borrowings	(96,841)	(68,439)	(616,623	
Proceeds from issuance of bonds	20,000	-	-	
Payment for redemption of bonds	(60,000)	(30,000)	(270,294	
Proceeds from issuance of stock to non-controlling interests	519	1,749	15,758	
Dividends paid to owners of the parent	(40,206)	(41,888)	(377,403	
Dividends paid to non-controlling interests	(6,128)	(7,781)	(70,105	
Proceeds from factoring agreements	209,031	169,271	1,525,101	
Repayment of liabilities under factoring agreements	(166,146)	(218,519)	(1,968,817	
Others	(1,868)	(6,394)	(57,608	
Net cash used in financing activities	(112,334)	(255,577)	(2,302,702	
ffect of exchange rate changes on cash and cash equivalents	1,607	(3,478)	(31,336	
et increase (decrease) in cash and cash equivalents	56,832	(16,001)	(144,166	
ash and cash equivalents at the beginning of the year	242,404	299,237	2,696,071	
Cash and cash equivalents at the end of the year	¥ 299,237	¥ 283,235	\$ 2,551,896	

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Corporate Data

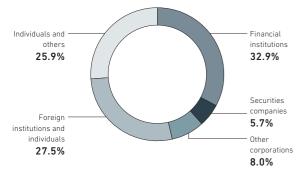
As of March 31, 2019

Head Office:	2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo, 100-8332, Japan Phone: +81-3-6275-6200
Established:	January 11, 1950
Establisheu.	January II, 1930
Paid-in Capital:	¥265.6 billion
Total Number of Issuable Shares:	600,000,000
Total Number of Shares Issued:	337,364,781
Number of Shareholders:	245,328
Number of Employees:	80,744 (Consolidated)
	14,534 (Non-consolidated)

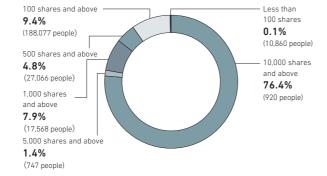
Stock Listings:	Tokyo, Nagoya, Fukuoka, and Sapporo Stock Exchanges
Ticker Code:	7011
Manager of the Register of Shareholders:	Mitsubishi UFJ Trust and Banking Corporation 4-5, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8212, Japan
Independent Auditors:	KPMG AZSA LLC 1-2 Tsukudo-cho, Shinjuku-ku, Tokyo 162-8551, Japan

Major Shareholders	Number of shares owned by major shareholders	Shareholder composition (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	20,417,100	6.0
Japan Trustee Services Bank, Ltd. (Trust Account)	17,997,100	5.3
Meiji Yasuda Life Insurance Company	8,002,274	2.3
Japan Trustee Services Bank, Ltd. (Trust Account 5)	6,576,700	1.9
The Nomura Trust and Banking Co., Ltd. (Retirement Benefit Trust Account for The Bank of Tokyo-Mitsubishi UFJ, Ltd.)	6,526,300	1.9
Japan Trustee Services Bank, Ltd. (Trust Account 9)	6,467,700	1.9
Japan Trustee Services Bank, Ltd. (Trust Account 7)	5,558,700	1.6
State Street Bank West Client - Treaty 505234	5,118,345	1.5
Mizuho Securities Co., Ltd.	4,635,158	1.3
JP MORGAN CHASE BANK 385151	4,437,560	1.3

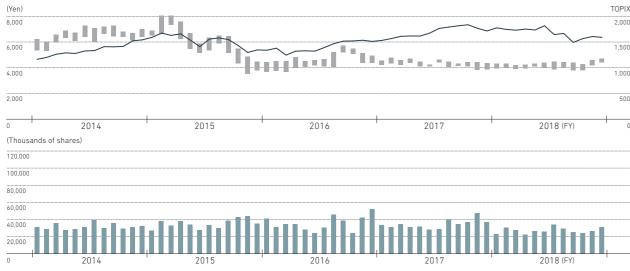
Classified by Type of Shareholder



Classified by Number of Holdings



Stock Price Range and Trading Volume (Tokyo Stock Exchange)



Note: The Company conducted a 1-for-10 reverse stock split on common shares on October 1, 2017. Data on stock price and trading volumes for periods prior to this date has been retroactively calculated as if the reverse stock split had taken place previously.

Status of IR Activities

Briefings for Individual Investors

We hold small meetings for individual investors in locations throughout Japan, mainly on the major cities. In these meetings, we provide a corporate overview and explain our business strategies, shareholder returns, and other topics. We also conduct factory tours for individual shareholders on a regular basis.

Briefings for Analysts and Institutional Investors

The CFO briefs financial results on a quarterly basis. At the fiscal 2018 financial results briefing, the president also explained the progress of the 2018 Medium-Term Business Plan, a three-year business plan that began in fiscal 2018. In addition, we hold business strategy briefings, small meetings, and factory tours from time to time in an effort to strengthen the communication of various information.

Meetings with Overseas Investors

We visit overseas investors located in North America, Europe, and Asia, explaining our operating performance, management strategies, and other information. Several times each year, we also participate in conferences for overseas investors held in Japan and overseas.

Status of Inclusion in ESG Indexes (As of September 2019)

Selection for Inclusion in Environmental, Social, and Governance (ESG) Investment Indexes MHI Group promotes management that places emphasis on CSR and is focusing its efforts on various activities and information disclosure from economic, environmental, and social perspectives, starting with corporate governance and risk management. Through these efforts, we have been selected for the third year in a row for inclusion in the Asia Pacific Index of the Dow Jones Sustainability Index, which is a global ESG investment index. We have also been included in the FTSE Blossom Japan Index, the MSCI Japan ESG Select Leaders Index, the MSCI Japan Empowering Women Index (WIN), and the S&P/JPX Carbon Efficient Index, all of which are ESG investment indexes selected by the Government Pension Investment Fund (GPIF).

NENDER OF Dow Jones Sustainability Indices In collaboration wit





dialogue.

In 2004, MHI became a signatory to the UN Global Compact (UNGC). Since then, MHI has been carrying out the UNGC's Ten Principles on human rights, labor, the environment, and the prevention of corruption,



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This year marks our sixth publication of the MHI Report.

In this edition, we communicate our growth strategies in the near term and those over the medium to long term. At the same time, this edition focuses on our vision for efforts related to the environment and society, such as the diversity of our human resources, our response to climate change, and cybersecurity measures.

We hope that this report will contribute to the better understanding of the Company among shareholders and investors, as well as a tool for

We look forward to hearing your frank opinions.

September 2019

Investor Relations & Shareholder Relations Department

MITSUBISHI HEAVY INDUSTRIES, LTD.



The paper used in this report is made from FSC®-certified and other materials from controlled sources. In addition, this report was printed with VOC (volatile organic compound) free ink in a waterless printing process, which eliminates the use of alkaline developing solutions and elements such as isopropyl alcohol in the dampening water.