# MHI CSR Report 2013

Social and Environmental Report **Digest**

# CSR Report

Corporate Social Responsibility Report

MITSUBISHI HEAVY INDUSTRIES, LTD.

Our Technologies, Your Tomorrow

# Creed

1. We strongly believe that the customer comes first and that we are obligated to be an innovative partner to society.
2. We base our activities on honesty, harmony, and a clear distinction between public and private life.
3. We shall strive for innovative management and technological development from an international perspective.

## Reason for Instituting the Creed (Issued June 1, 1970)

In Japan there are many enterprises with their own "creeds" which simply represent their management concept.

Mitsubishi Heavy Industries, Ltd. has a creed of this type, also. It was instituted in 1970 on the basis of the policy advocated by Koyata Iwasaki, president of Mitsubishi Goshi Kaisha in the 1920s, to indicate the essential attitude of the company, the mental attitude of employees, and the future directions of the company.

The reason for instituting the present creed is so that all of us can call to mind our one hundred years of tradition and strive for further development in the future.

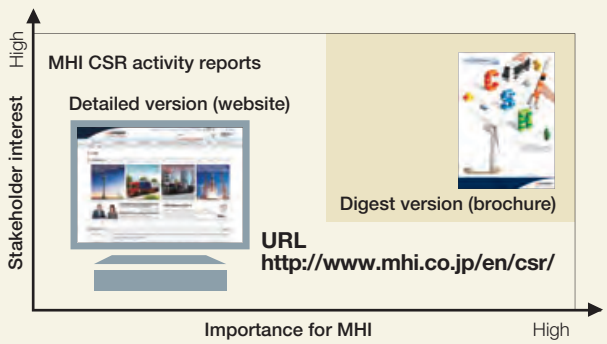
## Editorial Policy

MHI uses its website for the comprehensive disclosure of information related to the MHI Group's CSR initiatives. MHI also produces a CSR Report digest version (brochure) to succinctly convey the activities that are the target of great interest from society and are also highly important to MHI.

In 2013, with a greater awareness of dialogues with our stakeholders, we have included an interview of our president conducted by an outside expert, and dialogues with outside experts on human rights issues. The brochure is kept concise for ease of reading, while the website includes more detailed information to offer a greater understanding of matters introduced. In addition, MHI reports on its representative efforts with the aim of resolving issues on a global scale through a wide range of business fields such as Energy & Environment, Transportation, and Aerospace.

Our website contains detailed information — focusing on "Management," the "Environmental Report," and the "Social Contributions Report" — that is not included in the brochure. In the future we will continue to improve these reports in response to your feedback.

### Structure of CSR information disclosure




### Scope of this Report

**Target organization:**

The information contained in this report pertains to Mitsubishi Heavy Industries, Ltd. and its Group companies (110 in Japan and 126 overseas). Some articles, however, only include descriptions of MHI's activities.

**Target period:**

From April 1, 2012 to March 31, 2013
(includes information on some activities after March 31, 2013)

### Guidelines and Other Reference Material

- Global Reporting Initiative (GRI)
  "Sustainability Reporting Guidelines (G3.1 version)"
- Japanese Ministry of the Environment "Environmental Reporting Guidelines (2012 edition)"
- ISO 26000

NOTE: A "Guideline Comparison List" will be posted on our website.

### Date of Issuance

June 2013 (previous issue: June 2012)
Recent efforts are included under "CSR" on the MHI website.

CONTENTS



What should MHI do to help realize a sustainable society through manufacturing? Mayumi Matsumoto—former newscaster and guest associate professor of the College of Arts and Sciences at The University of Tokyo, currently active as an expert in the energy and environment field—interviews President and CEO Shunichi Miyanaga.














MHI held a stakeholder dialogue on human rights issues with Makoto Teranaka and Hiroshi Ishida, two experts who are also members of the Nippon CSR Consortium



**Shunichi Miyanaga**
President and CEO,
Mitsubishi Heavy Industries, Ltd.

**Mayumi Matsumoto**
Visiting Assistant Professor, Special Division
for Energy and Environmental Sciences,
Komaba Organization for Educational Excellence (KOMEX),
College of Arts and Sciences, The University of Tokyo

# Leveraging our comprehensive strengths in manufacturing to help realize a sustainable society

## Promote CSR aligned to management strategy

**Matsumoto:** To begin, could you tell us about MHI's basic approach to CSR?

**Miyanaga:** Our most important social responsibility is to provide a wide range of products benefiting social and industrial infrastructures in ways that help create a sustainable society. This approach is reflected in our corporate identity statement, "Our Technologies, Your Tomorrow."

At the same time, we want to increase earnings in each of MHI's businesses in order that our diverse stakeholders — particularly customers, shareholders, business partners, and employees — also benefit to the fullest extent possible.

**Matsumoto:** So, for MHI, business strategies and CSR are integrally related?

**Miyanaga:** Yes. In today's world, as economies grow in newly developing countries and populations increase, problems stemming from energy and resource depletion, environmental degradation, and food and water shortages are rising. Consequently, there are urgent needs throughout many regions of the world to provide for various industrial and social infrastructures, starting with lifeline utilities.

To effectively respond to these global-scale issues, we reorganized the MHI Group's businesses into four business domains: "Energy & Environment," "Commercial Aviation & Transportation Systems," "Integrated Defense & Space Systems," "Machinery, Equipment & Infrastructure." By capitalizing on the synergies of these business domains and leveraging our comprehensive strengths in advanced manufacturing, or monozukuri, we intend to help realize a sustainable society. That is the mission of the MHI Group.

### Profile

Born in Fukuoka Prefecture, Japan, on April 27, 1948. Graduated from the University of Tokyo Faculty of Law and joined MHI in 1972. Appointed President of MHI-HITACHI Metals Machinery, Inc. in 2000 (renamed Mitsubishi-Hitachi Metals Machinery, Inc. in 2002). Appointed as Member of the Board and Executive Vice President of MHI, as well as Head of Machinery & Steel Structures Headquarters in 2008. Served as Member of the Board, Senior Executive Vice President and Head of the Presidential Administration Office from 2011. Appointed President and CEO on April 1, 2013.

## Commitment essential to promoting CSR in communities around the world

**Matsumoto:** Could you give some examples of how CSR has been connected to business activities?

**Miyanaga:** As one example, MHI has been a participant in the United Nations Global Compact since 2004 and abides by its 10 principles across the four areas of human rights, labor, the environment and anti-corruption. In addition, MHI began incorporating the seven core subjects of ISO 26000 in its business plans from fiscal 2012.

**Matsumoto:** What aspects of those initiatives are especially important in your view?

**Miyanaga:** Safety and quality are the most important considerations from the standpoint of a manufacturing company. They form the starting points for all MHI operations, particularly in design and manufacturing stages. Accordingly, we place great importance on employee training and in the handing down to the next generation of workers lessons learned from serious incidents in the past. I believe that the most valuable way of supporting society is to continuously refine technologies with a dedication to ensuring public safety and security.

**Matsumoto:** As a global company, MHI has business partners all around the world. I would assume that this results in new challenges for CSR.

**Miyanaga:** That's exactly right. The number of our overseas business partners has increased in line with our growing global procurement activities. We expanded the scope of the Supply Chain CSR Promotion Guidelines originally established in 2010 to encompass our new partners and requested all to adhere to our regulations covering compliance, human rights and labor practices in line with our growing global procurement activities. We plan to carry out initiatives covering CSR procurement in the future.

In addition, we introduced Guidelines for the Prevention of Bribery Involving Foreign Civil Servants in 2005, recognizing the need to ensure that no bribes or other irregular transactions occur in social infrastructure-related operations, as many of our overseas customers are governmental bodies. Likewise, we have stepped up efforts to fight corruption, creating Anti-Bribery Rules and Procedural Guidelines in 2012.

When justifying the importance of these rules and guidelines, I emphasize that compliance ultimately leads to a happier society. Hence company-wide compliance is essential in promoting CSR.

### Profile

Born in Kumamoto Prefecture, Japan, Mayumi Matsumoto graduated from the Faculty of Foreign Studies at Sophia University. After graduating, she worked as a newscaster for TV Asahi and contributed numerous features as a reporter. From there, she joined the Japan Broadcasting Corporation's NHK BS 1 channel as a newscaster and was in charge of its World News programs for six years. Matsumoto is active in environment- and energy-related NPOs and joined the University of Tokyo's Research Center for Advanced Science and Technology as a specially appointed researcher in May 2009. Her current position commenced in April 2013.

## MHI's aspirations for energy and environment endeavors

**Matsumoto:** I would like to ask you a few questions regarding MHI's business activities in the energy and environment field, which is my area of research. Firstly, what is your objective for integrating MHI's thermal power generation systems with Hitachi, Ltd.?

**Miyanaga:** With the growing worldwide demand for energy, combining forces with Hitachi, which has a long track record in this industry, will enable us to create an even better business by complementing our respective fields of expertise. Ultimately, our aim is to become a world-leading company.

**Matsumoto:** I understand. And what is your view on nuclear power, given the critical nature of public opinion today?

**Miyanaga:** I believe that nuclear power is a necessary source of electricity over the long term because it generates power efficiently and stably. In a country with an advanced industrial base, an efficient and stable supply of electricity is essential, and from that perspective, nuclear power capabilities are indispensable.

Previous accidents at nuclear power plants stemmed from individually unique factors, and the industry has learned from past mistakes. International observers are calling on Japan to improve its nuclear power capabilities by learning from the accident in Fukushima, and I hope that MHI can help the country meet these expectations. Incidentally, MHI is involved in the International Thermonuclear Experimental Reactor (ITER) project, which is conducting research on nuclear fusion.

At MHI, our mission is to contribute to ensuring a stable supply of power and the sustainable development of society. Therefore, we are committed to improving nuclear safety and developing better technologies.

**Matsumoto:** Finally, what are your visions for MHI's energy and environment business endeavors in the future?

**Miyanaga:** I want to make the most of the technologies, products and expertise in our energy and environment businesses as well as our thermal power generation systems, with the goal of creating "smart communities" that comprehensively manage the energy and environmental operations of entire cities. By pursuing this goal, we will help solve social issues through business, products and technologies.

Integrated coal Gasification Combined Cycle (IGCC) plants make significant contributions to securing stable supply of energy

## MHI Group CSR Action Guidelines (formulated July 2007)

**In order to ensure a secure future for the Earth, we will establish and maintain:**

### Close ties with the Earth

**Safeguard an abundantly green Earth through environmental technologies and environmental awareness;**

### Close ties with Society

**Build a relationship of trust with society through proactive participation in society and trustworthy actions;**

### A bridge to the next Generation

**Contribute to the cultivation of human resources who can shoulder responsibility in the next generation through technologies that can realize dreams.**

### Promoting CSR through manufacturing as an innovative contributor to society

In accordance with the three principles that define the spirit of our creed, the MHI Group serves as a manufacturing corporation that contributes to societal progress through its business endeavors of delivering products and technologies in support of social and industrial infrastructure worldwide. In this way MHI is contributing to the resolution of global issues.

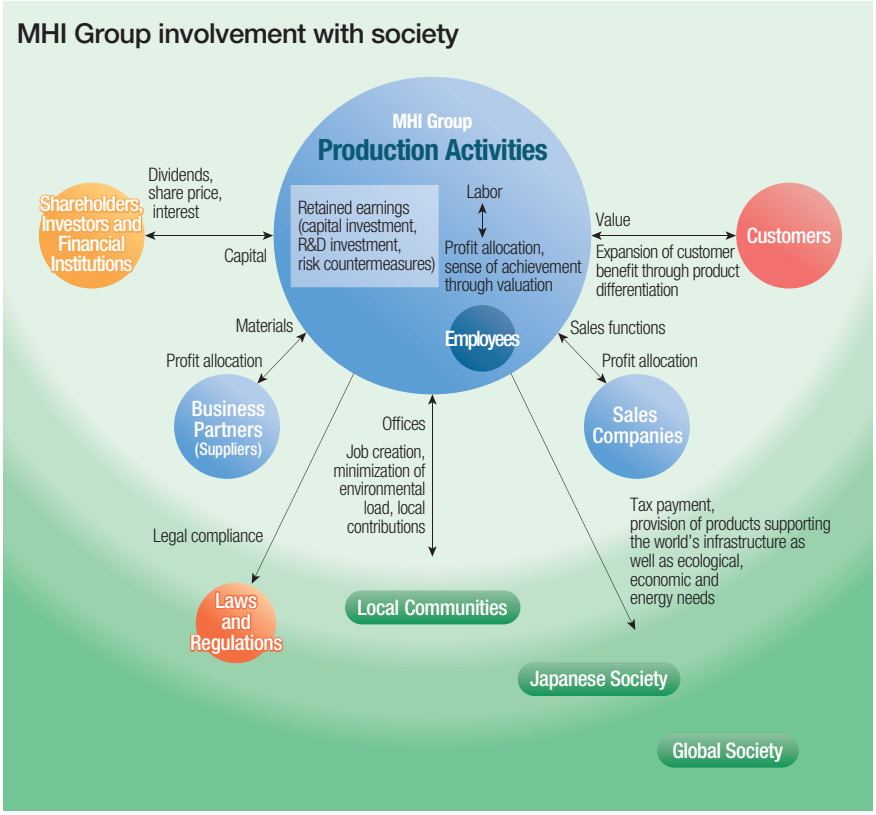
Furthermore, MHI believes the basis of corporate social responsibility (CSR) is to engage in business activities that take its diverse range of stakeholders into consideration and return profits to all stakeholders in optimum fashion, while at the same time providing excellent products and technologies to realize a sustainable society and a secure future for people and the planet.

Based on our creed and CI statement, "Our Technologies, Your Tomorrow," the MHI Group has also instituted CSR Action Guidelines to serve as collective standards for all Group employees when conducting business activities centered on the principles of CSR.

### Promoting more business-integrated CSR

In October 2006, the company set up the CSR Committee, chaired by the President, and the CSR Department, which reports directly to the President, in order to strengthen CSR-oriented management. Following further organizational reforms in April 2011, in October 2012 these functions were moved to the Corporate Communication Department of the Presidential Administration Office in order to consolidate CSR, public relations, advertising, IR, and other stakeholder communication functions and thus promote more business-integrated CSR activities. Business-integrated CSR activities are those that not only use products and technologies to contribute to the resolution of environmental and other social issues but also prevent or reduce negative

MHI Group involvement with society




The 13th Session of the CSR Committee, December 2012

impact and increase positive impact on society via efforts to address social issues in all business processes.

The CSR Committee, which holds sessions twice yearly, sets policies for tackling social issues and also sets and focuses on six themes regarding important activity initiatives in areas such as the globalization of CSR activities and Funds for Community Engagement.

Going forward, we will work to build a more effective organizational framework and further promote CSR activities through their integration with business management.

## Sustained promotion of PDCA based on the CSR Action Plan

The CSR Committee set the CSR Action Plan for fiscal 2008 to 2010 and strove to embed CSR efforts in company by following a PDCA (plan–do–check–action) cycle.

In fiscal 2011, the committee formulated a new CSR Action Plan (for fiscal 2011 to 2013) and supported activities in six priority areas: CSR promotion, compliance, the environment, human rights/labor, product responsibility, and risk management. However, in fiscal 2012 the CSR Action Plan framework was revised and these areas reorganized to match the seven core subjects of ISO 26000: organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development. This global standard was adopted with the intention of introducing the perspective of the international community.

Going forward, through stakeholder dialogue and the collection of feedback, we hope to identify the types and relative seriousness of social issues the MHI Group should tackle and revise our activities to reflect those findings.

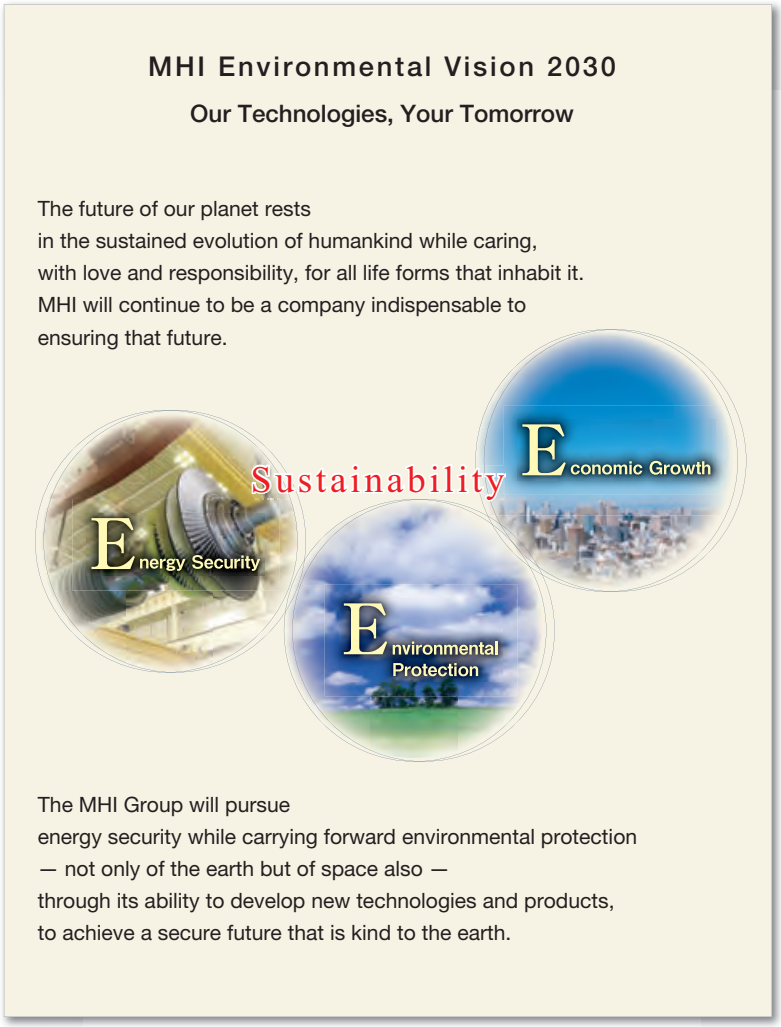
## Cultivating CSR awareness through CSR sessions

CSR sessions aimed at deepening employees' awareness of CSR were held successfully at 12 sites and at a number of Group companies in fiscal 2012 and 657 people participated. CSR sessions for new employees were held at all works, including the Head Office, and 655 people participated in fiscal 2012. CSR sessions and CSR sessions for new employees have been taking place for six years since fiscal 2007 and a total of 10,812 people have now received the sessions.

CSR sessions consist primarily of lectures and group discussions. Lectures are designed to provide a basic introduction to CSR, present the latest trends in CSR on a global level, and explain initiatives taking place in the MHI Group. Group discussions encourage employees to approach their day-to-day work from a social responsibility perspective.

To clarify the issues of CSR activities and ascertain employees' understanding of CSR, a survey was conducted based on the CSR Action Guidelines of employees who have participated in CSR sessions since they were commenced. Each year, employees' understanding of CSR is improving as a result of improvements in areas of poor performance and efforts made in the continuation and development of activities.

CSR sessions at Kobe Shipyard & Machinery Works




The MHI Group formulated the MHI Environmental Vision 2030 in June 2012, and promotes activities with an aim of achieving the 3Es (energy security, environmental protection and economic growth) through business.

Feature

# Towards an Assured Future for Mankind and Earth

Large-Scale Power Generation through Efficient Conversion of Sea Winds

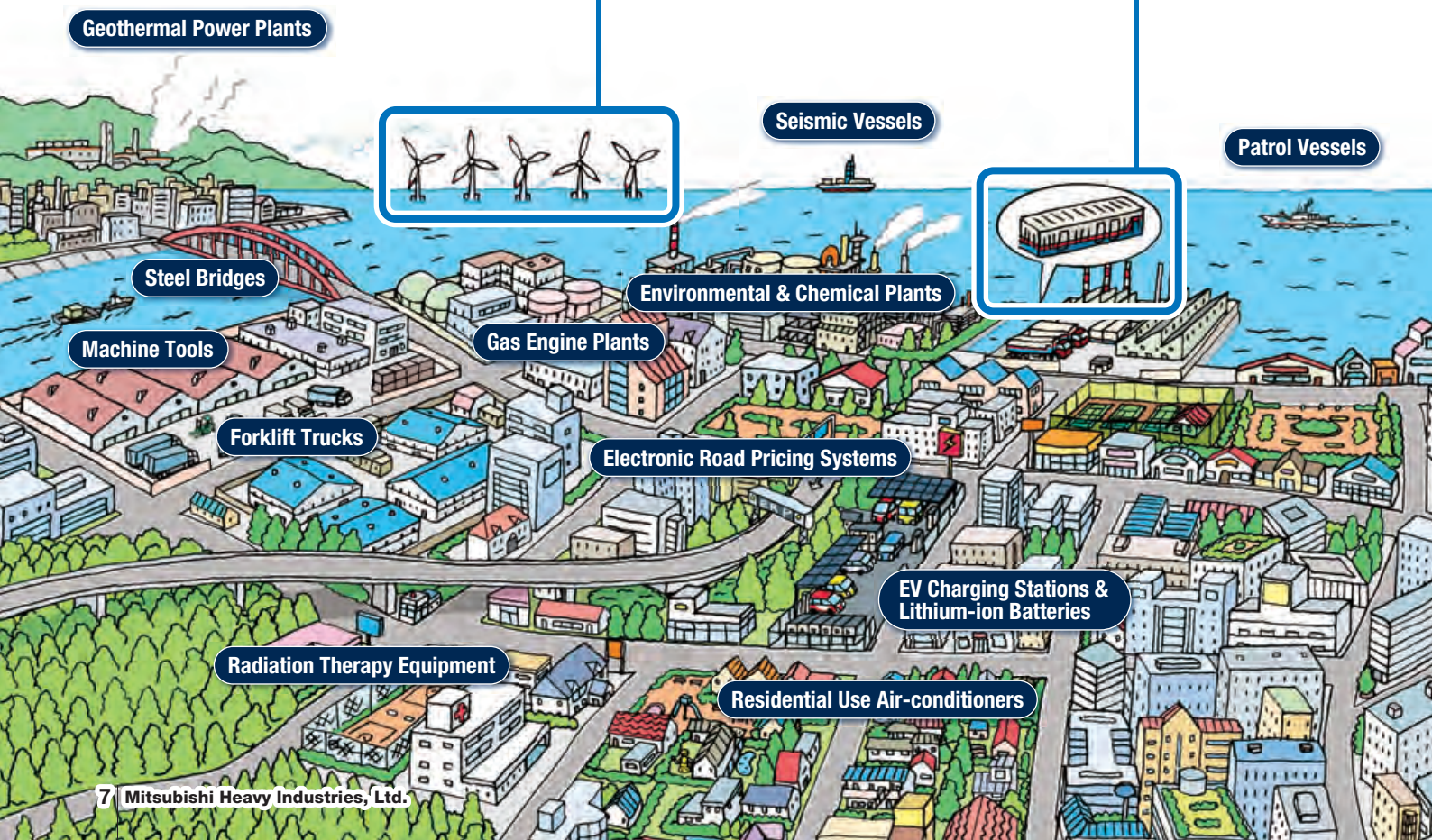
## Large-Scale Offshore Wind Power Generation


Global expectations for offshore wind power generation are rising. MHI responds to the challenges and demands of increased output with technologies that efficiently convert sea wind into energy. A vast power generation project is unfolding offshore.

Immediate Power Generation in Response to Regional Power Demands

## Container-Configured Power Generation System MEGANINJA


This mobile power plant provides a distributed energy supply to meet the diversified expectations of people waiting for stable power supplies.



# Through manufacturing, MHI addresses social issues and responds to expectations across a wide range of social and everyday situations.

Among the many problems facing today's world are environmental pollution, global warming and the energy crisis. Moreover, as societies mature and technologies advance, people around the globe have come to expect lives that are comfortable, safer and more secure.
MHI is a manufacturing company that provides social and industrial infrastructure for land, sea, air and even space environments. Through its lines of business, products and technologies, the company responds to expectations and helps to resolve diversifying social issues, contributing to an assured future.

### Comfortable Travel for All
## New Urban Transportation Systems

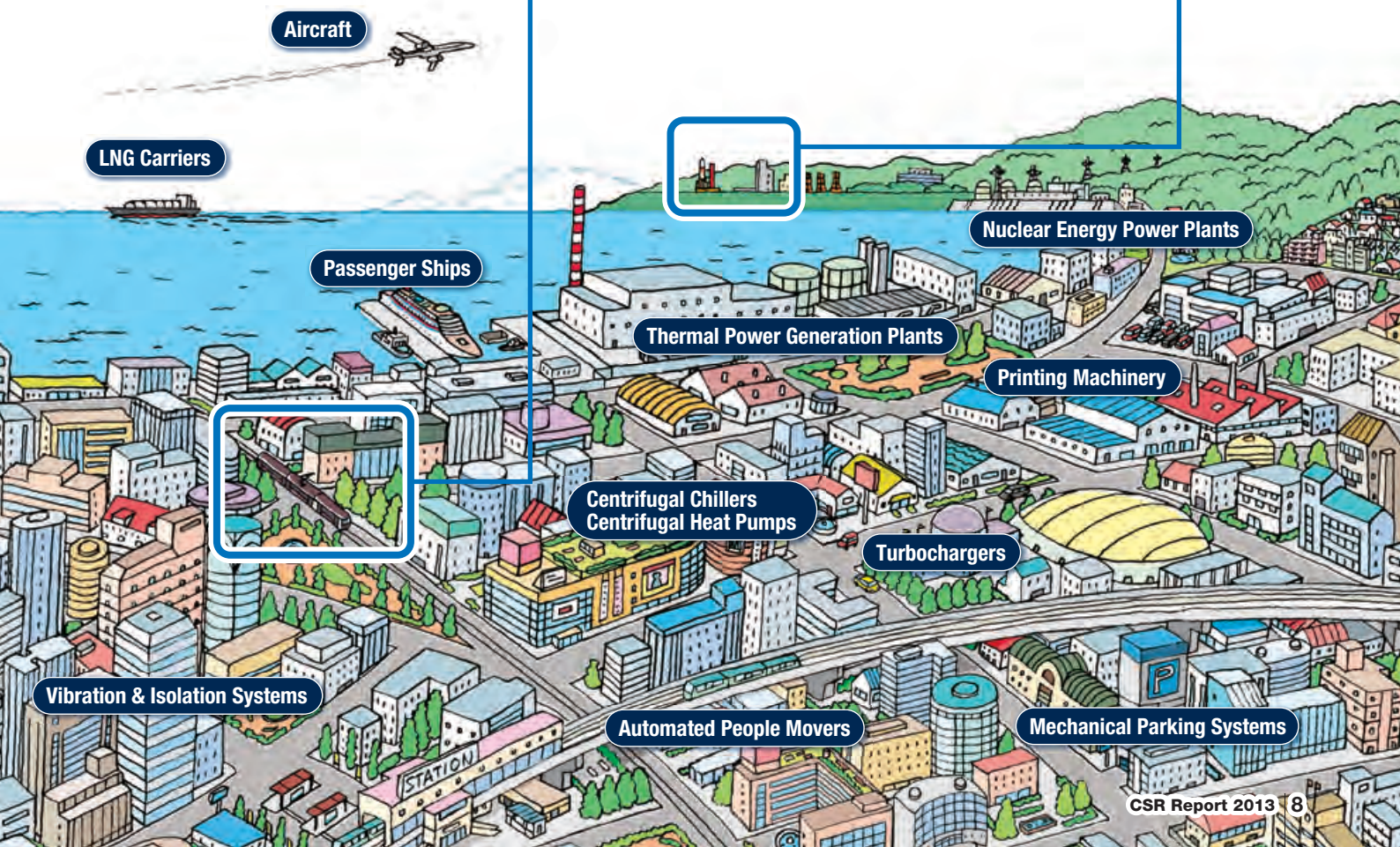

P13

The first domestically produced, people-friendly, "barrier-free" cars, delivering a method of urban transportation that can be used comfortably by more people.

### Launching the World's Dreams into Space
## H-IIB Launch Vehicle with Greater Launch Capabilities


P15


With its enhanced launch capabilities, the H-IIB contributes to space development, mankind's gateway to the future.



# Large-Scale Offshore Wind Power Generation: One Solution to Energy Issues


**MHI is developing the world's first large-scale offshore wind turbine generator to utilize a Digital Displacement® hydraulic drive train. Its success will support an ambitious plan to generate around one-third of the electricity consumed in the United Kingdom from renewable sources and will also contribute to the UK's legally binding carbon reduction target. This project is a great example of MHI's contribution to the wider challenge of helping society move to a more sustainable low carbon footing.**


Fixed foundation large-scale offshore wind turbines for the UK and continental Europe (conceptual image)

## Development of new 7MW*1 offshore wind turbine generator by 2015

Wind turbines are attracting attention around the world as a source of renewable energy. With an abundance of strong constant winds, offshore turbines are expected to generate more electricity than onshore turbines, an opportunity that industry is responding to.

Wind power generation in the EU is highly developed: new wind power facilities account for over a third of the capacity of all power plants. The UK is moving forward with plans to take advantage of its strong offshore winds by installing several thousand offshore wind turbine generators by 2020. In the future, the country intends to use wind turbines to generate over 40GW*2, a third of the electricity it consumes domestically.

In February 2010, MHI signed a memorandum of understanding with the UK Government to cooperate on offshore wind turbine development. MHI's approximately 4,000 previous onshore wind turbine deliveries and its achievements with thermal power generation plants earned it the honor of being the first Japanese corporation to enter the European offshore wind turbine market.


**Nacelle (housing for generator and other equipment) of large-scale wind power generation facility that began test operations in January 2013**

Offshore construction and maintenance costs are higher than those for onshore turbines, therefore higher reliability during operation and greater turbine yield and rated output will drive future value for customers. MHI and subsidiary company Artemis Intelligent Power, with support from NEDO*3 and the UK's BIS and TSB*4, brought forward a game-changing engineering solution, developing a substitute for the conventional turbine design: a hydraulic drive train that powers the synchronous generator. In January 2013, test operations of the world's first multi-megawatt wind turbine with hydraulic drive train began at Yokohama Dockyard & Machinery Works.

In late 2013, MHI will erect an onshore demonstration unit with a rotor diameter of 167m and a rated output of 7MW at Hunterston in Scotland, UK. The Hunterston project will form part of a wider program of demonstration and validation scheduled to run until 2015. A production version of the wind turbine will then be released to the market.

*1 MW: Megawatt, or 1,000,000W. Amount of electrical power consumed by approximately 640 average households in the UK.

*2 GW: Gigawatt, or 1,000,000,000W. The generating capacity of an average nuclear power plant is 1GW.

*3 NEDO: New Energy and Industrial Technology Development Organization.
An Incorporated Administrative Agency under jurisdiction of Japan's Ministry of Economy, Trade and Industry.

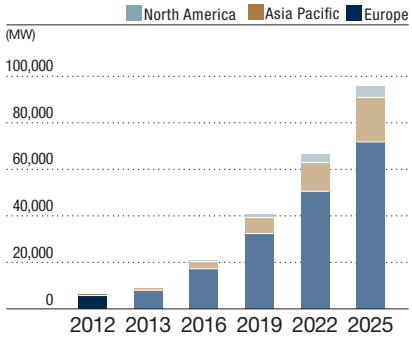
*4 UK BIS: Department for Business, Innovation & Skills. A UK government department.
TSB: Technology Strategy Board, the UK's innovation agency.

* Digital Displacement® Transmission is a registered trademark of Artemis Intelligent Power, Ltd., a group company of MHI.

## Larger models sought as turbines move offshore

From onshore to off: Although expectations for offshore wind power may be focused in Europe, interest is spreading around the world. At the same time, there is a demand for developing larger offshore wind turbines with a rated output of 6 to 8+MW, as opposed to current turbines of 3 to 5MW.

### Total offshore wind power generating capacity (projected)

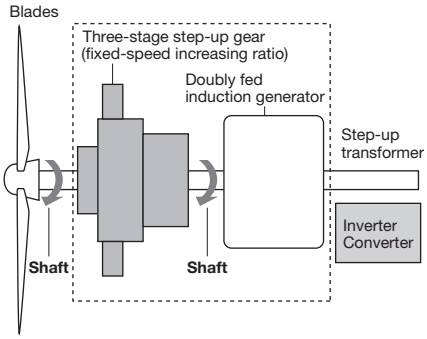



Source: IHS Emerging Energy Research Market study 2012

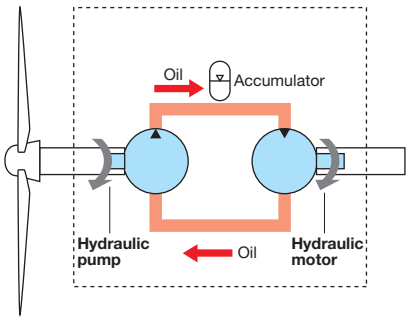
## Hydraulic drive train resolves issues of larger-sized units

In lieu of a step-up gear, the new digitally controlled hydraulic drive train (hydraulic pump and motor) used for wind power generation facilitates larger-sized models and delivers high reliability. In addition, the need for an inverter is eliminated through separate digital control of the pump and motor, allowing a standard synchronous generator. This new design was developed with the superior digitally controlled hydraulic technologies of Artemis Intelligent Power, Ltd., an MHI-affiliated company in the UK.

### Conventional gear drive train



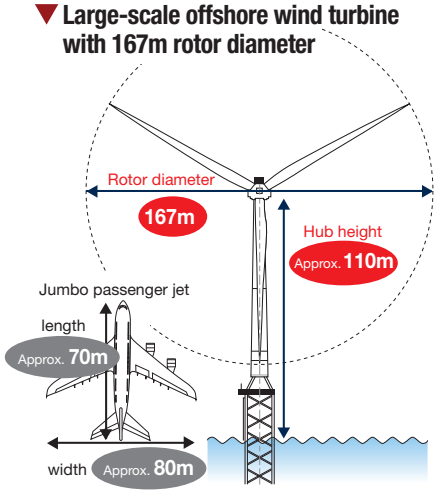

### Hydraulic drive train



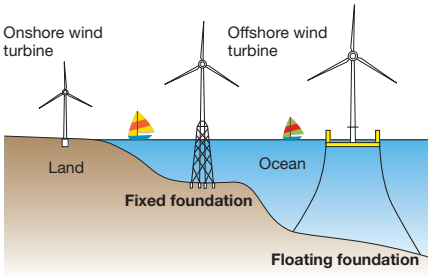

## Offshore wind power generation incorporates multiple MHI technologies

In addition to the technology and expertise gained through production of onshore wind turbines, MHI will apply its comprehensive technologies and experience in thermal power generation, steel structures, aerospace, and shipbuilding and ocean development in its production of large-scale offshore wind turbines.

### Large-scale offshore wind turbine with 167m rotor diameter




### Providing both fixed foundation and floating types




### Aerospace technology

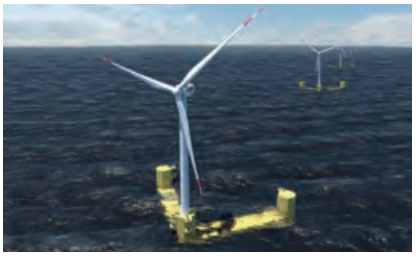
Blades for the 7MW hydraulic drive train wind turbine, currently under development, utilize technologies applied in aerospace, including carbon materials and lightning protection.

**Lightning protection test**

**Wind tunnel test**

## Demonstration testing of floating offshore wind power generation begins in Japan

Japan's topography limits the size of onshore wind turbine equipment that can be transported, and its marine coastal areas are generally not shallow enough to accommodate fixed foundation offshore wind turbines. For these reasons, floating offshore wind power is being viewed as the next stage in Japanese wind power generation. MHI is participating in the Ministry of Economy, Trade and Industry's floating offshore wind farm demonstration research project, one purpose of which is the implementation of this technology. MHI will provide the project with large-scale 7MW-class wind turbines and floating structures, with test operations for the MHI machines scheduled to begin off the coast of Fukushima Prefecture in late 2014.



Floating offshore wind farm research project in Fukushima Prefecture (conceptual image)

# Voice Expectations of MHI

## Toward low carbon society with our ideal partner MHI

"In 2009, SSE was in the early stages of thinking about potential partnerships for offshore wind and Mitsubishi Power Systems Europe (MPSE) (MHI's power systems business for EMEA) was a good strategic fit for us not only in offshore wind but across the low carbon generation space. SSE, MPSE & MHI then signed a Low Carbon Partnership agreement in 2010."

"Successful project delivery is critically important, success breeds success. Together we have completed HVAC and Lithium-ion battery projects and we are now delivering a GTCC project, and the SeaAngel 7 MW prototype at SSE's Hunterston test site."

"There has always been a close cultural and historical alignment between the Scots and the Japanese, right back to Thomas Glover. This, in parallel with Mitsubishi's reputation for technology and quality, makes us feel there's something special and unique that will help sustain a long and prosperous future for SSE and Mitsubishi."

**Jim McPhillimy** (Second from right)
Managing Director,
Scottish and Southern Energy (SSE)

# MEGANINJA: A Solution to Energy Demands for Distributed Power Generation Systems


**Sales of MEGANINJA, MHI's container-configured gas engine power generation system, began in June 2012. MEGANINJA can begin generating power within 24 hours of delivery, and — as a distributed power generation system — is attracting attention for its ability to rapidly meet power supply demands in regions with insufficient power generation infrastructures and emergency power supply demands in developed countries.**

## "Quick mobility, quick installation, quick commissioning!" for regions with insufficient power generation infrastructures

Many emerging countries still have regions where power grids and other infrastructure are unable to keep pace with growing demands for power. In China, the government has announced plans to introduce distributed power systems with a total output of 50GW* by 2020. Meanwhile, developed nations are working to popularize distributed power systems, which are energy efficient and disaster resistant, and are working towards the construction of smart communities in which such systems are a prerequisite.

Looking to raw materials and fuels, the soaring price of crude oil, vast natural gas reserves identified in Africa, and the extraction of shale gas in the U.S., all seem to forecast the further popularization of natural gas. In addition, natural gas is well-suited for cogeneration systems – the high-efficiency energy systems that use heat and steam as well as electricity.

In response to these factors, MHI developed the MEGANINJA, a distributed power system run on natural gas, and began marketing it in June 2012. The MEGANINJA, a package product consisting of a 1.5MW gas engine, generator, oil tank and control console loaded into an ISO 40-foot (approx. 12m) container, is capable of generating power soon after being transported to its installation site by trailer. It can also accommodate cogeneration systems through simultaneous use of a 20-foot container for waste heat recovery, and with its quick transport, quick installation and quick commissioning, is able to promptly respond to power and heat demands in any area.


**A mobile power plant: all the equipment necessary for power generation packaged in an ISO 40-foot container.**

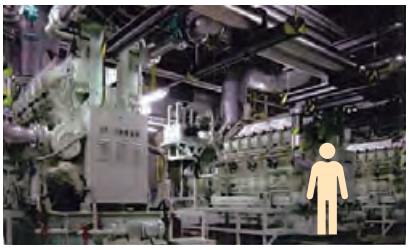
In July 2012, the first two MEGANINJA units were delivered to a Chinese gas company, Dongguan Xinao Gas, where they are being used as backup power sources during interruptions in the power supply. There is also growing interest from regions in other countries with insufficient infrastructures, and from corporations in developed countries examining countermeasures for power peaks as part of their BCPs (business continuity plans).

* GW: Gigawatt, or 1,000,000,000W.
The generating capacity of an average nuclear power plant is 1GW.

## Power generation within 24 hours, maintenance within 24 hours

Installation of conventional gas engine power generation systems takes approximately 30 days before the system is operable. With the MEGANINJA, all necessary equipment has been packed into the container in advance, and simple coupling units are used for wirings and pipings. Even if several containers are being installed, this configuration makes it possible to "just set them down" and begin power generation within 24 hours of delivery. In addition, when a unit requires major repairs, it may be exchanged with another unit, and this process takes merely 24 hours.

### Conventional gas engine power generation facility

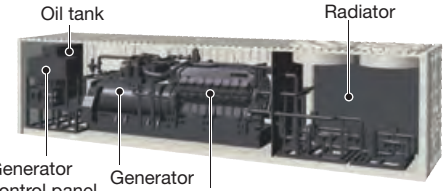


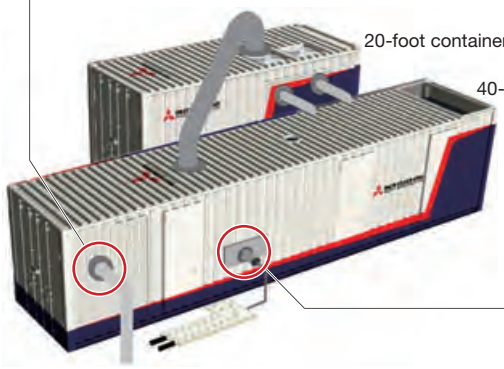
### Quick setup method –"just set it down"

**Gas piping connections**

Gas piping connection simplified with camlock fittings

### MEGANINJA's all-in-one configuration structure

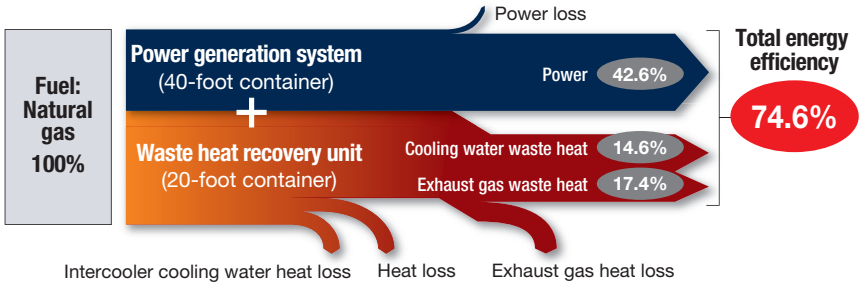



**Cable connections**

Wiring connections simplified with quick connector

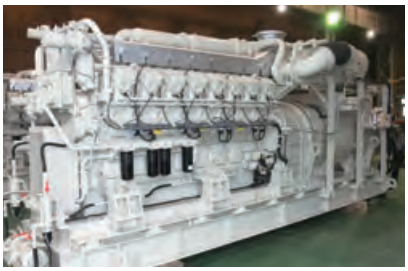
## Cogeneration raises total energy efficiency to 74.6%




## High power generation efficiency (42.6%), low NOx concentration (200ppm and less than 200ppm)

A Miller cycle gas engine, in which the expansion ratio is larger than the compression ratio, enables the achievement of a 42.6% power generation efficiency rating. In addition, electronic control results in optimal mixing of fuel and air, maintaining NOx density within 200ppm without after treatment.

### Heart of the MEGANINJA: a high-efficiency Miller cycle gas engine



## Responding to diverse global needs for distributed gas power generation systems

Stable power supplies are in demand around the world, including China and Southeast Asia. MHI responds to these diverse global needs with its distributed gas engine power generation systems.

**June 2012:** MOU signed with China Huadian Corporation on development of advanced technology for distributed power generation systems and their commercialization.

**July 2012:** First and second MEGANINJA units delivered to China's Dongguan Xinao Gas.

**July 2012:** Delivered a sample GS16R2-PTK generator set to Russia.

**October 2012:** Gas Engine Distributed Power Generation Engineering Center established in Shanghai, China.

**April 2013:** Stationary gas engine generator set delivered to Dongguan Xinao Gas.

**July 2013:** MEGANINJA installation at MHI's Machine Tool Headquarters (Ritto) for electricity peak-cut during summer.

Left: Director Ying of China Huadian Electric Research Institute
Right: (Then) MHI Executive Vice President Tsukuda

**Signing of MOU with China Huadian Corporation on distributed power generation systems in June 2012**

## Voice Expectations of MHI

### Expectations for MHI's continued contributions to natural gas power generation in Dongguan City, China

We supply natural gas to China's Dongguan City, a city famous for its manufacturing industry. In China, environmental problems caused by coal use are worsening, and clean natural gas power generation, which is gentle on the environment, is seen as promising. Power demands in Dongguan City are on the rise due to economic development, while planned power cuts are being implemented because of chronic power supply insufficiencies. As a result, I found the MEGANINJA appealing; it runs on natural gas and can be promptly installed in areas where power is insufficient. I feel that MHI is putting its total strength into the natural gas power generation business in Dongguan City, and I look forward to continuing our partnership with them in the future.

**Dai Wen De**
Former CEO,
Guangdong Dongguan XinaoGas

# Delivering New Urban Transportation Systems that Are Safer, More Comfortable, and Friendlier to the Environment


**Urban transportation systems are being reviewed in countries around the world against a backdrop of chronic traffic congestion, exhaust air pollution and a rapidly aging society. To help resolve these issues, MHI has developed advanced transportation systems like the Automated People Mover (APM) Systems, and 100% low floor Light Rail Vehicle (LRV), and so on.**

## Hiroshima's highly advanced tram system — the most widely used in Japan — features the first domestically produced barrier-free 100% low floor LRV called "JTRAM"

It's an easy means for people to get around. It produces no exhaust gas and is extremely energy efficient. The LRT (Light Rail Transit) is currently drawing attention worldwide for raising convenience to new heights, while leveraging the unique characteristics of trams.

One important player in the transition to LRT is the people-friendly LRV (Light Rail Vehicle). Barrier-free, step-less LRV cars are designed to allow passengers to board or alight directly from or to station platforms, but were not manufactured in Japan until recently.

Japan had long hoped for an LRV suited to its climate, topography and unique urban structure, and in 2005, MHI developed a bogie with an independent wheel system, an essential component of the LRV and the first of its kind in Japan. In the consortium U3 Project,

First domestically produced 100% low floor LRV, Green Mover max (5100-Series)

MHI together with Kinki Sharyo Co., Ltd. and Toyo Denki Seizo K.K., delivered the Green Mover max, the first domestically developed 100% low floor LRV to Japan's largest domestic tramway operator, Hiroshima Electric Railway Co., Ltd.

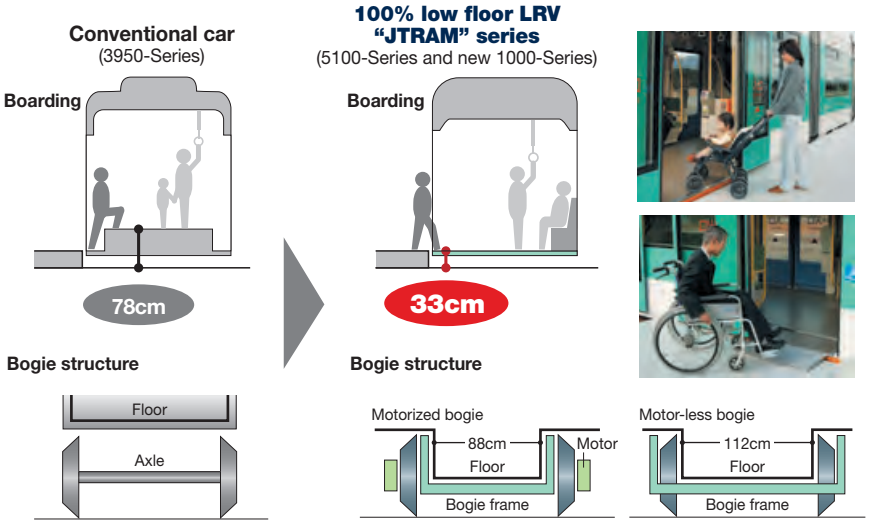
The development concepts of the U3 Project were defined as "Ultimate," "User-friendly" and "Urban." The conventional step down from the tram to the platform was eliminated, resulting in a more accessible transportation means for senior citizens, parents with baby strollers, and individuals in wheelchairs.

In February 2013, the U3 Project delivered the "JTRAM R" (called 1000-series vehicles in Hiroshima) that maintains the barrier-free design of the Green Mover max while adopting a more compact design and shorter car length. Shortening the overall length made it possible for the 100% low floor LRVs to run on all lines in the city, including those where station platform lengths had previously made introduction difficult.

In the future, MHI will continue to provide transportation systems that are easy to use and reflect the needs of the times.

## Safe and pleasant boarding with a floor height of 33cm

### Comparison of ease of access and bogie structure








### Newly developed axle-less cars

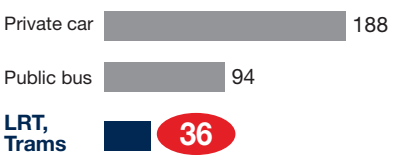
In conventional cars, the left and right wheels are connected by an axle, which determines the floor height. The newly developed, independent wheel bogie makes it possible to considerably lower floor height of the car by eliminating the axle and bringing the door threshold to within 33cm of the ground.

## Improving comfort, safety and environmental performance

### Conserving greater energy with car control

As a means of transportation, trams are environmentally friendly. Using advanced control technology to run the motorized bogies on the U3 100% low floor LRV "JTRAM" makes travel more comfortable while keeping power consumption low and energy savings high.

#### $CO_2$ emissions per passenger-kilometer by modes



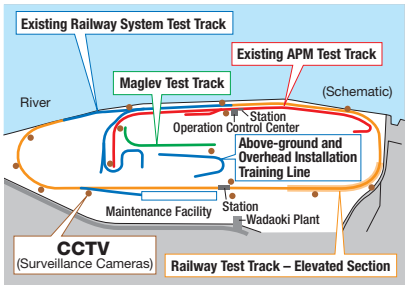

Source: Ministry of Land, Infrastructure, Transport and Tourism, 2002 white paper

### Reduced noise and vibration

In comparison to conventional cars, the new bogie, low center of gravity, light car body and other features of the U3 100% low floor LRV "JTRAM" contribute to a reduction in noise and vibration.

### Safety demonstrated on dedicated test line

MHI has a large-scale test rail track at its Wadaoki Plant (Hiroshima Prefecture, Mihara City) that was used to thoroughly verify the safety and comfort quality of the cars. In addition, with an eye on global development, MHI plans to establish Japan's first comprehensive railway transportation system verification facility in the same area (in 2014), with the aim of making the facility available to other corporations and public and private groups.




**Improvements in safety and comfort to be undertaken at the MIHARA Test Center, Japan's first comprehensive railway transportation system verification facility**

## Automated people movers and rail transit systems at work around the world

MHI also provides rail transit systems that contribute to the safe operation of railways, and APM (Automated People Mover) systems with fully automated cars running on rubber tires that are used in airports and urban areas. By taking regional issues and characteristics into account and comprehensively providing everything from car manufacture to administration systems, MHI is contributing to the resolution of urban transportation issues around the world.

Singapore Changi Airport (APM)

Tokyo, Yurikamome (APM)

Dubai Metro (Rail Transit System)

**New compact 18m 1000-series LRV began commercial operations in February 2013.**

## Voice Expectations of MHI

### Admiration for development of domestically produced LRV and high hopes for expansion abroad

Vehicle comfort as a living space stands alongside vehicle performance as one of the desirable elements in the development of LRVs in Japan. Other differentiating elements from those of overseas include pleasant climate control, adequate number of seats, aisle width that allows for unimpeded movement inside the train, and the necessary facilities for correcting fares. MHI has developed an LRV that specifically meets Japan's uniqueness.

In the future, I hope the company will further refine safety and comfort by expanding the test tracks. In addition, I would like to see the expansion of this LRV, in which Japan's meticulous consideration is given full play, and would like MHI to expand its system coordination and operation services to areas overseas as well.

**Hideki Fujimoto**
Group President,
Tram Company,
Hiroshima Electric
Railway Co., Ltd.

# Contributing to International Space Activities by Enhancing Launch Capability and Reliability


**A reliable launch vehicle is essential for space development. MHI has developed the H-ⅡB Launch Vehicle to meet the growing demand of heavier satellites from global users. MHI is also contributing to international space activities by transporting supplies to the International Space Station using the H-Ⅱ Transfer Vehicle, "KOUNOTORI," launched by the H-ⅡB Launch Vehicle.**


Lift off of H-ⅡB Launch Vehicle
©JAXA

## Providing assured access to space by our reliable launch vehicle

One of MHI's business activities is launch services. In this "space shipping" role, the company is entrusted with satellites (freight) by customers (satellite manufacturers and operators) and delivers the cargo by a launch vehicle to a designated place at a predetermined date and time. MHI entered this business in 2007 with the launch of the JAXA*1 lunar orbiter "KAGUYA" on H-ⅡA Launch Vehicle No. 13. All subsequent launches up to and including H-ⅡA No. 22 in January 2013 have been successful.

With H-ⅡA Launch Vehicle No. 21, MHI was commissioned by KARI*2 to launch its first non-Japanese satellite by MHI's launch services. Moreover, following the successful launch of the H-ⅡB Launch Vehicle No. 3 – built to transport larger satellites as well as the H-Ⅱ Transfer Vehicle known as "KOUNOTORI" – MHI will also handle all H-ⅡB launch services beginning with No. 4, scheduled to launch the "KOUNOTORI4" on its way to the International Space Station.


©JAXA / NASA
**Earth as seen from KOUNOTORI3 launched by the H-ⅡB launch vehicle in July 2012**

Although several European and American companies are involved in the satellite launch business, there are few that can match MHI's ability to implement the entire process from vehicle manufacture to launch.

Over nearly 40 years of rocket development and manufacturing experience, MHI has amassed a wealth of knowledge and improved its launch success rate. A string of successful on-schedule launches is testament to the world-class reliability of MHI's launch services.

MHI, as a launch services provider, will continue to leverage its technologies and expertise to secure a reliable access to space that can meet a variety of needs from our global customers. MHI will continue to fulfill expectations for space development, paving the way for mankind's future.

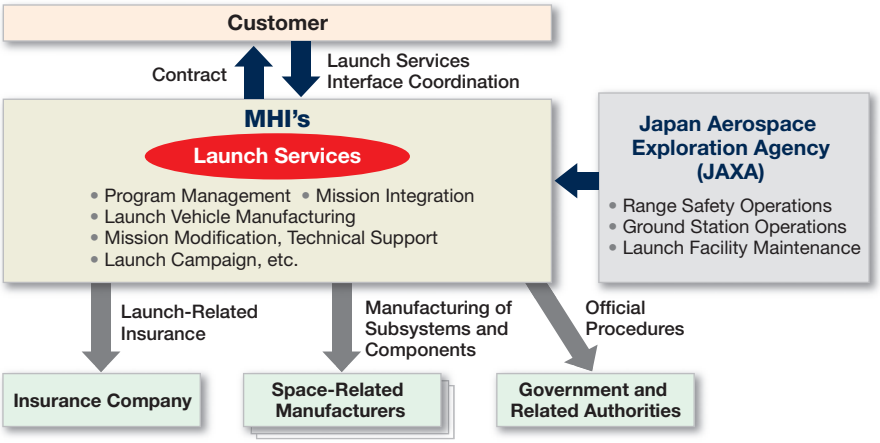
*1 JAXA: Japan Aerospace Exploration Agency. An independent administrative agency in charge of Japan's space science research, aerospace technology research, and space development research.

*2 KARI: Korea Aerospace Research Institute. A government agency that handles the Republic of Korea's aerospace and space development research.

## Utilizing advanced and comprehensive space technologies

MHI coordinates the entire process of launch services from launch vehicle manufacture to interface coordination between the spacecraft and launch vehicle, program management, and execution of the launch campaign.

### MHI implements the entire process of the launch services from vehicle manufacture to launch




## Doubling the launch capability: From 4 tons of H-IIA to approximately 8 tons of H-IIB

### Meeting diverse launch needs

The new logo of MHI's launch services, established when H-IIB was added to our lineup in 2013

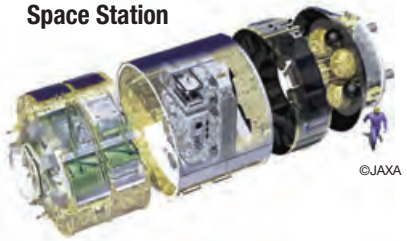
| Parameters | | H-IIA Launch **H2A202** Standard | H-IIB Launch **H2B** Heavy Lift |
|---|---|---|---|
| Height (m) | | 53 | **56.6** |
| Gross Mass (excluding satellite mass) (t) | | 289 | **531** |
| Maximum Launch Capacity (t) | GTO | 4.0 | about **8** |
| | Orbit for HTV | – | **16.5** |

Illustration by JAXA

## Transporting roughly 6 tons of cargo into space

The administration of the International Space Station (ISS) is shared by 15 nations. MHI is in charge of the system coordination and manufacture of the large H-II Transfer Vehicle "KOUNOTORI," which delivers food, clothing, and experimental equipment of all types to the ISS.

### H-II Transfer Vehicle "KOUNOTORI," a supply vehicle to the International Space Station


©JAXA


©JAXA / NASA

"KOUNOTORI" delivers supplies in space

### Development of a new launch vehicle

The H-IIB Launch Vehicle was jointly developed by JAXA and MHI utilizing the technology and experience cultivated during the development of the H-IIA. The three H-IIB launches to date all served to successfully launch the H-II Transfer Vehicle "KOUNOTORI," which can transport approximately six tons of supplies to the ISS.


©JAXA

Manufacture of core fuselage for H-IIB Launch Vehicle No. 3


©JAXA

**Control room at JAXA Tanegashima Space Center where launches and ground facilities are controlled.**

## Voice Expectations of MHI

### Becoming an asset to Japan's space development by facing the world's needs directly

As joint developer of the H-IIB Launch Vehicle, MHI's contributions have been tremendous. In space development, even a small error can drastically affect the entire project, but MHI firmly supported JAXA activities, and it did so from a project management standpoint as well as from a technical viewpoint.

Last year, we transferred the H-IIB launch services to MHI as we did before with the H-IIA. In the future, I hope that MHI promotes its launch services to meet not only national demands but also global customer needs because I believe that MHI's launch services activities will benefit Japan's space development as well.

**Takumi Ujino**
Chief Engineer,
Senior Chief Officer of Technology Strategy of Space Transportation Program,
Space Transportation Mission Directorate,
Japan Aerospace Exploration Agency (JAXA)

# Harnessing the Passion of Individuals through CSR Activities

## Commercial ship well received for achieving reduction in environmental footprint and improving work environment

**Eiichiro Uchino** (photo: far left)
Deputy Director,
Nagasaki Ship & Ocean Engineering Department,
Ship & Ocean Engineering Division,
Shipbuilding & Ocean Development

Our company completed construction of the world's largest roll-on/roll-off (RO/RO) ship, the "TØNSBERG" in March 2011. Its high transport efficiency and outstanding environmental compatibility were recognized by it being awarded "Ship of the Year 2011" from the Japan Society of Naval Architects and Ocean Engineers. The "TØNSBERG" is the first in a series of four vessels ordered by a shipping group based in Norway and Sweden. I was in charge of project management, as well as external negotiations and internal coordination. Going forward, I hope to continue providing high value-added ships like the TØNSBERG, which improve the work environment of the cargo room and reduce environmental impact during loading, unloading and sailing. I also hope to support the streamlining of global logistics.


World's largest RO/RO ship "TØNSBERG"

Wheeled vehicles are directly driven on and off as on a ferry

## Remote-controlled robot developed to aid work in high radiation environments

**Tatsuya Hashimoto**
Equipment Designing Section,
Nuclear Plant Component Designing Department,
Nuclear Plant Production Division,
Nuclear Energy Systems

I developed the platform module for a remote-controlled robot capable of working up to significant heights in areas where people cannot enter, such as the high radiation environment at TEPCO's Fukushima Daiichi Nuclear Power Station. With a limited budget and a time frame of just nine months, many employees fully dedicated themselves to developing the new robot, starting from nothing, to meet demand specifications. As a result, we received high praise from our customers at an achievement presentation they hosted. In the future, I plan to look beyond my main area of machine development, working on my skills as a robotics technician, in order to contribute to the restoration of the Fukushima Power Station.

MHI employees and colleagues involved in the project

Valve opening and closing operated by remote-controlled robot

## Continuing the rescue of photos swept away in the tsunami and their return to the disaster region

**Makiko Takenaka**
Group A,
International Sales & Marketing Department,
Power Systems

After volunteering to work in the affected areas of the Great East Japan Earthquake, what I felt most strongly about was that relief efforts should not end after just a few days of volunteer activities. Commencing in August 2011, the Power Systems business headquarters organized the "MM (Minato Mirai) Memory Restoration Brigade," a group of volunteers who clean and return to the disaster region photographs that were swept away in the tsunami and whose owners are unknown. Over 1,500 people from inside and outside the company have participated in this project at MHI's Yokohama Building, Shinagawa Building and Kanazawa Factory, cleaning over 100,000 photographs. Each and every photograph represents a precious memory of our time on earth and acts as evidence of the lives we and our families have led. I began this activity to save as many photos as possible, but ultimately gained so much in my life through this relationship between the people of Tohoku and Yokohama.

Venue for returning memorable items (Rikuzentakata-shi, Iwate)

Cleaning photographs one by one according to their condition

**The MHI Group values the passion of individuals and supports employee participation in CSR activities. With the shared desire to contribute to regional communities and society through our work, all of our employees are involved in a wide range of CSR activities.**

## Developing talented resources to develop Vietnam's aircraft industry

**Takatsugu Nagahama**
MRB Team,
787 Design Section,
Commercial Airplanes Engineering Department,
Commercial Airplanes Division,
Aerospace Systems

MHI Aerospace Vietnam Co. (MHIVA) was established as a subsidiary of MHI in Hanoi, the capital of Vietnam. In conjunction with its establishment, MHI has been working with the Hanoi University of Science and Technology to provide courses and scholarships with the aim of developing talented individuals who can serve in active roles as aircraft production engineers in the future. MHI has conducted three yearly lectures and an annual workshop, in addition to providing scholarships to 12 people every year since 2009. I gave a presentation at the workshop held in October 2012 on the use of 3D CAD (CATIA) technology in the manufacturing process. The students there have great enthusiasm for learning, and if the opportunity arises, I would also love to offer them field experience in flying gliders, which is one of my hobbies.

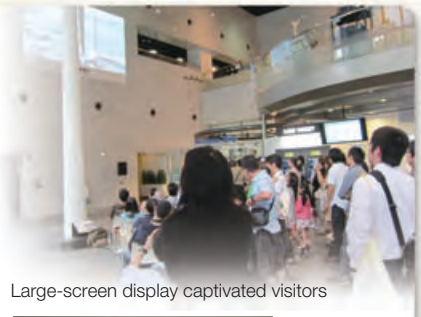
Awarding scholarships to 12 students

Presentation at workshop

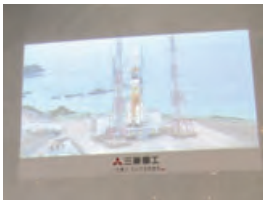
## All visitors excited by sheer force of live rocket launch images

**Asami Usuki**
Mitsubishi Minatomirai Industrial Museum

Mitsubishi Minatomirai Industrial Museum is a facility where you can closely examine and learn about state-of-the-art science, technology and MHI manufacturing. This includes MHI's participation in the development, manufacture and launch of the H-ⅡA and H-ⅡB Launch Vehicles and KOUNOTORI3, a cargo transfer vehicle to the International Space Station. In July 2012, we held a public viewing of a live feed from a JAXA's rocket launch, which was projected onto a large-screen display at the entrance of the museum. The dynamic live images excited all visitors, and it also served as a great learning experience for me. We will continue to host events that spread dreams and hopes and generate public interest in science.



Large-screen display captivated visitors



Live feed of rocket launch

## Working on support projects aimed at educating India's next generation of technicians

**Tomoe Nagasawa**
Corporate Social Responsibility Group,
Corporate Communication Department,
Presidential Administration Office

"India Scientific Laboratory Support Project" was launched in collaboration with Plan Japan, an international NGO. As part of its philanthropic activities in India, the project will take place from March 2013 until February 2014. I am responsible for conducting field surveys and coordinating with NGOs. In November 2012, I visited a local junior high school that has already set up science laboratories. I listened to a presentation on the effects these laboratories have had on children's learning and examined the potential for teaching materials we plan on donating. Careers in the scientific fields are popular in India, but the reality is that there is a low completion rate of compulsory education, narrowing students' choices in their careers. Through this project, we hope to contribute to the improvement of education quality and train the next generation of technicians in India.

Interacting with elementary school children in India

Performing scientific experiments with children

# MHI will strive to identify adverse human rights impacts of our business activities and take appropriate steps to respect human rights

**MHI has worked to identify human rights impacts of business activities at the Nippon CSR Consortium with other members including representatives of companies and NGOs/ NPOs, academics and experts.**

MHI has joined the Human Rights Due Diligence Workshop at the Nippon CSR Consortium, in which MHI worked to identify, prevent, and mitigate adverse human rights impacts of business activities with other members including representatives of companies and NGOs/ NPOs, academics and experts. The Nippon CSR Consortium is a platform to which different actors bring knowledge and expertise, and where they can work together to improve CSR activities in Japan. It is organised by the Caux Round Table Japan*1, and aims to increase the contribution of Japanese companies to global society by facilitating communications with the global society as well as with different stakeholders.

Through the workshop, we have learned differences in awareness level between Japan and overseas, as well as how other companies address human rights issues. We have also deepened our understandings of human rights and business through lively discussion on sector-specific human rights issues. On the basis of the sector-specific human rights issues identified as "Human Rights Issues by Sector," MHI will strive to take appropriate steps to identify adverse human rights impacts of our business activities, while assessing existing activities and examining how the issues can be addressed.

**Participants in the Nippon CSR Consortium**

**NGO / NPOs**
- ACE (Action against Child Exploitation)
- Change Fusion
- CSO Network Japan
- Amnesty International Japan
- Ek Sathe
- Oxfam Japan
- Polaris Project Japan

Total 11

**Companies (Sectors)**
Heavy Industry, Electric Equipment, Information Equipment, Chemistry, Automobile, Food, Information Communication, Logistics, Textiles and Apparel, Retail, Finance, Trading, Think-tank, etc.
Total 39

▼ 5 steps to identify human rights impacts of corporate activities

**STEP A** — Dialogue between companies and stakeholders at the Human Rights Due Diligence Workshop

Through **dialogue** with different stakeholders, including human rights organizations, participants have **deepened understanding of human rights issues in business,** and clarifying what can actually be an "issue."

- Hearing of what NGOs and experts think about human rights (Sep 21, 2012).
- Discussion between corporate members about business and human rights (Sep 26, 2012).
- Exchanging opinions and clarifying human rights issues between NGOs. Experts and corporate members (Oct 11, 2012).

**STEP B** — Identification and intra-sector sharing of main human rights issues by sector at the Human Rights Due Diligence Workshop

**Sector-specific human rights issues** are identified through discussion, examination and assessment carried out by sectorial groups, based on the **UNEP FI***2 Human Rights Issues by Sector issued 2011.

- Learning about human rights due diligence (Nov 2, 2012)
- Discussing on what could be potential human rights issues in sector groups (Nov 15, 2012)
- Identifying human rights issues by sector (Dec 14, 2012)

**STEP C** — Mapping of existing activities at the individual company

**Mapping existing activities concerning human rights issues,** assessing the company's (current) management strategy and examining how the issues can be addressed.

On March 2013, we conducted a stakeholder dialogue to move to the next step, step C to D.

**STEP D** — Stakeholder dialogue at the individual company

Company and experts exchange ideas regarding the human rights issues and measures in order to **prioritize the issues.**

**STEP E** — Determination of policy and plan, and implementation at the individual company

**Determining policy and plan** by reflecting comments from stakeholders, **implementing that plan, and monitoring the progress.**

*1 Caux Round Table Japan: Caux Round Table was founded in 1986 by business leaders from Europe, the U.S. and Japan, and has been working to promote corporate responsibility in reducing social and economic threats to world peace and stability. Since its establishment in 2000, CRT Japan has been providing support to Japanese companies for integrating social responsibility into corporate strategies and activities.

*2 UNEP FI (United Nations Environment Programme Finance Initiative): UNEP FI is a global partnership between UNEP and the financial sector. Over 200 institutions, including banks, insurers and fund managers, work with UNEP to understand the impacts of environmental and social considerations on financial performance.

## MHI held a stakeholder dialogue to discuss the main human rights issues in the manufacturing sector.

MHI held a stakeholder dialogue on March 13, 2013 to learn from stakeholders in order to identify and prioritize addressing adverse human rights impacts of our business activities. Inviting two experts, Mr. Makoto Teranaka and Mr. Hiroshi Ishida, we exchanged ideas on the main human rights issues in the manufacturing sector.




### Comments and suggestions from experts

#### Identification of human rights issues and the establishment of clear policies will be an effective measure for addressing human rights risks.

**Makoto Teranaka**
Visiting Professor, Faculty of Contemporary Law, Tokyo Keizai University

Visiting Professor at Tokyo Keizai University, and former Executive Director of Amnesty International Japan (2001-2011). Area of specialization: Human rights, Criminology and International Criminal Law. Publications (co-author): "Heiwa Jinken NGO" and "Kaishain no tameno CSR Nyumon."

Human rights issues naturally involve the entire supply chain, including suppliers and clients. Since it would be almost impossible to manage the entire supply chain, it is crucial to begin with the identification of human rights issues related to the MHI Groups, and to establish clear policies in relation to them. Disclosure of such policies would also help the company to prevent human rights risks. I hope that MHI will set clear policies on CSR and take initiatives in this field as a leading and influential Japanese company.

#### I look forward to MHI's participation in global rule-making on human rights

**Hiroshi Ishida**
Caux Round Table Japan

Executive Director of Caux Round Table Japan, Global CRT Senior Advisor, Professor at Institute of Business and Accounting, Kwansei Gakuin University, Part-time Lecturer Kyushu University Business School.

To address human rights issues, it is essential to know the real conditions. Taking child labor as an example, by conducting in-house audits to the best of your abilities, MHI should deliver a strong message to their business partners that "we are not involved with child labor, and we do not permit you to be involved with child labor either." I look forward to MHI's participation in the global discussion on human rights and its positive contribution to global rule-making as a member of UN Global Compact.

### Endorsement Statement of Human Rights Due Diligence Status Check

Caux Round Table Japan herewith confirms that Mitsubishi Heavy Industries (MHI) has participated in a series of Human Rights Due Diligence Workshops at the Nippon CSR Consortium. At the workshop, MHI has contributed to identifying human rights issues related to the manufacturing sector, while joining in discussion, and shared expertise with other members from different sectors. In addition, MHI has mapped existing activities concerning human rights, and conducted a dialogue with stakeholders. I look forward to seeing further progress being made by MHI, including prioritization of the identified issues by placing them in the value chain, and determining policy, in order to integrate human rights into the company's strategy, culture, and day-to-day operations.

HUMAN RIGHTS DUE DILIGENCE
©CRT-Japan

Hiroshi Ishida
Executive Director,
Caux Round Table Japan

# Highlights of CSR Activities in FY2012

**Herein we will mainly describe new initiatives related to the environment and social contributions from among the CSR activities undertaken by MHI Group in fiscal 2012, or initiatives which saw marked progress. We will continue to fulfill our responsibility as a manufacturer providing social and industrial infrastructure in Japan and overseas.**

## Donating storage refrigeration units to local fisheries cooperative for reconstruction support

The Air-Conditioning & Refrigeration Systems business headquarters donated prefabricated MHI storage refrigeration units to the Shichigahama branch office of the Japan Fisheries Cooperative in Miyagi Prefecture.

The region had a vigorous seaweed cultivation and fishing industry, however the cultivation and processing equipment, as well as fishing vessels, suffered severe damaged from the tsunami caused by the Great East Japan Earthquake.

The donated storage refrigeration units are indispensable for the pollination of seaweed in the summer, and are expected to be of assistance in the restoration efforts.

## Promoting conservation of regional biodiversity through forest cultivation and elimination of invasive fish species

The Machine Tool business headquarters together with the Konze Production Forestry Cooperative and Ritto City Commercial and Industrial Association, undertakes a volunteer project for forest cultivation known as “Megumi no Mori.”

The initiative took advantage of MHI’s “Funds for Community Engagement,” and was attended by 60 employees.

We also took part in a competition to eliminate invasive fish such as the black bass and bluegill from Lake Biwa, as part of our efforts to protect the biodiversity of the region.

## Holding Business Partner Conferences for the first time for suppliers in India and China

MHI held its first overseas Business Partner Conferences in Bangalore, India in February 2013, and in Shanghai, China in March 2013. The conference in India was attended by 13 business partners.

## Opening the Safety Transmission Center, a safety education facility, at Nagasaki Shipyard & Machinery Works

This is a facility opened in October 2012 at the Nagasaki Shipyard & Machinery Works to encourage sensitivity to, and a culture of, safety. The facility enables users to learn important points and countermeasures for the prevention of accidents through videos of reenactments and information panels. The facility also offers study on the causes of human error and training in anticipating danger.


## Winning an Environmental Business Award in 2012 with environmentally friendly $CO_2$ Recovery Plant

MHI received an Environmental Business Award for its carbon dioxide ($CO_2$) Recovery Plant in the “eco japan cup 2012,” an environmental business contest sponsored primarily by Environmental Business Women and the Ministry of the Environment.

## Declaring Basic Policy Concerning Conflict Minerals

In April 2013, MHI published its Basic Policy Concerning Conflict Minerals on its website, declaring that the company has no intention of abetting human rights abuses or environmental destruction by procuring raw materials, parts or products which contain the conflict minerals.

## Continually implementing measures to improve safety of nuclear power plants

Nuclear Energy Systems business headquarters is deploying safety improvement measures for the pressurized water reactor (PWR) plants in Japan in the wake of the station blackout accident at the Fukushima Daiichi Nuclear Power Station operated by Tokyo Electric Power Co., Inc. Furthermore, since July 2012, we have provided comprehensive support for the restart of Ohi Nuclear Power Station Units 3 and 4 operated by Kansai Electric Power Co., Inc., contributing to the first restart of a nuclear power station in Japan since the Great East Japan Earthquake.

## Selection by Eco-funds and SRI indicators

In fiscal 2012, MHI was again included in the eco-funds, formed based upon surveys of companies conducted by corporate rating agencies in Japan and overseas, and MS-SRI, a socially responsible investment index coordinated by Morningstar Japan K.K.

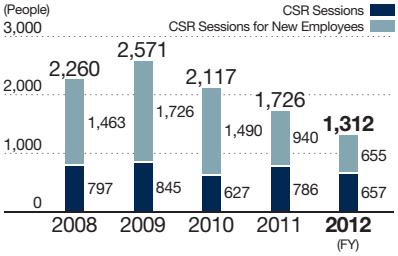
# CSR Medium-Term Action Plan and Results of Promotion

To advance the global promotion of CSR activities, activity areas were reorganized in fiscal 2012 according to the seven core subjects of ISO 26000.

| Area | Priority item | Medium-term targets (FY2011-2013) | CSR Action Plans for FY2012 |
|---|---|---|---|
| Organizational governance | Broadened CSR awareness | • Penetration of global awareness towards CSR including overseas locations and Group companies<br>• Global information dissemination of status of CSR activities | 1 (1) Continue to hold briefings for overseas Group companies<br>(2) Consider and implement global measures for penetration of corporate culture reforms and CSR<br>2 (1) Publish CSR report in Japanese and English<br>(2) Consider creating a CSR website in Chinese, and updating it alongside publication of the CSR report |
| | Risk management | • Commonizing a consciousness for important risks among all departments and sections and establishing a risk management PDCA cycle through efficient and effective audits | 1 Proactive response through auditing for "Processes to strengthen business"<br>2 Implement auditing including at corporate regulatory departments for "Compliance consolidation" |
| | Promotion of IR activities | • Improve timely and accurate information dissemination capabilities as per the needs of investors and strengthening in-house feedback on information to be used as reference material by management | 1 Hold more investor events at sites both in Japan and overseas |
| Human rights | Raising awareness of human rights | • Embedding understanding and consciousness about human rights issues company-wide<br>• Development of sexual harassment and "power harassment" (workplace bullying & harassment) prevention efforts<br>• Establish a workplace and corporate culture where human rights issues do not arise<br>• Company-wide penetration of understanding and consciousness regarding the expansion of employment of the differently-abled people<br>1. Achieve company-wide employment rate of 2.2% by the end of FY2013<br>2. Plan to increase employment in all divisions | 1 Hold meetings of the Committee for Raising Awareness of Human Rights<br>2 Introducing human rights issues in each training program and continuing implementation<br>3 Strengthening awareness of sexual harassment and "power harassment" (workplace bullying & harassment) prevention<br>4 Continuously implementing positive employment actions so as to achieve the target of a hiring rate of 2.1% for differently-abled people. |
| Labor practices | Creating a better workplace<br>1 Enriched education<br>2 Strengthening mental health<br>3 Nurturing the next generation | • Strengthening global human resource development based on the road map for cultivation of global human resources (G-MAP)<br>• Conduct effective measures to combat mental health problems from prevention to return to work<br>• Continue to maintain the next-generation accreditation mark | 1 Fully implement global education in accordance with G-MAP<br>2 Strengthening mental health promotion systems and initiatives in the whole company to reduce absence due to mental health disorders<br>(1) Promoting increased awareness of mental health initiatives among employees, and promoting effective mental health care<br>(2) Providing a mental health advice system that is easy for employees to use<br>3 Accelerate penetration of knowledge and understanding among employees about next-generation development and work-life balance support |

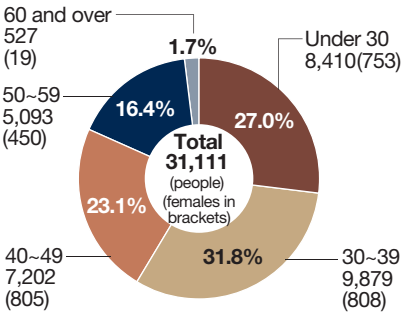
### Number of recipients of CSR sessions/ CSR sessions for new employees*

**1,312 People**



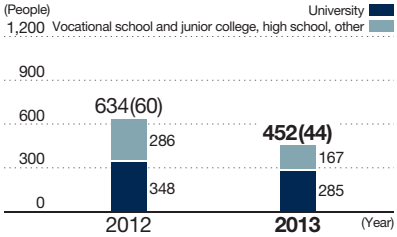

* Including some Group companies

### Breakdown of employees by age (FY2012)




### Number of new graduates hired

**452 People (44 females)**




(females in brackets)

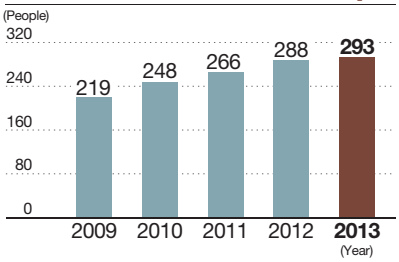
For more information on fiscal 2012 CSR activities, including the results of activities shown on this page, see the detailed version in the CSR Report 2013 on the MHI website.
http://www.mhi.co.jp/en/csr/csrreport/index.html

• Results of other activities related to the priority item

| Results from CSR activities in FY2012 | CSR Action Plans for FY2013 |
|---|---|
| 1 Continued to hold CSR sessions at all 12 MHI works and selected Group companies, and session participants were again asked to complete a survey<br>2 Continued to publish a CSR Report (brochure and website) in Japanese and English, and posted CSR-related content in Chinese to the Mitsubishi Heavy Industries (China) Co., Ltd. website | 1 Continue to hold CSR sessions at all locations, including the Head Office, and consider expanding these sessions to overseas Group companies<br>2 Continue to publish a CSR Report in Japanese and English and expand Chinese content |
| 1 Established a risk management policy and organization. Identified major risks through discussions between general managers of each department and the general manager of the Management Audit Department<br>2 Conducted audits of business segments, administration departments and Group companies, and supported development and improvement of risk management processes<br>• Identified and reorganized risks to MHI, and assigned risk control managers of each risk<br>• Identified major risks to each department and organized processes for managing those risks | 1 Manage and implement measures for major risks in accordance with the risk management policy<br>2 Conduct effective, efficient audits of risks and challenges in business segments, administration departments and Group companies, and provide flexible support |
| 1 Hosted plant tours in Japan and the U.S. for institutional investors and financial analysts. Continued to hold company briefings at MHI facilities across Japan for individual investors, and also plant tours for shareholders<br>• Developed a smartphone app that allows users to read the MHI Annual Report (Japanese only)<br>• Provided an online version of the Annual Report<br>• Continued to host business briefings and presentations to announce financial results and business plans | 1 Continue to hold IR events at sites in Japan and overseas<br>2 Promote in-house feedback through two-way communication with stock market affiliates |
| 1 Continued to hold Committee for Raising Awareness of Human Rights meetings (integrated the Committee for the Promotion of Employment of Differently-Abled People into this committee)<br>2 Continued to hold human rights training session and other awareness-raising activities using printed materials throughout the Group<br>3 Conducted awareness education on "power harassment" (workplace bullying & harassment) prevention for senior managers at all MHI works, and continued e-learning curriculum for power harassment prevention<br>4 Reached hiring rate of 2.1% for differently-abled people by using recruiting websites, actively participating in recruitment events and making other recruiting efforts, and following-up on employees in each division | 1 Hold meetings of the Committee for Raising Awareness of Human Rights<br>2 Introducing human rights issues in each training program and continuing implementation<br>3 Conduct more effective sexual harassment and power harassment education and awareness activities based on analysis of factors that contribute to harassment<br>4 Continuously implementing positive employment actions so as to achieve the target of a hiring rate of 2.2% for differently-abled people. |
| 1 In FY2012, roughly 1,750 employees attended group training and 48 young employees undertook MHI Global Training (MGT) in accordance with G-MAP<br>2 Held an industrial medicine conference for the entire company and sectional meetings to explore and implement an organization and actions to promote mental health<br>3 Hosted MHI's first lecture by a non-Japanese, female external director, and periodically held round-table meetings for employees who are on or have taken childcare leave<br>• Actively worked to find overseas training opportunities for young employees (since beginning the program in 2012, around 100 young employees were sent abroad in accordance with G-MAP by April 2013)<br>• Produced curriculum (Starter Kit) presenting the company's history, management philosophy, and business overview to impart essential knowledge to employees and cultivate in each individual a sense of connection with the MHI Group. The Starter Kit was distributed to 187 Group companies (84 overseas companies, 103 Japanese companies)<br>• Around 560 Group company employees in Japan attended stratified education (such as training for division managers) , skill-oriented training, English skill enhancement, and other types of training | 1 Follow the PDCA cycle in advancing global education in accordance with G-MAP<br>2 Continue FY2012 activities<br>3 Strengthen other methods for accelerating penetration of knowledge and understanding among employees |

### Number of female managers*

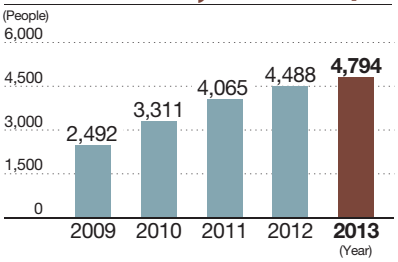
**293 People**




* section manager and above; excluding medical staff

### Number of rehired employees*

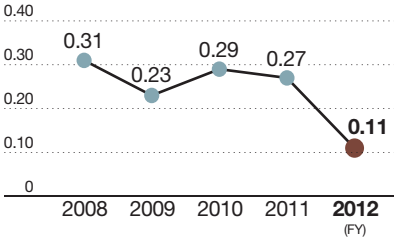
**4,794 People**




* excluding those from Group companies

### Industrial accident frequency rate*

**0.11**




* Mitsubishi Heavy Industries, Ltd. non-consolidated

| Area | Priority item | Medium-term targets (FY2011-2013) | CSR Action Plans for FY2012 |
|---|---|---|---|
| Environment | Reduced $CO_2$ emissions | • Average $CO_2$ emission between FY2008 and FY2012 to be reduced by 6% compared to 1990 level<br>• Establish $CO_2$ emission reduction target until FY2020 (including Group companies) and promote reduction activities | 1 Promoting $CO_2$ reduction measures (introduction of or upgrade to energy-saving equipment), implement upgrades based on In-house Air-Conditioner Upgrade Plan<br>2 Expand the monitoring system to the whole company<br>3 Implement regular follow-ups for reduction plans of individual works and their actual reduction performances |
| | Group environmental management | • Increase the Group's environmental performance data collection rate both in Japan and overseas<br>• Encourage the acquisition of certifications of environmental ISO standards and others to Group companies in Japan and overseas that are consolidated | 1 Promote acquisition of environmental ISO standards, etc. for domestic and overseas Group companies<br>2 Promote the setting of environmental targets for overseas Group companies<br>3 Hold the domestic Group company environmental meetings, and hold the Environment Liaison Conferences at each overseas regional supervising office |

## Results of Promotional Efforts of Medium- to Long-Term Environmental Targets

In fiscal 2002, MHI established its Medium- to Long-Term Environmental Targets, earlier than other heavy industry companies, and has made efforts to carry out environmental preservation activities. Moreover, in fiscal 2010 we extended the target for our activities to the end of fiscal 2012 with the aim of establishing environmental targets for the following period, based on the MHI Environmental Vision 2030 (which was established in June 2012). As a result we have been able to achieve our targets for many items, including the realization of a low-carbon society and formation of a recycling-based society. We were unable to achieve our targets related to total generated waste, landfill disposal amount, chemical substance emissions, and energy conservation and reduced $CO_2$ emissions from product transportation. However, we will continue working to achieve these targets through initiatives such as incorporating them into environmental targets for the next period.

### Results of Promotional Efforts of Medium- to Long-Term Environmental Targets (as of the End of Fiscal 2012)

○=target achieved △=target partially achieved ×=requires further efforts

| Item | | Goals | Progress (as of the end of FY2012) | Evaluation |
|---|---|---|---|---|
| Realization of a low-carbon society<br>Energy savings (global warming measure) | Reduced $CO_2$ emissions from business activities | 6% reduction of the average $CO_2$ emission amount for the five years from FY2008 to 2012 (from FY1990 level): to be achieved through reduction efforts at all production plants | $CO_2$ emissions: 452,000 tons (average)<br>4.1% reduction from FY1990 level<br>The amount that has not been achieved will be allocated as emission credits. | △ |
| | | More than 13% reduction of the average $CO_2$ emission amount for the five years from FY2008 to 2012 (from FY2005 level): to be achieved through reduction efforts at offices and operations divisions (Head Office, domestic offices and research & development centers) | $CO_2$ emissions: 13,500 tons (average of Head Office [Shinagawa and Yokohama combined] from FY2008 to FY2011)<br>16.1% reduction on FY2005 level | ○ |
| | Reduced energy usage and $CO_2$ emissions from product transportation | More than 5% reduction of unit energy consumption in transportation in FY2012 (from FY2008 level) by promoting efforts to reduce transportation energy (unit energy consumption of FY2008: 45.7 to 43.4 by FY2012) | FY2012 unit energy consumption: 51.0<br>11.6% increase on FY2008 level | × |
| Form a recycling-based society<br>(waste and water resource countermeasures) | Reduced waste generation and emissions | By FY2012, reduce total generated waste by 40% of FY1992 level : to be achieved by conserving resources and reducing the purchase of materials | Total emissions:132,000 tons<br>39.0% reduction from FY1992 level | × |
| | Reducing reliance on landfill | By FY2012, cut landfill waste disposal volume by 98% relative to FY2000 | landfill waste disposal volume cut by 97.5% | × |
| | | The landfill waste disposal ratio in FY2012 will be below 1% | landfill waste disposal ratio 0.5% | ○ |
| | More efficient water usage | Water consumption in FY2012 will be cut to 9.35 million tons, a reduction of 2% relative to average consumption of 9.54 million tons in the period FY2005 to FY2007 | Water consumption reduced to 7.02 million tons<br>26.3% reduction | ○ |
| Management of chemical substances<br>(control of chemical substances) | Elimination of equipment using PCBs and detoxification treatment | Detoxification of high concentration PCB waste in storage (transformers, condensers, oils) to be completed by FY2015 (including ballasts and smaller equipment) | Ongoing consignment of processing of high concentrations PCB waste to JESCO (Japan Environmental Safety Corporation) | — (To be evaluated in FY2015) |
| | | Analysis and confirmation of low PCB devices (low concentration) to be finished by FY2012, complete detoxification by FY2015 | Testing and analysis of machines and devices containing low or trace concentrations of PCBs is underway at all works | |
| | Reduced VOCs emissions | More than 30% reduction of atmospheric emission of VOCs with focus on xylene, toluene and ethylbenzene (reduced by 704 tons from 2,268 tons in FY2000 to 1,564 tons in FY2012) | Total VOCs emissions 1,782 tons<br>21.4% reduction from FY2000 level | × |
| | | Aim for zero atmospheric emissions by FY2012 of VOC organochlorinated hazardous air pollutants: dichloromethane, trichloroethylene and tetrachloroethylene | Total combined emissions of dichloromethane, trichloroethylene and tetrachloroethylene = 8.8 tons | × |
| Group environmental management | Consolidated environmental management system | Ongoing ISO 14001 renewal by domestic works, Head Office, branch offices and research & development centers | Continued ISO 14001 certification renewal at domestic production bases along with research & development centers, Head Office, and domestic branch offices. | ○ |
| | Collecting and disclosing of environmental management information | Collecting environmental information (environmental data and environmental accounting) from environmental management information systems and disclosing information through CSR Reports and other releases | Collected environmental information (environmental data and environmental accounting) through the database system and disclosing information through this CSR Report. | ○ |
| | Promotion of green purchasing | Promoting the purchase of environmentally friendly products based on the company's own green purchasing guidelines: (Purchasing ratios 90% by volume and 95% by value) | 95.0% by quantity<br>97.2% by value | ○ |
| | Development and provision of environmentally friendly technologies and products | Development and provision of new products and technology based on our Basic Guideline on Production of Environmentally Friendly Products (formulated in 2005) to help reduce society's environmental burden<br>In particular, we will work to develop technology and provide products that are revolutionary and contribute to solving global warming and building a low-carbon society | MHI supplied environmental products designed to combat global warming, such as high-efficiency generators (wind power generators, etc.) and $CO_2$ recovery systems | ○ |
| Form a society that coexists with nature (Preserving biodiversity) | Promote activities for the protection of biodiversity and nature | We will continue revegetation, alien fish removal, building biotopes and breeding Japanese honeybees, among other activities relating to biodiversity and examine the possibilities for evaluating the effect of our business activities on the preservation of biodiversity as necessary in light of global trends | Revegetation activities coordinated with various local municipal authorities across Japan, as well as biotope and Japanese honeybee breeding programs were continued<br>Performed evaluations of MHI's degree of initiatives in consideration of biodiversity in its current corporate activities. | ○ |

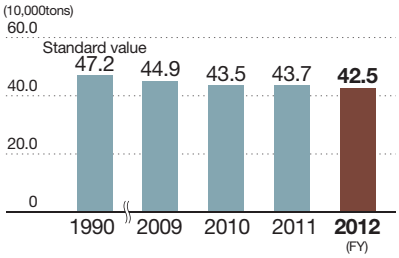
(Note) In principle, all the data represents data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

• Results of other activities related to the priority item

| Results from CSR activities in FY2012 | CSR Action Plans for FY2013 |
|---|---|
| 1 Upgraded a total of 1,893 air conditioning units based on the plan<br>2 Introduced monitoring systems at five works, including small-scale introductions<br>3 Achieved 9.8% reduction of $CO_2$ emissions (FY2012 results) compared with FY1990 level | 1 Upgrading of air conditioning units based on the In-house Air-Conditioner Upgrade Plan<br>2 Expanding introduction of monitoring systems<br>3 Establishing a project with the goal of energy conservation, and implementing energy-conservation activities |
| • Promoted $CO_2$ emissions reduction at production plants<br>• Acquired approximately 130,000 tons of $CO_2$ emission credits from a CDM project<br>• Reduced greenhouse gas emissions excluding $CO_2$ emissions from energy use<br>• Utilizing one million kWh of green power annually thanks to wind power generation<br>• Promotion of energy conservation in transport through modal shift and load ratio improvement | |
| 1 Acquired certifications of environmental ISO standards and others to 83 domestic and 28 overseas Group companies<br>2 Established the MHI Group 2nd Environmental Targets, including targets for overseas Group companies<br>3 Held Environmental Meetings at six domestic Group companies | 1 Support the acquisition of certifications of environmental ISO standards and others to domestic and overseas Group companies<br>2 Comprehend environmental data for domestic and overseas Group companies<br>3 Holding Environmental Meetings, for domestic Group companies |
| • Promoted the preservation of biodiversity in accordance with the Environmental Policy and CSR Action Guidelines<br>• Promoted the reduction of waste landfill disposal volumes<br>• Reduced water usage during production<br>• Promoted the reduction of chemical substance usage (VOCs, etc.) | |

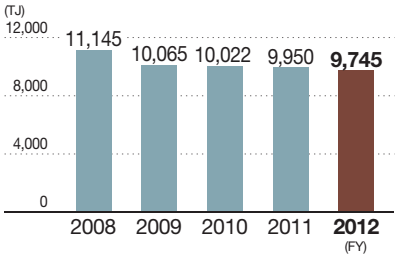
## $CO_2$ emissions

**425,000t**




## Gross energy input

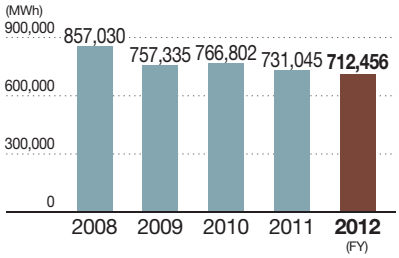
**9,745TJ***




* 1TJ (terajoule) = 1 trillion joules (1,000,000,000,000 J)

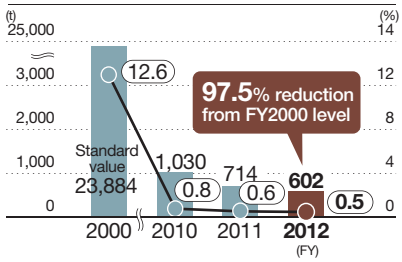
## Electricity purchases

**712,456MWh**



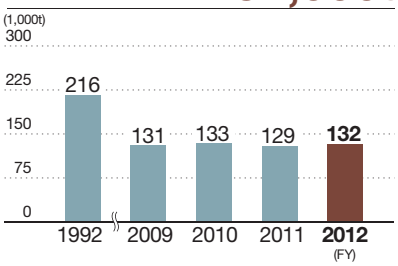

## Landfill disposal volume/ratio

Landfill disposal volume **602t** Landfill disposal ratio **0.5%**

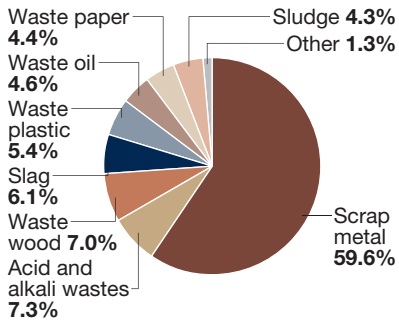



## Total generated waste

**132,000t**

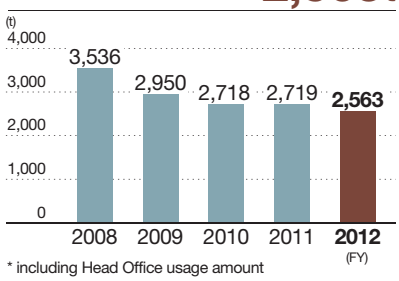



## Waste generation by material




## Paper usage*

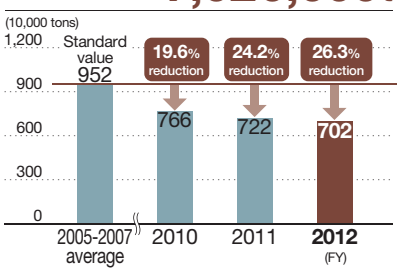
**2,563t**




* including Head Office usage amount

## Water usage* and reduction ratio

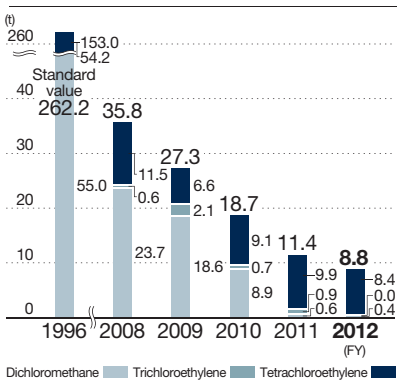
**7,020,000t**




* The above is the total of water supply, industrial water, and groundwater usage

## Atmospheric emissions of organochlorides

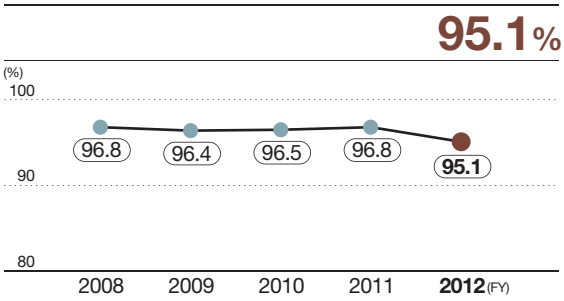
**8.8t**




(Note) In principle, all graphs have shown the production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

| Area | Priority item | Medium-term targets (FY2011-2013) | CSR Action Plans for FY2012 |
|---|---|---|---|
| Fair operating practices | Thorough compliance | • Decrease matters in need of improvement even at Group companies<br>• Early comprehension and improvement of matters in need of improvement | 1 Strengthen support for overseas Group companies<br>2 Strengthen collaboration for crisis and risk management |
| | Order compliance | • Continuation of zero policy for violations to the Anti-Monopoly Act<br>• Penetration of order compliance activities<br>• Establishment of order compliance consciousness through awareness and educational activities | 1 Confirm the implementation status of rules of conduct and compliance checks<br>2 Implement efficient and effective special monitoring<br>3 Promote instructional/educational activities for order compliance |
| | Compliance with the Construction Business Act | • Establishment of a self-compliance system (compliance activities incorporated in daily tasks)<br>• Enhancing compliance at Group companies<br>• Enhancing contract compliance with business partners | 1 Implement drafting of measures for detecting problems in maintenance of Installation Organizational Chart Registers<br>2 Monitor current status of Group company compliance<br>3 Formulate measures to deal with compliance issues in contracts with business partners |
| | Compliance with export-related laws and regulations | • Strengthening the export control management systems and fostering experts in export control management<br>• Further continuous supports for Group companies to strengthen their export control management systems | 1 Continuously implement internal training at all levels<br>2 Promote further acquisition of export control expert qualifications<br>3 Continuously audit Group companies implement regular training |
| | CSR procurement | • Sharing values regarding the promotion of CSR activities with business partners and avoiding procurement risks with key partners<br>• Effect extensive compliance and adherence to laws and regulations with regard to procurement tasks<br>• Continuous compliance to environmental regulations | 1 Reexamine scope and implementation method of surveys conducted at business partners<br>2 Monitoring of procurement-related laws and regulations and effecting improvement follow-ups<br>3 Reducing transportation energy |
| Consumer issues | Product safety | • Developing product safety activities within quality management<br>• Steady development of product safety activities<br>• Maintaining the infrastructure for product safety activities | 1 Integrate product safety activities and development work into quality management<br>2 Continually develop foundation for product safety activities (developing human resources, maintenance of standards) |
| | Ensuring quality and safety of nuclear business | • Refine and continually improve QMS (Quality Management System) with an eye on global business development<br>• Exhibit our comprehensive technological strengths and enhance customer satisfaction<br>• Enhance the attitude of compliance with laws and rules and cultivate a strong nuclear safety culture | 1 Continually strive for better safety and quality through initiatives taken by the "Managing Board for Innovation in the Nuclear Business"<br>2 Reflect lessons learned from Fukushima and effective countermeasures for accident prevention to the PWR design in order further improve nuclear safety<br>3 Continually strive to cultivate a strong nuclear safety culture |
| | Enhancement of brand value | • Acquiring broad recognition as a global company and increasing the number of MHI fans | 1 Promoting a global advertisement strategy by building an integrated corporate image |
| Community involvement and development | Socially beneficial activities | • Proactive development of social contribution activities with the cooperation of various stakeholders<br>• Examining possibilities for the globalization of social contribution activities and development of social business | 1 Evaluate activities with affiliated NGO/NPOs and formulate plans for the next fiscal year. Begin collaboration with an NGO/NPO for the management of the fund for social contributions<br>2 Improve/expand the system for the following year, based on the performance of the fund |
| | Improvement of the Mitsubishi Minatomirai Industrial Museum | • Establish its role as a facility that provides opportunities for children to develop an interest in science by showing them the pleasure of manufacturing | 1 Responding systematically to both the intangible (staff training) and tangible (exhibit refurbishment) aspects |

### Participation rates for compliance promotion training




### Change in expenditures on social contribution activities

(million yen)

| | FY2009 | FY2010 | FY2011 | FY2012 |
|---|---|---|---|---|
| Academic research | 339 | 247 | 164 | 177 |
| Education | 537 | 633 | 596 | 503 |
| Community activities | 158 | 141 | 180 | 153 |
| Sports | 114 | 149 | 133 | 173 |
| Other | 507 | 440 | 1,023 | 474 |
| **Total** | 1,655 | 1,610 | 2,096 | 1,480 |
| Percentage of ordinary profit | 6.89% | 2.36% | 2.39% | 1.00% |

(Note 1) Figures include cash donations, payments in kind, activities by employees, free use of company facilities, etc., converted into monetary equivalents; activities privately performed by employees are not included.
(Note 2) Includes group companies under consolidated accounting.
(Note 3) Social contribution expenditures in FY2010 do not include those related to the Great East Japan Earthquake (donations, fund-raising, etc. during March 11-31, 2011). These expenditures were included in FY2011.
(Note 4) Social contribution expenditures in FY2012 are currently being calculated.

• Results of other activities related to the priority item

| Results from CSR activities in FY2012 | CSR Action Plans for FY2013 |
|---|---|
| 1 Visited each Group company in the U.S., Europe and India, to confirm current situations in detail and to exchange opinions with local management<br>2 Centralized the management of internal audits, risk management, crisis management and compliance, comprehended and analyzed each issue. Confirmed the effectiveness of measures to hedge and/or moderate risk, and built a system to organically promote measures, including those to prevent reoccurring risk<br>• Reorganized the Compliance Committee into the Risk Compliance Committee | 1 Strengthen support for overseas Group companies<br>2 Tighten linkage with crisis and risk management |
| 1 Expanded target to include government, public and private demand both in Japan and overseas. Revised the rules of conduct with the expansion of targets<br>2 Continued to implement special monitoring for order compliance<br>3 Held seminars at MHI and Group companies in Japan, Europe, the U.S., and China on compliance with competition laws<br>• Clearly defined function of the secretariat for the Order Compliance Committee | 1 Confirm the implementation status of rules of conduct and compliance checks<br>2 Implement efficient and effective special monitoring<br>3 Promote instructional/educational activities for order compliance |
| 1 Revised a standardized company-wide form to record the social insurance enrollment of specified constructors and subcontractors into the Installation Organizational Chart Register, in line with revisions to ministerial ordinances<br>2 Implemented regime monitoring at 19 Group companies and construction site monitoring for 16 companies<br>3 Continued to conduct seminars on Construction Business Act for business partners<br>• Implemented regime and construction site monitoring for 9 business segments<br>• Continued to conduct seminars on Construction Business Act at all our bases of operation | 1 Implement drafting of measures for detecting problems in maintenance of Installation Organizational Chart Registers<br>2 Monitor current status of Group company compliance<br>3 Formulate measures to deal with compliance issues in contracts with business partners |
| 1 Continued to implement e-learning for all employees engaging in export operations and also training sessions for managers of each division<br>2 Continued to promote acquisition of the expert qualification<br>3 Created an English version of e-learning materials to provide support for export control activities at its overseas bases | 1 Continuously implement internal training at all levels<br>2 Promote further acquisition of export control expert qualifications<br>3 Continuously audit Group companies implement regular training |
| 1 Implemented surveys for all five points (quality, price, delivery, technology, and management) at around 2,300 companies and had these companies evaluate themselves on the extent to which they are engaging in CSR<br>2 Applied results and examples of improvement from monitoring of procurement-related laws and regulations at each office to similar processes<br>3 Transportation energy (FY2008 unit energy consumption: 100 attained out of 111.6)<br>• Continued to hold business partner conferences in Japan and also hold similar conferences in India and China | 1 Reexamine scope and implementation method of surveys conducted at business partners<br>2 Monitoring of procurement-related laws and regulations and effecting improvement follow-ups<br>3 Reducing transportation energy |
| 1 Incorporated product safety activities into quality management using model products<br>2 Developing basic product safety activities (developing human resources, maintenance of standards) | 1 Deploy product safety activities into quality management companywide<br>2 Continually develop foundation for product safety activities (developing human resources, maintenance of standards) |
| 1 Implemented activities under a new organization by replacing the “Managing Board for Innovation in the Nuclear Business” with the “Managing Board for Safety Promotion in the Nuclear Business” as the main body for promoting related activities under the direction of a steering committee<br>2 Proactively responded to anticipated changes in nuclear regulations from Fukushima; implemented countermeasures for accident prevention and nuclear safety<br>3 Promoted “Safety First” culture to further improve nuclear safety by sharing issues throughout the company and determining actions for resolution, continuing efforts to improve quality management system, and fostering a strong nuclear safety culture | 1 Make further advancements and continuous improvement in QMS from a global perspective<br>2 Grasp social trends and customer needs to provide products and services with a caliber of safety and reliability, while leveraging the MHI Group’s comprehensive capabilities<br>3 Further cultivate a strong nuclear safety culture and enhance attitude for accountability |
| 1 In Japan, undertook activities that utilize TV commercials, advertisements in newspapers and public transportation, websites, and radio commercials to introduce manufacturing technologies. As a part of an overseas campaign, in the U.K., launched a series of product advertisements in newspapers | 1 Promoting a global advertisement strategy by building an integrated corporate image |
| 1 Planned and implemented social contribution activities at each MHI office. As a result, provided support to 16 organizations with the earmarked budget<br>2 Examined the results of CSR activities carried out in FY2012 and compiled a budget and an outline of activities for FY2013. Also taking into account our reorganization, decided upon the allocation of budget to those business segments that are mainly in charge of the particular activity<br>• Continued support for reconstruction after the Great East Japan Earthquake<br>• Carried out science classes at each MHI office | 1 Continue to promote those activities implemented in FY2012 (rename the fund for social contributions as Funds for Community Engagement, as this more accurately describes the system) |
| 1 Held a commemorative ceremony to celebrate the 2 millionth visitor. Engineers from MHI Nagoya Guidance & Propulsion Systems Works conducted science classes. Revamped the Environment / Energy Zone | 1 Responding systematically to both the intangible (staff training) and tangible (exhibit refurbishment) aspects |

## Company Profile

| | |
|---|---|
| **Trade Name:** | Mitsubishi Heavy Industries, Ltd. |
| **Head Office:** | 2-16-5 Konan, Minato-ku, Tokyo |
| **President and CEO:** | Shunichi Miyanaga |
| **Foundation:** | July 7, 1884 |
| **Establishment:** | January 11, 1950 |
| **Capital:** | 265.6 billion yen (as of March 31, 2013) |
| **Employees:** | 68,213 consolidated, 31,111 non-consolidated (as of March 31, 2013) |

## CI Statement

### Our Technologies, Your Tomorrow

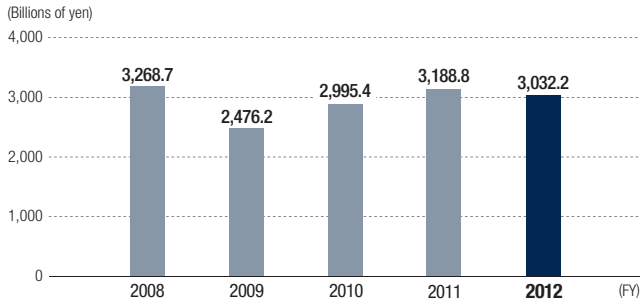
This CI statement represents our intention to "continuously provide an assured future where people can live safe, secure and enriched lives through technologies that can excite people and passion as a manufacturer for the sustainability of the earth and humankind."

CI(Note1) statement logo

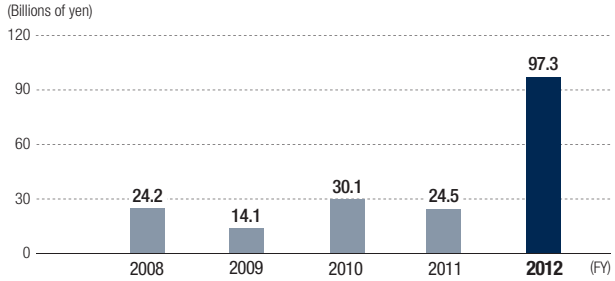
MITSUBISHI HEAVY INDUSTRIES, LTD.
Our Technologies, Your Tomorrow

(Note1) CI: Corporate Identity

## Orders Received (Consolidated)




## Net Income (Consolidated)




## Businesses and Products

**Shipbuilding & Ocean Development**

**Shipbuilding**
- Cruise ships • Ferries • LNG carriers • LPG carriers • Tankers
- Container carriers • RO/RO ships • Car carriers • Destroyer • Patrol vessels

**Marine development**
- Deep submergence research vehicle • Oceanographic research ships

**Engineering business**
- Shipbuilding engineering • Marine solution provider

**Overseas Shipbuilding Business**

**Power Systems**

**Thermal power generation plants and other facilities**
- Combined cycle power plants • Steam turbines • Gas turbines
- Boilers • Pump

**Renewable energy generation, etc.**
- Wind turbine plants • Geothermal power plants • Water turbine plants
- Solar thermal generation systems • Lithium-ion secondary batteries

**Nuclear power plants and other facilities**
- PWR nuclear power plants • Advanced reactor plants • Nuclear fuel cycle plants

**Marine and others**
- Water jet propulsion units • Pumps for industrial plants

**Machinery & Steel Structures**

**Environmental and chemical plants**
- Flue gas desulfurization systems • Flue gas $CO_2$ recovery plants
- Fertilizer plants • Methanol plants • Petrochemical plants
- Oil & gas production plants

**Environment preservation**
- Wastes treatment plants • Electrostatic precipitators
- Biomass utilization systems • Water treatment systems

**Transportation systems and ITS**
- Automated people mover • Rail transit • Air brake equipment
- Toll collection systems (ETC, etc.) • Intelligent transport systems (ITS)
- Passenger boarding bridge • Platform screen door system

**Advanced mechanical systems**
- Particle accelerator • Laser welding equipment • Radiation therapy equipment
- OLED manufacturing equipment • OLED panels for lighting application

**Machineries**
- Iron & steel manufacturing machinery • Compressors & mechanical turbines
- Rubber & tire machinery • Crane & material handling equipment

**Basic facilities & steel structures for infrastructure**
- Steel bridges & chimneys • Gate facilities • Mechanical parking systems
- Tunnel boring machine • Vibration and isolation systems

**Printing and packaging machinery**
- Sheet-fed offset presses • Commercial web offset presses
- Newspaper offset presses • Paper converting machinery

**Industrial machinery & mechatronics systems**
- Injection molding machine • Food & packaging machinery
- Packaging machinery • Mechatronics system equipment

**Aerospace Systems**

**Aviation**
- Commercial airplane • Aeroengines • Jet fighters • Helicopters

**Space systems**
- H-IIA launch vehicle • H-IIB launch vehicle • Space transporter • Rocket engines

**General Machinery & Special Vehicles**

**Engine generation equipment**
- Gas engine generator sets • Diesel engine generator sets
- Co-generation systems
- Portable gas engine generator/Portable gasoline engine generator

**Engines & equipment**
- For agricultural use (Agricultural machinery and small-sized industrial machinery): Air-cooled gasoline engines/water-cooled diesel engines
- For industrial use (Construction machinery, generators and power units): Water cooled diesel engines/water cooled gas engines
- For marine use (Main propulsion and auxiliary generating set): Water cooled diesel engines

**Physical distribution equipment**
- Forklift trucks • Heavy cargo carriers

**Turbochargers**
- For passenger & commercial vehicles • For trucks & buses
- For industry use and marine use

**Construction machinery**
- Earthmoving and grading machinery

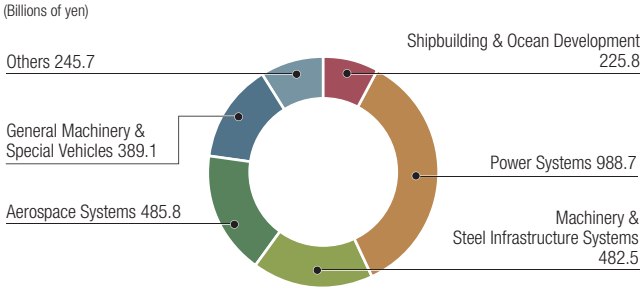
**Defense**
- Special vehicles

**Others**

**Air-conditioners**
- Commercial use air-conditioners • Residential use air-conditioners
- Automotive thermal systems • Applied refrigeration use machinery
- Transport refrigeration units • Centrifugal chillers
- Air/Water to water heat pumps

**Industrial machinery**
- Machine tools

## Net Sales by Industry Segment (Consolidated)



## Mariko Kawaguchi

Senior Analyst,
ESG Research Department,
Daiwa Institute of Research

Scanning the breadth of the MHI Group's business I realize that MHI is not only deeply involved in the infrastructure that supports the cities and industries upon which our lives and livelihoods are based but was also a key player in the modernization and development of Japan since the Meiji Restoration. Yet in a time like today, when the distortions brought about by 20th century-style growth—global environmental problems such as climate change and biodiversity loss, and social challenges such as aging populations and the widening gap between the rich and the poor, to name a few—threaten the sustainability of human civilization, the business models that drove growth in the 20th century must be caught up to the 21st century.

From this perspective, that MHI has delegated CSR management responsibilities to the Presidential Administration Office, which reports directly to the President, established a CSR Liaison Conference made up of groups of managing members for more comprehensive CSR promotion, and drew up an environmental vision for the year 2030—these actions can be seen as a crucial step in this "catching up." The energy and transportation systems initiatives highlighted in the Special Feature articles are good examples of this work. And, as the President articulated, promoting socially responsible procurement across the supply chain based on the UN Global Compact and ISO 26000 and with a special focus on human rights is evidence of MHI's responsibility and commitment as a global corporation representing Japan. I hope these reforms will be put to maximum use in carrying out activities from the boardroom to the factory floor.

I also think it is a responsible attitude that MHI clearly stated its policy for nuclear power and how this clarifies senior management's position on the issue. However, with the accident at TEPCO's Fukushima Daiichi Nuclear Power Station still unresolved (as recent reports of radioactive water leaks attest) and top management foreign nuclear related competitors are now becoming negative on nuclear power, a great deal of discussion and scientific testing is still needed to determine the safety and future viability of nuclear power. Please take extra care and risk management to ensure transparency and accountability. In the environmental field, where energy conservation and efficiency efforts predominate, I would like to see increased efforts to conserve water resources, which are especially valuable for building smart cities, and biodiversity.

Lastly, anecdotes of employee activities are an effective communication tool for making MHI more accessible to consumers who only know air conditioners among the many MHI products that support daily living.

## Toshihiko Fujii

Visiting Professor,
Graduate School of Economic Science,
Saitama University

**1. Effective communication on social contribution**
This report, particularly the Special Feature articles explaining President Miyanaga's commitment to social sustainability and specific projects, comprehensibly communicates MHI's social role in society across a wide spectrum of fields including energy and transportation.

**2. Product and service initiatives that go beyond CSR**
Addressing social issues not only through products and technologies but also by changing one's business practices is a core part of CSR. Supply chain problems are particularly important given their global nature. While MHI has already begun this effort by, for example, expanding the Supply Chain CSR Promotion Guidelines to overseas business partners, I hope to see an acceleration of such efforts, particularly with regard to conflict minerals.

**3. Improve diversity**
Building a workplace where women as well as people from diverse nationalities and cultural backgrounds can live up to their full potential is an issue that all Japanese companies share. MHI should make a stronger effort to diversify its workforce based on the perspective that doing so contributes to sustainable social growth.

**4. Clearer targets**
I applaud MHI for reorganizing its CSR Medium-Term Action Plan according to the seven core subjects of ISO 26000. However, the actions described in certain subjects such as human rights and labor are somewhat vague. Setting more concrete targets for actions in each subject should give readers a clearer idea of what MHI envisions with regard to fulfilling its social responsibility.

The above primarily conveys my expectations with regard to future CSR efforts at MHI. In closing, I would like to emphasize that CSR starts with understanding social issues from a global perspective. For example, poverty is just as important an issue as the environment. What can MHI do to help solve or reduce poverty? I believe that the way companies think in terms of prioritizing the various challenges facing different regions and deciding how to contribute to their solution is in itself an important tool for enhancing competitiveness over the long term.

### Acting on Valuable Opinions

## Masahiko Arihara

Executive Vice President
Executive Officer
in Charge of CSR

Based on feedback from past years, in this year's report we tried more than ever to present information visually in order to communicate our pride and responsibility in manufacturing more clearly to our diverse stakeholders.

We are pleased to hear Ms. Kawaguchi's and Mr. Fujii's comments that this year's report is a more accessible and effective communication tool, as such improvements are no doubt a result of the efforts we made.

At the same time, we see the transparency and accountability that Ms. Kawaguchi mentioned as necessary not only in our nuclear power business but also for ensuring safety and peace of mind in manufacturing in general, and will do our best to meet your expectations. As for Mr. Fujii's thoughtful explanation of CSR starting with an understanding of social issues from a global perspective, we will work to deepen our understanding through dialogue with the various stakeholders of our global operations and in accordance with our corporate creed.

Encouraged by your valuable feedback, we will continue to ramp up CSR efforts across our business and by providing various products and technologies that support social and industrial infrastructure, pursuing all the while a more sustainable society and sure future for humankind and the earth.

MITSUBISHI HEAVY INDUSTRIES, LTD.

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These pictures of models used for the cover page of this report are built with LEGO® bricks by LEGO Certified Professional Jumpei Mitsui.