# Sustainability

## Sustainability and CSR Policy

In accordance with the Three Principles that are at the heart of Our Principles, MHI Group serves as a manufacturer that contributes to societal progress through its business endeavors of delivering products and technologies in support of social and industrial infrastructure worldwide. MHI Group shall not only make contributions through its products and technologies to resolve social issues such as environmental problems but also work on resolving a wide range of social challenges through various activities in the process of its overall business and conduct sustainability management in tandem with its business activities. Furthermore, we believe that this fundamentally entails realizing a sustainable society and ensuring a future for people and the planet by providing exceptional products and technologies, conducting business activities that take diverse stakeholders' interests into consideration and

optimally returning profits to all stakeholders.

The MHI Group's CSR Action Guidelines serve as collective standards for all MHI Group employees. These guidelines provide a concrete and easy-to-understand way for employees to consistently keep sustainability in mind as the Group contributes to societal progress through its business endeavors and Our Principles centered on the principles of sustainability.

In 2015, we established the MHI Group Global Code of Conduct, a provision of common principles which stipulates how the Group's employees with various backgrounds, nationalities, and cultures should act and behave. Regarding the environment, MHI Group has established the Basic Policy on Environmental Matters and Action Guidelines in 1996 to encourage initiatives to reduce the environmental burden.

| Board of Directors |
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| Materiality Council |
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| Promote business activities that achieve materiality goals<br>Chairman: CEO |

Promote through collaboration

**Established five subcommittees for each Materiality**

| Provide energy solutions to enable a carbon neutral world | Transform society through AI and digitalization | Build a safer and more secure world | Promote diversity and improve employee engagement | Enhance corporate governance |
|---|---|---|---|---|
| **Head of GX Solutions** | **CTO** | **CTO** | **In charge of HR** | **GC** |

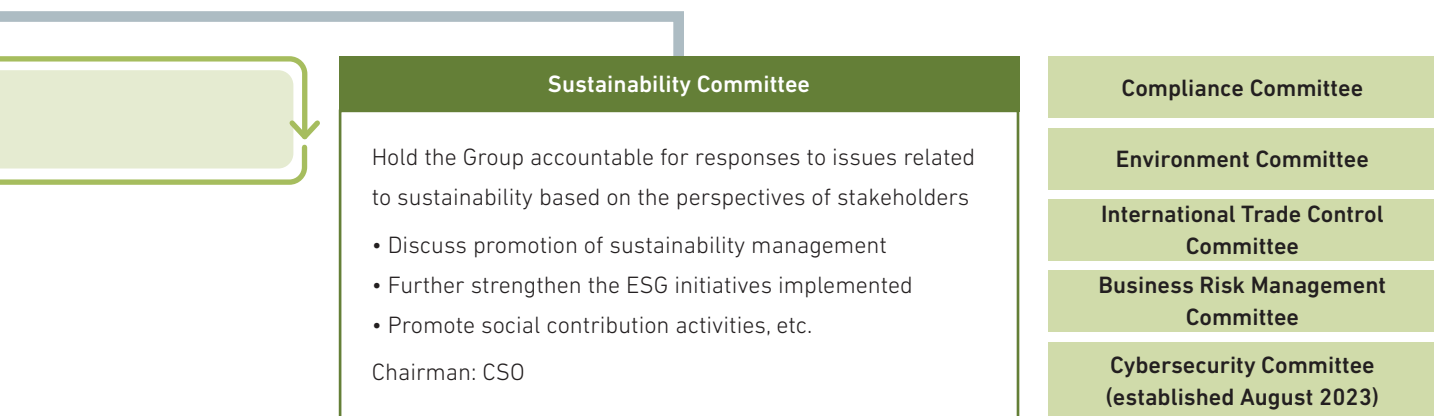| Administrative office: Sustainability Relations Department |
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## Sustainability Promotion System

Matters of importance concerning the challenges involved in approaching sustainability are discussed at the Sustainability Committee, with reports then provided to the Board of Directors in relation to the relevant matters. The contents of activities undertaken in relation to Material Issues are also the subject of reports to be provided to the Board of Directors on a periodic basis and serve as important themes for us to consider when it comes sustainability management.

| Committee name | Head | Members | Purpose | Number of meetings held in FY2023 | Main agenda items in FY2023 |
|---|---|---|---|---|---|
| Materiality Council | CEO | Executive Vice Presidents, CSO (Chief Sustainability Officer), GC (General Counsel), CFO, CTO, officer in charge of HR, head of Business Strategy Office, and domain CEOs | To follow up on business activities to realize materiality goals and discuss how to respond going forward | 2 | • Detailed decisions on company-wide materiality goals and the scope of initiatives for KPIs (progress monitoring indicators)<br>• Monitoring the progress of materiality initiatives |
| Sustainability Committee | CSO (executive officer in charge of sustainability) | Executive Vice Presidents, GC, CFO, CTO, officer in charge of HR, head of Business Strategy Office, and domain CEOs | To make management-level decisions related to how to address sustainability issues (e.g., ESG initiatives) | 2 | • Research into trends in sustainability-related industry policy and regulations<br>• Drafting strategy for dealing with ESG rating agencies<br>• TCFD planning cycle for FY2023<br>• Progress on ESG initiatives (e.g., human rights, biodiversity)<br>• How to carry out sustainability management |

### Committees Related to Sustainability

**Sustainability Committee**

Hold the Group accountable for responses to issues related to sustainability based on the perspectives of stakeholders

• Discuss promotion of sustainability management
• Further strengthen the ESG initiatives implemented
• Promote social contribution activities, etc.

Chairman: CSO

**Compliance Committee**

**Environment Committee**

**International Trade Control Committee**

**Business Risk Management Committee**

**Cybersecurity Committee (established August 2023)**

▶ For the latest information on sustainability, please visit our website.
https://www.mhi.com/sustainability

▶ For more details on sustainability, please refer to "SUSTAINABILITY DATABOOK."
https://www.mhi.com/sustainability/library

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# Human Rights Initiatives

MHI Group is committed to respecting human rights and workers' rights of employees in accordance with international treaties and other guidelines relating to human rights. In May 2015, we established the MHI Group Global Code of Conduct as the common standard for MHI Group. Through the establishment of this standard, which was compiled making reference to the UN Guiding Principles on Business and Human Rights, we aim to cultivate a shared corporate culture, one that is rooted in mutual trust and affords dignity and respect to all employees. MHI Group values the individual contributions of all people irrespective of race, color, religion, political convictions, gender, age, nationality, sexual orientation, marital status, or disability.

### Ascertaining of Human Rights Risks

We are moving forward with human rights due diligence in adherence with the UN Guiding Principles on Business and Human Rights. In terms of what we are specifically doing in that area, we conduct risk assessments that have us investigating human rights risks within our supply chain (including within in-house operations) in 39 countries where MHI Group has operations, extracting information on the potential human rights issues being faced, and periodically rethinking things in accordance with the necessity to do so.

In FY2022, we conducted a survey-based investigation for 25 of our suppliers in Southeast Asia that were believed to present high levels of potential risk, and subsequently conducted additional on-the-ground investigations for a portion of those suppliers.

In FY2023, we expanded the scope of suppliers covered by the survey, and based on a review of relevant suppliers, primarily in the procurement division and business divisions, carried out site visits to a total of 13 companies, focusing again on the Asia region. In both fiscal years, the surveys resulted in the discovery of no noteworthy human rights risk.

### Remediation (Corrections)

When it comes to initiatives that we are undertaking with respect to human rights due diligence based on the UN Guiding Principles on Business and Human Rights, we are discussing and considering the whole concept of measures serving to correct and remedy human rights violations when they have arisen. In FY2023, we joined JaCER (Japan Center for Engagement and Remedy on Business and Human Rights) in order to establish a remedy system for all of our stakeholders based on the UN Guiding Principles.

# Biodiversity

MHI Group's business activities both depend on and have potential to impact biodiversity and natural capital in various ways.

In FY2023, we used IBAT[1], a tool recommended by the TNFD, to investigate the interface with areas of biodiversity importance within a 3-km radius of 99 MHI Group operational sites, mainly major production sites around the globe.

MHI Group profoundly recognizes the importance of adopting nature-positive initiatives in line with the Kunming-Montreal Global Biodiversity Framework adopted at the 15th meeting of the Conference of the Parties to the UN Convention on Biological Diversity (COP-15) in December 2022. To realize a world that lives in harmony with nature by 2050, we issued the MHI Group's Declaration on Biodiversity in April 2023.

### Biodiversity Risk Assessment

Recognizing the importance of the location-based analysis for understanding dependencies and impacts on nature, we are working on biodiversity risk assessment referring to the LEAP[2] approach presented in the TNFD framework.

1 IBAT (Integrated Biodiversity Assessment Tool): One of the TNFD's recommended tools, it can survey protected natural areas, habitats of endangered species, etc. around a target location based on latitude and longitude information.
2 LEAP: An assessment process for nature-related risks and opportunities, comprising the following four phases: Locate the organization's interfaces with nature, Evaluate dependencies and impacts, Assess risks and opportunities, and Prepare to respond to nature-related risks and opportunities and report.
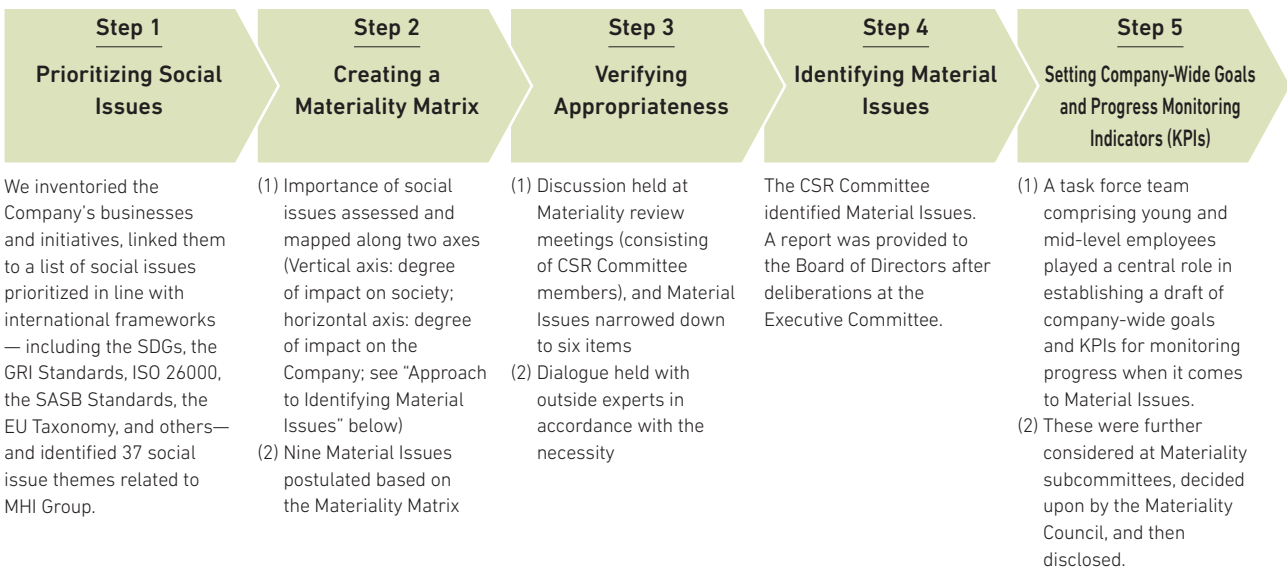
# Material Issues

To enhance corporate value and grow in the medium to long term through solutions to social issues, in FY2020 we identified Material Issues that MHI Group should be addressing. The progress of each Material Issue is managed with progress monitoring indicators (KPIs), and the PDCA cycle is steadily applied.

Activities involving engagement with Material Issues embody sustainability management in terms of business. To make the activities effective, we have established subcommittees with managers and departments for each Material Issue, and the person responsible and organizing department consider specific measures and roadmaps.
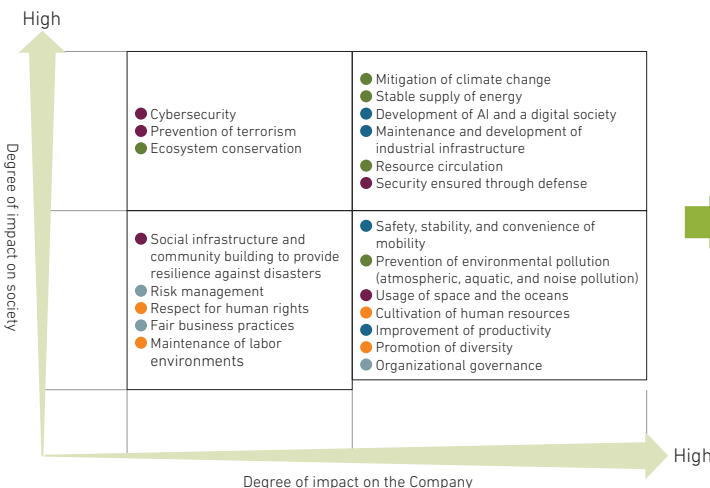
In October 2021, we established the Materiality Council to follow up on business activities aimed at realizing company-wide goals for Material Issues and to instruct business divisions addressing the goals to take necessary measures. Council meetings taking place during FY2023 were held on two occasions in June and December, during which information on the progress being made with respect to each Material Issue was shared and questions and opinions were freely exchanged. We are making progress with R&D projects in such areas as Carbon Neutrality and digital platform services, and our efforts are starting to bear fruit. These activities are important themes in sustainability management and are regularly reported to the Board of Directors.

## Processes of Identifying Material Issues

| Step 1 Prioritizing Social Issues | Step 2 Creating a Materiality Matrix | Step 3 Verifying Appropriateness | Step 4 Identifying Material Issues | Step 5 Setting Company-Wide Goals and Progress Monitoring Indicators (KPIs) |
|---|---|---|---|---|
| We inventoried the Company's businesses and initiatives, linked them to a list of social issues prioritized in line with international frameworks — including the SDGs, the GRI Standards, ISO 26000, the SASB Standards, the EU Taxonomy, and others— and identified 37 social issue themes related to MHI Group. | (1) Importance of social issues assessed and mapped along two axes (Vertical axis: degree of impact on society; horizontal axis: degree of impact on the Company; see "Approach to Identifying Material Issues" below) (2) Nine Material Issues postulated based on the Materiality Matrix | (1) Discussion held at Materiality review meetings (consisting of CSR Committee members), and Material Issues narrowed down to six items (2) Dialogue held with outside experts in accordance with the necessity | The CSR Committee identified Material Issues. A report was provided to the Board of Directors after deliberations at the Executive Committee. | (1) A task force team comprising young and mid-level employees played a central role in establishing a draft of company-wide goals and KPIs for monitoring progress when it comes to Material Issues. (2) These were further considered at Materiality subcommittees, decided upon by the Materiality Council, and then disclosed. |

## Approach to Identifying Material Issues



High

Degree of impact on society

- Cybersecurity
- Prevention of terrorism
- Ecosystem conservation

- Mitigation of climate change
- Stable supply of energy
- Development of AI and a digital society
- Maintenance and development of industrial infrastructure
- Resource circulation
- Security ensured through defense

- Social infrastructure and community building to provide resilience against disasters
- Risk management
- Respect for human rights
- Fair business practices
- Maintenance of labor environments

- Safety, stability, and convenience of mobility
- Prevention of environmental pollution (atmospheric, aquatic, and noise pollution)
- Usage of space and the oceans
- Cultivation of human resources
- Improvement of productivity
- Promotion of diversity
- Organizational governance

Degree of impact on the Company    High

### Five Material Issues identified based on social issues important to MHI Group

**Business Contribution (business-related)**
- Provide energy solutions to enable a carbon neutral world
- Transform society through AI and digitalization
- Build a safer and more secure world

**Foundation to Support Business (corporate-related)**
- Promote diversity and improve employee engagement
- Enhance corporate governance

## Material Issues for MHI Group: Company-Wide Goals and Progress Monitoring Indicators (KPI)

| Material Issues (Officer in Charge) | Company-wide Goals | Progress Monitoring Indicator (KPI) |
|---|---|---|
| **Provide energy solutions to enable a carbon neutral world**<br><br>SDG 7 AFFORDABLE AND CLEAN ENERGY · SDG 12 RESPONSIBLE CONSUMPTION AND PRODUCTION · SDG 13 CLIMATE ACTION<br><br>▶ Head of GX Solutions | Reduce the $CO_2$ emissions of MHI Group. Achieve Net Zero $CO_2$ emissions from its operations by 2040 (Scopes 1 and 2) | Reduce total $CO_2$ emissions from business activities (Scopes 1 and 2) by 50% by 2030 (compared to 2014 levels), and achieve net zero by 2040. |
| | Contribution to society throughout the value chain by 2040. Achieve Net Zero $CO_2$ emissions from its entire value chain by 2040 (Scope 3 + reduction through CCUS) | Reduce $CO_2$ emissions across the entire value chain (Scope 3 + CCUS contribution for $CO_2$ reduction) by 50% by 2030 (compared to 2019 levels) and achieve Net Zero by 2040. |
| | | Develop products and services that contribute to decarbonization of the energy supply by 2040 (Energy Transition) |
| | | Develop products and services that contribute to conservation, decarbonization, and automation of energy use by 2040 (Smart Infrastructure) |
| | | Develop and prove new products and services that contribute to the carbon cycle |
| **Transform society through AI and digitalization**<br><br>SDG 8 DECENT WORK AND ECONOMIC GROWTH · SDG 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE · SDG 11 SUSTAINABLE CITIES AND COMMUNITIES · SDG 13 CLIMATE ACTION<br><br>▶ CTO | Expand lineup of useful and sustainable AI/digital products meeting needs of customers and users | Steadily increase the number of newly developed advanced AI and digital solutions (services, products, R&D) that solve customer issues |
| | Contribute to a sustainable society through future-oriented energy management strategies that use AI and digitalization to appropriately and efficiently manage power supply and demand | Propose optimal energy infrastructures to customers according to the characteristics of the region |
| | | Increase the number of products linked to future-oriented energy management systems |
| | Improve our working environment to produce creative products | Improve employees' awareness of creative time and environments |
| **Build a safer and more secure world**<br><br>SDG 3 GOOD HEALTH AND WELL-BEING · SDG 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE · SDG 11 SUSTAINABLE CITIES AND COMMUNITIES · SDG 13 CLIMATE ACTION · SDG 16 PEACE, JUSTICE AND STRONG INSTITUTIONS<br><br>▶ CTO | Boost the resilience of products, businesses, and infrastructure | Carry out various disaster impact assessments, and promote the development and practical application of resilient designs and technologies |
| | Implement fully-automated and labor-saving measures | Promote the development and practical application of technologies that enable the remote operation and automatic inspection of products, businesses and infrastructure |
| | Continuously strengthen cybersecurity measures for all MHI products | Promote the development and practical application of cybersecurity technologies |
| **Promote diversity and improve employee engagement**<br><br>SDG 4 QUALITY EDUCATION · SDG 5 GENDER EQUALITY · SDG 8 DECENT WORK AND ECONOMIC GROWTH · SDG 10 REDUCED INEQUALITIES · SDG 17 PARTNERSHIPS FOR THE GOALS<br><br>▶ In charge of HR | Project new value through participation of diverse human resources | Increase the ratio of women on the Board of Directors to at least 30% by 2030 |
| | | Double the ratio of women in management positions by 2030 (compared to FY2021) |
| | | In accordance with the MHI Group Human Rights Policy, raise awareness of diversity among Group employees through education and other efforts |
| | Ensure safe and comfortable workplaces | Reduce the number of serious accidents to zero |
| | | Maintain a labor (work absence) accident frequency at a rate that is equal to or lower than the industry average |
| | Improve our environment that maximizes employee performance, and develop human resources who are healthy, energetic and able to contribute to society | Raise the employee awareness survey's "engagement" score above the global average by FY2030 |
| **Enhance corporate governance**<br><br>SDG 16 PEACE, JUSTICE AND STRONG INSTITUTIONS · SDG 17 PARTNERSHIPS FOR THE GOALS<br><br>▶ GC | Further enhance deliberations by the Board of Directors | Maintain the ratio of Independent Outside Directors on the Board of Directors at 50% or more (MHI) |
| | | Assess the effectiveness of the Board of Directors annually to ensure and improve it (MHI) |
| | Promote legal compliance and honest and fair business practices | Maintain the number of serious laws/regulation violations at zero |
| | | Continue activities that promote an open organizational culture |
| | Further promote responsible (CSR) procurement in the global supply chain | Promote sustainability and CSR procurement activities with partners to build a sustainable supply chain |
| | | Offer continuous educative information to suppliers/business partners in order to establish and maintain sustainable supply chain |
| | Create opportunities to explain non-financial information | Conduct ESG briefings to investors at least once a year |

1 The hydrogen mixture ratio is express as a volume ratio.
2 YHH (Yokohama Hardtech Hub): A co-creation space operated by MHI in Yokohama.
3 Charter of Trust: An initiative by private corporations to build trust in cybersecurity. MHI has participated in this initiative since April 2019.

## Initiatives and Progress in FY2023

- Forecasting a reduction in 2023 $CO_2$ emissions of 42% (compared to 2014 levels).
- At Mihara Machinery Works, which is pioneering initiatives to reduce $CO_2$ emissions, forecasting a 97.7% reduction (compared to 2021 levels) through installation of solar panels, energy conservation, and streaming, and acquired practical plant decarbonization know-how.

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- Forecasting a reduction in 2023 $CO_2$ emissions (Scope 3 Category 11) of 36% (compared to 2019 levels).

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- Conducted a successful demonstration operation of 30% hydrogen fuel co-firing[1] the GTCC demonstration power plant in Takasago Hydrogen Park, using a state-of-the-art JAC gas turbine.
- To increase global business opportunities for $CO_2$ capture, expanded partnerships, including concluding a general license agreement with the major engineering firm Saipem.
- Nearly completed the basic design for the Advanced Light Water Reactor "SRZ-1200," which will have the world's highest standards of safety. In addition, selected as the core company for design and development of a demonstration fast reactor and an HTGR (high-temperature gas-cooled reactor) demonstration reactor, both promoted by the Japanese government.
- Responded to feasibility study (FS) and front-end engineering and design (FEED) requests for numerous projects in a variety of industries, including a FEED contract for a $CO_2$ capture plant for major cement manufacturer Heidelberg Materials.
- Prepared for commercialization in the electrification and data center fields by developing a new container-type data center with an immersion/air-cooled hybrid cooling system, and by strengthening the North American service system through the acquisition of Concentric.
- Conducted demonstration tests for biowaste utilization (hydrolysis), and pursued development of production technologies for carbon-neutral fuels such as sustainable aviation fuel (SAF).
- Confirmed the basic performance of the prototype for the next generation unmanned forklift (based on ΣSynX), and conducting demonstration activities for an automated picking solution at YHH[2]. Further development of intelligent logistics systems is also continuing.
- An automated material handling system for maritime transportation is under development.
- An intelligent system for operation of industrial machines is under development.
- Within our central R&D organization, MHI Group conducts advanced research and development, and the results are applied widely across our business areas. This allows us to promote the development of solutions such as AI and digital products and services for diverse business units.

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- Started feasibility study of optimal energy infrastructure solutions for a city in Japan and the factory of a domestic beverage manufacturer, considering regional characteristics based on an assessment balancing social, economic, environmental factors, and carbon neutrality.

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- Conducted external verification of a core energy management system (EMS) with expanded control functions for heating equipment for use in carbon neutral EMS products.

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- The following were implemented in order to make MHI a more creative workplace:
  - Internal community site (EKKYO BASE): Organized collaboration projects and distributed related digital contents such as one-on-one workshops. Expanding opportunities for dialogue and co-creation with employees from inside/outside of MHI.
  - Future Design Task Force: R&D activity "Future design process" is ongoing. Eight new themes in six areas are under development.
  - Formulated a human resource development plan in the field of Digital Innovaton, under the strategic goal of developing 22,000 Digital Innovation experts groupwide.
  - Advanced efforts in promoting groupwide use of CRM (Customer Relations Management), utilization of data foundation, and development of future IT architecture.
  - YHH: Started verification tests and co-creation research for container DC, EMS, etc. Established LogiQ X Lab, a logistic intelligence project, and conducted verification tests with Kirin Beverage that led to an order for an actual logistic system.
  - From October 2022, Continued human resources development program at YHH for entrepreneurship. Contributed to revitalizing new business creation activities and improving business operations, after returning to their original posts.

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- Completed the application of disaster prevention simulation for tsunami, typhoon, heavy rain, storm surge, etc. at all domestic MHI factories. The weak points at each factory regarding various disasters were clarified, and the effectiveness of countermeasures was confirmed and verified. We will continue to promote measures to strengthen plant resilience and review our BCP.
- In the above simulations, we also conducted an impact assessment of severe heavy rainfall considering climate change scenarios in the wake of the flooding of the Hitachi plant caused by Typhoon No. 13 in September 2023.
- The disaster prevention simulation was applied in the proposal for a customer's plant construction.

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- Confirmed functional performance of forklift operation via low delay video transmission in cooperation with NTT.
- Started system design on the highway Vehicle-to-Infrastructure system, which uses wireless communication to connect ICT-enabled "connected" vehicles and elated infrastructure components, in preparation toward realizing a future of autonomous mobility.
- Continued to promote the research & development of unmanned defense equipment.
- Developing a labor-saving system for ferry cargo handling.
- Delivered a monitoring platform (ΣSynX Supervision) for ships.
- A remote monitoring and operation support system (MaiDAS) for a waste incinerator plant has been verified and presented at a major academic conference.
- Continued to promote research and development of intelligent operation systems for paper converting machinery.
- Developing plant piping inspection robots.
- Developing an explosion–proof plant–patrol inspection robot together with ENEOS.
- In FY2023, cybersecurity R&D investments increased 2.0 times the level of FY2020.
- In order to strengthen the security resistance of our factories, evaluation and verification of network security detection devices were conducted in Sagamihara Machinery Works, YHH, Nagoya Guidance & Propulsion Systems Works – Komaki North Plant and other locations.
- The basic security requirements set by Charter of Trust[3] were shared at ICS Device Security Administrators Meeting.
- A webform to receive vulnerability information on products and services was established.

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- Continued our training program for potential future executive candidates in collaboration with each business unit.
- Expanded various employee support systems with consideration to childcare and caregiving in order to enable employees to continue their careers. Working to build a workplace environment and organizational culture allowing for a balance of professional and private life.

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- Enhanced the content of educational materials (e-learning) on the topic of respecting human rights in MHI Group, based on the result of the first time of the e-learning conducted in FY 2023.

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- MHI achieved zero serious accidents in FY 2023.
- The rate of lost-worktime injuries was slightly higher than the industry average.
- Implemented AI-based method for detecting signs of potential industrial accidents, and analysis of root causes. Established process and procedures of collecting safety management data from overseas group companies.

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- Action policies organized based on the result of the 4th MHI Group Employee Survey, undertaken in March 2023.
- President's Town Meeting was held at five sites in Japan.
- Announced pulse survey tool to all MHI Group and continuing operational improvement.

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- Maintained the percentage of independent outside directors at 50% (6/12) and worked to speed up decision-making processes and strengthen oversight functions.

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- Engaged in the following initiatives to evaluate the effectiveness of the Board of Directors in FY2023.
  - Conducted questionnaires to all members of the board. • Discussed the results of these evaluations in meetings of independent outside directors and reported the same to Board of Directors meetings. • Established policies based on the results of the effectiveness evaluation and finalized the draft of disclosure, both by the resolutions of the Board of Directors. Also started planning the agenda schedule for FY2024.

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- There were no serious laws/regulation violations.
- Case studies related to compliance were published monthly to raise awareness within the company.
- Compliance information tailored to each region was shared with Group companies outside Japan in an effort to prevent compliance issues.
- Ensuring that overseas group companies set up hotlines for reporting on compliance issues.
- Implemented the following compliance training for employees both within and outside Japan.
  - Japan: e-learning, discussion-based training, job grade-based training • Outside Japan: e-learning

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- Implemented a CSR questionnaire for Japanese and overseas partner companies with a certain amount of regular orders from MHI, and obtained their agreement to the MHI Group Supply Chain CSR Promotion Guidelines.

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- Delivered educational materials on CSR procurement when sending the periodical CSR questionnaire for partner companies, and confirmed widespread understanding within each company.
- Performed CSR procurement education at business briefings and meetings with partners.

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- Held Energy Transition Briefing in May 2023 and explained our aim to contribute to the reduction of $CO_2$ emissions through our products, technologies, and services.