IHI
Integrated Report
2022

Management Philosophy

“Contribute to the development of society through technology”

“Human resources are our single most valuable asset”

Our Sustainability Goal

“Create a world where nature and technology work in unity”

“Use the power of technology to promote industry and advance our country”

Tomiji Hirano

Founder of IHI's predecessor, Ishikawajima Hirano Shipyard

Tomiji Hirano dedicated his life to pursuing this aspiration. His spirit lives on in the unwavering and treasured values of the IHI Group Management Philosophy.

Editorial Policy

This report is issued as a communication tool to convey particularly important information regarding fundamental initiatives that support the policies, strategies, and businesses of IHI. Please visit the websites below for more detailed information.

Financial: https://www.ihi.co.jp/en/ir/
Non-Financial: https://www.ihi.co.jp/csr/english/

About IHI Integrated Report 2022

Scope
IHI Corporation and its major Group companies

Reporting Period
This report covers fiscal 2021, which began on April 1, 2021, and ended on March 31, 2022.

However, information prior to and after this period may also be included.

Guidelines
- *International Integrated Reporting Framework*, IFRS Foundation
- *GRI Sustainability Reporting*, Global Reporting Initiative

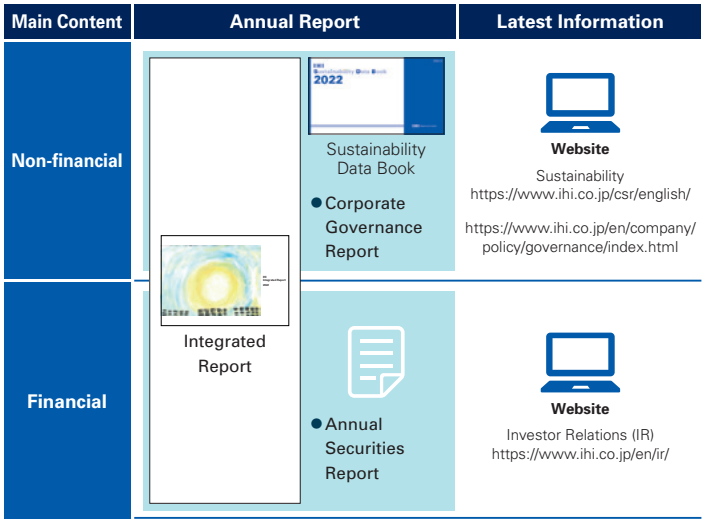
Cautionary Note Regarding Forward-Looking Projections
This report contains facts, both past and present, about the IHI Group, as well as forward-looking projections based on our current management plans and policies. These forward-looking projections are made with the information available at the time and are based on numerous assumptions, and are subject to changes in the business environment and operations. Actual results may differ materially from the forecasts.

Inquiries
Please contact us via the inquiry form on the IHI website.

https://www.ihi.co.jp/en/contact/

Guide to Disclosure

Framework for Sustainability Information Disclosure
In response to the requests of stakeholders, the IHI Group discloses information through several mediums.

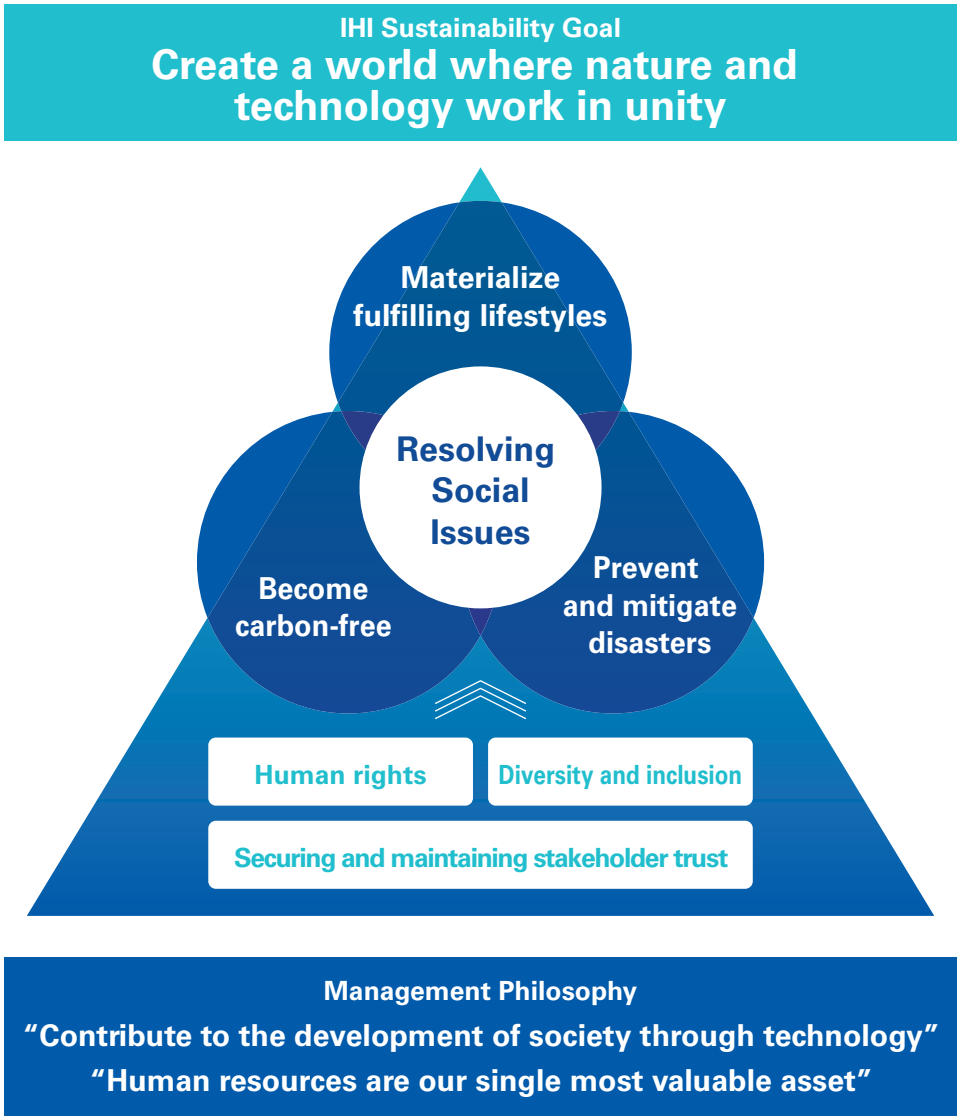


On the Cover

The cover features a work based on the theme of solar power generation posted in the Online Art Gallery "Art no Wa" operated by the Borderless Art Organization.
The cover design, inspired by the IHI Group's vision of creating a world where nature and technology work in unity, demonstrates our commitment to tackling social issues and creating new values.

Contents

IHI Group ESG Management

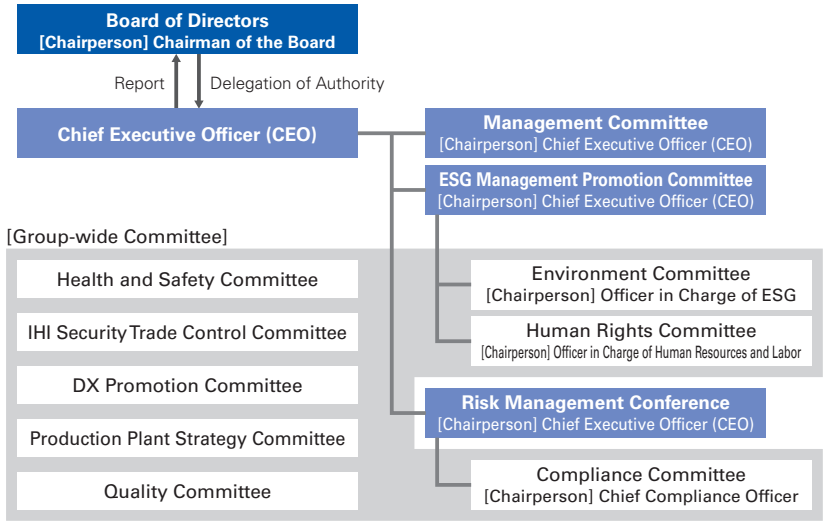


The IHI Group aims to create a world where nature and technology work in unity. This means protecting people from the threats of nature in a society offering safety, security, and prosperity to realize sustainability in both the global environment and people’s lifestyles.
Our businesses will take on various social challenges to create social value as well as enhance corporate value.

ESG Management Promotion System

The IHI Group began considering basic ESG management policies and measures, and established an ESG Management Promotion Committee for the purpose of evaluating and improving the progress of the policies and measures that have been implemented.

Promotion System



IHI Group Material Issues (Materiality)

The IHI Group has identified material issues to be prioritized to achieve sustainable growth as a company and realize a sustainable society.
ESG management makes engaging in the global challenge of climate-related initiatives, respecting the human rights of everyone involved in our businesses, empowering diverse human resources as the driving force to value creation, and earning trust from stakeholders through integrity management, which is more important than ever.

Identification Process of Material Issues

Identify Material Issues According to the Future Aspiration

Step 1

Extract social issues

Social issues, recognized worldwide, are extracted by utilizing the following:

- Sustainability data Public guidelines (GRI Standards, etc.)
- SDGs
- ESG rating standards (FTSE, MSCI, DJSI)
- Society 5.0 (Japanese Business Federation, "Keidanren")

Step 2

Confirm the conformity of social issues

Each social issue extracted in Step 1 is verified regarding its conformity to internal corporate policies and/or other unique company traits such as the following:

- "Group Management Policy 2019," "Project Change"
- Internal policies including Basic Code of Conduct for the IHI Group
- Information regarding IHI Group's risks

Step 3

Identify material issues

Considering Step 1 and Step 2, a total of 16 material issues have been identified.

Material Issues

E
- Climate change
- Circular economy
- Environmental protection

S
- Human rights
- Customer relationships
- Diversity and inclusion
- Occupational health and safety
- Supply chain management
- Corporate citizenship
- Work-style and operational process reforms

G
- Corporate governance
- Compliance
- Risk management
- Information security
- Timely and proper disclosure
- Innovation management

Particularly Important Issues of ESG Management

Climate change
(➡P.27–, ➡P.35–, ➡P.81)

Human rights
(➡P.53–)

Diversity and inclusion
(➡P.55–, ➡P.59)

Securing and maintaining stakeholder trust
(➡P.63–)

Value Creation Process

"Project Change" (FY2020–2022)
Reform businesses in response to operating climate changes

Next medium-term management plan (FY2023–2025)
Complete business portfolio optimization

Sustainable growth through innovation (FY2026–)
Relentlessly explore new opportunities for businesses that can resolve social issues

IHI Carbon-Neutral 2050

❻Time Frames for Value Creating Process

❶ Risks and Opportunities

- Social and economic changes and changes in values
- Changes in business models and work styles due to the promotion of DX
- Growing interest in climate change issues
- Increases in corporate-based ESG investment

❷ Business Foundations

Human Capital
Number of employees
28,801
Training hours
12.1 hours/employee

Intellectual Capital
Number of patents held
7,802
R&D expenses
¥29.8 billion

Financial Capital
ROIC (after tax)
6.4%
Operating profit margin
6.9%
CCC
112 days

Manufactured Capital
Capital expenditure
¥43.3 billion
Consolidated subsidiaries
150

Social and relationship Capital
Social contribution expenses
¥0.26 billion

Natural Capital
Energy consumption
2,348TJ
Water withdrawal
4,195,000m³

❸ Business Model

Material Issues
- Climate change
- Human rights
- Diversity and inclusion
- Securing and maintaining stakeholder trust

Management Philosophy

❹ Business Value

Products and services

Resources, Energy & Environment	Industrial Systems & General-Purpose Machinery
Power systems (for land use/for ships) Carbon solutions (boilers/storage facilities) Components for nuclear power plants	Vehicular turbochargers Parking and rotating machines Heat treatment and surface engineering Transport machineries Logistics and industrial systems
Social Infrastructure & Offshore Facilities	**Aero Engine, Space & Defense**
Bridges/Water Gates Transport systems Shield systems Concrete construction materials Urban development	Aero engines Rocket systems and space utilization systems Defense systems

The expansion of life cycle businesses

Environmental, Social, and Financial Results
Creation of Next Growth Businesses

Overcome Operating Environment Changes
- Allocation of optimal personnel
- Diversity and inclusion

Strong Financial Standing
- Stable cash generation
- Allocate funds optimally
- Sound financial foundation

❺ Social Value Creation

Value for Society

Decarbonize economies
- Energy transition
- Energy transformation

Recycling-oriented society
- Carbon solutions

Minimizing damage caused by natural disasters
- Realizing maintenance and disaster prevention and mitigation

Transportation and Mobility with Low Environmental Impact
- Environmentally friendly mobility

Value for the IHI Group
- Technologies and human resources that contribute to solving social issues
- Corporate culture that drives innovation
- New business opportunities

Vision
Create a World Where Nature and Technology Work in Unity

The IHI Group aims for sustainable growth by implementing various reforms to "create a world where nature and technology work in unity," which is our ideal vision for the future

❶Risks and Opportunities

- **Social and economic changes and changes in values**
  Due to the COVID-19 pandemic, risks related to the IHI Group's business structure have become apparent.
- **Changes in business models and work styles due to the promotion of DX**
  With the spread of DX-based businesses, the shift from selling goods to selling services is progressing, and opportunities for product life cycle-related businesses are increasing.
- **Growing interest in climate change issues**
  While the risks associated with not responding to climate change are becoming apparent, opportunities for decarbonization-related businesses are increasing.
- **Increases in corporate-based ESG investment**
  The attitude toward ESG management initiatives has become an important criterion for investors in their investment decisions. Therefore, companies are accelerating their efforts to create social value in addition to economic value.

❷Business Foundations

- **Human Capital**
  In order to solve social issues and continue to grow as a company, it is necessary to ensure growth opportunities and human resource diversity, the driving forces of value creation. We support our employees to expand their career possibilities through an education system centered on career development support programs and self-selective training that support the formation of each employee's career, accelerate growth, and continued learning.
- **Intellectual Capital**
  We promote intellectual property-related activities that are integrated with management policies as well as technology strategies, and strategically acquire patents for commercialization. The IHI Group is accelerating investments in technology development to create growth businesses.
- **Financial Capital**
  We are focusing on expanding our lifecycle businesses (LCB) with ROIC as an indicator of earning power. In addition, we are committed to cash generation and aim to shorten the cash conversion cycle (CCC).
- **Manufactured Capital**
  We are also working to create business opportunities and expand LCB by strengthening cooperation between our business sites in Japan and overseas. In addition, to reduce the environmental impact of our business activities and to improve production efficiency, we are improving facility operations and investing in them.
- **Social and Relationship Capital**
  The IHI Group strives to contribute to society, as we believe that corporate social responsibility means fulfilling the expectations of society. In the areas surrounding our business and construction sites, we have set coexist with local communities, develop next-generation professionals, and environmental protection as the priority issues for our social contribution activities.
- **Natural Capital**
  The IHI Group aims to reduce CO_2 emissions from plants and offices in line with the Japanese government's policy target of a 46% reduction in 2030 (compared to fiscal 2013 levels) and carbon neutrality by 2050. Also, we properly manage waste and water resources and strive to enhance resource efficiency and reduce the environmental impact.

❸Business Model

In order to solve social issues through our business activities and realize a sustainable society, we have identified ESG issues that are particularly important to us as climate change, human rights, diversity and inclusion, and securing and maintaining stakeholder trust. By addressing these important issues, we will create social and corporate value. We will focus on aftermarket development while strengthening the profitability of our existing businesses and cash generation ability.

❹Business Value

In order to solve social issues, we provide products and services in four business areas. We will expand the company's life cycle businesses, transforming it into a business structure that can overcome changes in the environment, and strengthen the company's earnings foundation by implementing its financial strategies. At the same time, the company will create growth businesses that contribute to the realization of a sustainable society.

❺Social Value Creation

With the aim of achieving carbon neutrality, we provide value to society through our business by contributing to the creation of decarbonized economies, contributing to the creation of a recycling-oriented society, minimizing damage caused by natural disasters, and realizing transportation and mobility with low environmental impact.

Value gained by the IHI Group will comprise the technology and human resources that contribute to solving social issues, a corporate culture that encourages innovation, and new business opportunities. We will create a world where nature and technology work in unity by creating social value, improving corporate value, and circulating management capital to our business foundations.

❻Time Frames for Value Creating Process

"Project Change," which will be implemented until the end of fiscal 2022, serves as a preparatory and transition period for transforming business to respond to drastic changes in the business environment. In the next three-year medium-term management plan starting in fiscal 2023, we will complete the optimization of our business portfolio for sustainable growth. We will continue to seek new business opportunities to solve social issues and actively promote cooperation with other companies with the aim of realizing a sustainable society and achieving sustainable growth.

Contributing to the Development of Society Through Technology

IHI Group Historical Highlights

The IHI Group has been boldly addressing difficult social issues of each era and solving them with the power of technology.
We started out by accumulating shipbuilding technology that we applied to industrial machinery, plant manufacturing, and construction.
Now we are a key provider of massive elements of industrial and social infrastructure.
The IHI Group has and will continue to face social issues and contribute to the realization of a sustainable society.

1877

Constructed the Tsu-un Maru, Japan's first steamship as a private shipyard

Social Value

Provided river-based transportation for passengers. Responsible for the mass transportation of people and goods in the era when water transportation was the main means of transportation.

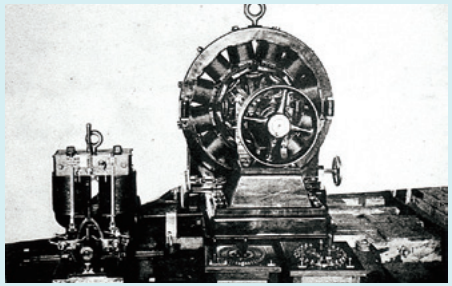
Source: Materials from the Tanabe family, Waterworks Bureau, City of Kyoto

1891

Completed construction of a large Pelton turbine for Keage Power Station, Japan's first commercial hydroelectric power plant

Social Value

The spread of electric lighting and the introduction of electric power in various industries contributed to the modernization of industry.

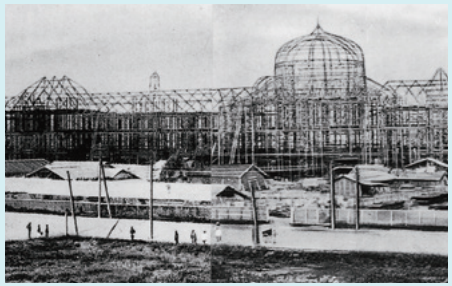


1896

Delivered the first Japanese-made generator, an alternating current generator, to the Asakusa Power Plant of Tokyo Dento Company

Social Value

Responded to a growing demand for electric power.
This led to a shift from a large-capacity power plant to a system that supplies electricity to a wide area.



1911

Completed steel structures for Tokyo Central Station (now Tokyo Station)

Social Value

Two mobile cranes were used to assemble the steel structures, reducing construction time and cost. It marked the beginning of building steel structures using cranes.

History

1853
Established Ishikawajima Manufacturing Shipyard

The Mito clan constructed a shipyard on instructions from Japan's feudal government to enhance Japan's defensive capabilities.

1876
Established Ishikawajima Hirano Shipyard

Tomiji Hirano set up the nation's first private sector shipyard.

1907
Established Harima Dock Co., Ltd.

Seitaro Karahata, the head of Aioi village (now Aioi City) in Hyogo Prefecture, established that firm.

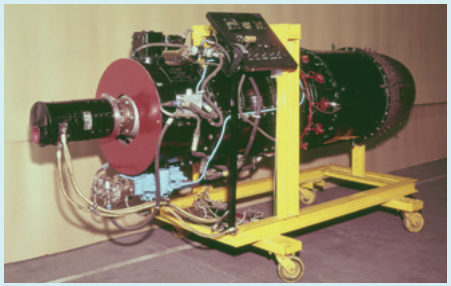
Social Events

1853
Commodore Matthew Perry comes to Uraga Bay.

1879
Thomas Edison invents the light bulb.

1903
The Wright brothers accomplish the first powered human flight.

1914–1918
World War I



1945

Produced the Ne20, Japan's first jet engine

Social Value

Provided the jet engine that was installed in the special fighter jet "Kikka." This engine powered the successfully maiden flight of Japan's first jet.

1969

Completed constructed Japan's first LNG tanks (four tanks) at Tokyo Gas Co., Ltd.'s Negishi Factory (currently Negishi LNG Terminal)

Social Value

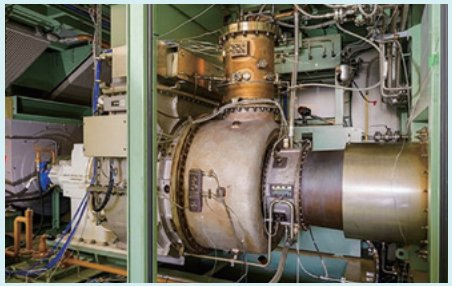
Developed LNG tanks capable of withstanding a temperature of -162°C.
Expanded into engineering of entire LNG receiving terminals. Responded to growing demand for LNG.

1998

Completed the Akashi-Kaikyo Bridge, the world's longest suspension bridge

Social Value

Developed a vibration-damping device that was to withstand vibrations caused by cars and strong winds, and connected Honshu with the Seto Inland Sea area. Reduced transport/travel time.



2022

Demonstrated the world's first 2,000 kW-class turbine that is completely fueled using liquid ammonia

Social Value

Demonstrated power generation using a 2,000 kW-class turbine that burns only liquid ammonia and reduces greenhouse gas emissions. Moving ahead toward practical use of the turbine.

1960

Established Ishikawajima-Harima Heavy Industries Co., Ltd.

This was the fruit of a merger between onshore machinery leader Ishikawajima Heavy Industries Co., Ltd. and Harima Shipbuilding & Engineering Co., Ltd., a top player in its sector.

2007

Company name changed to IHI Corporation

Group seeks to become an advanced global brand.

1939–1945
World War II

1973
First oil crisis

2005
The Kyoto Protocol, which calls for reductions in greenhouse gases, enters into force.

2015
The Paris Agreement is adopted during the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21).

Our Businesses

Resources, Energy & Environment

Provide the best integrated solutions for each region and customer to contribute to a carbon-free, recycling-oriented society

- Power systems (power system plants for land use/power systems for ships)
- Carbon solutions (boilers/storage facilities)
- Nuclear energy (components for nuclear power plants)

Topics

Initiatives for Constructing the Ammonia Value Chain

Ammonia is attracting attention as a fuel that contributes to the reduction of greenhouse gas emissions, and the IHI Group has been researching its use for 10 years. In Japan, with a grant from NEDO*, the IHI Group is conducting a demonstration of co-firing coal and ammonia power generation with JERA Co., Inc. We are working to achieve 20% co-firing for the first time in the world for large commercial coal-fired power generation facilities. Overseas, in cooperation with local customers in India and Malaysia, we have begun discussions toward achieving our goal. In addition, we are discussing with Marubeni Corporation and Woodside Energy Ltd. (Australia) a project to produce and export ammonia made from hydrogen produced using renewable energy and in a way that does not emit CO_2. We are also working on a joint study to establish an ammonia supply chain using existing facilities. In this way, the IHI Group aims not only to develop technologies for the use of ammonia as a fuel, but also to establish an ammonia value chain that encompasses production, storage, and utilization.

* New Energy and Industrial Technology Development Organization

JERA's Hekinan Thermal Power Station, which is conducting an ammonia co-firing demonstration project (from the JERA website)

Social Infrastructure & Offshore Facilities

Contribute globally and across life cycles to provide safe and secure bridges, tunnels, and other social infrastructure

- Bridges/water gates
- Transport systems
- Shield systems
- Concrete construction materials
- Urban development (real estate sales and rental)

Topics

Efforts for Maintaining Bridges

IHI Infrastructure Systems Co., Ltd., an IHI Group company, received an award from the Minister of Land, Infrastructure, Transport and Tourism in the Construction Project category during the 4th Japan Construction International Award for the Maintenance and Rehabilitation Project of First and Second Bosphorus Bridge in Turkey.
This is the second consecutive year that IHI Infrastructure Systems received this award after being honored for its work on the Osman Gazi Bridge (suspension bridge spanning Izmit Bay) last year. This award (Construction Project category) recognizes construction projects that have achieved the materialization of "high-quality infrastructure" through superior know-how, technical capabilities, and project management skills overseas.
In this project, a total of 240 diagonal hanger ropes were replaced with vertical hanger ropes for the first time in the world in the large-scale repair work of an aging suspension bridge while open to traffic. In addition, the suspension bridge main cable is was reinforced using reinforced strands*, which are rarely seen in the world, and by combining preventive maintenance with a dehumidifier and automatic humidity control system, the company was able to extend the life of the suspension bridge at a low cost.

* Reinforcement cables that support the main cable

First Bosphorus Bridge after repair work

Industrial Systems & General-Purpose Machinery

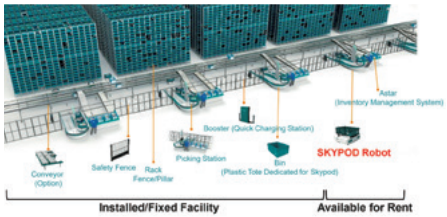
Fully optimize operational life cycles together with our customers to contribute to the advancement of industrial infrastructure

●Vehicular turbochargers ●Parking ●Rotating machines (compressors/separation systems/turbochargers for ships) ●Heat treatment and surface engineering ●Transport machineries ●Logistics and industrial systems (logistics systems/industrial machines)

Topics

Efforts to Solve Logistics Problems in the Age of e-commerce

IHI Logistics & Machinery Corporation (hereinafter "ILM"), an IHI group company, has opened the Yokohama Logistics Laboratory, a technical development base and hands-on showroom for the three-dimensional picking system "SKYPOD" (hereinafter "the system") on the grounds of the IHI Yokohama Office.
This system is a three-dimensional moving robot-type picking system that automatically drives the robot from storage racks installed in distribution centers and manufacturing plants and transports the retrieved goods to the operator.
ILM has already received three orders for this system in Japan and will continue to expand its sales to customers in a variety of industries, including the online shopping industry. In addition to this system, we will work to provide comprehensive logistics solutions through a lineup of automation and labor-saving equipment that combines the latest technologies such as the IHI AI Palletizing/Depalletizing system and existing technologies, such as automated warehouses, and mobile shelves.



SKYPOD and other logistics systems

Photo courtesy of GE

Aero Engine, Space & Defense

Leverage advanced technology to open new vistas for air transportation, defense systems, and space utilization, and help bring about a safe, affluent society

●Aero engines ●Rocket systems and space utilization systems ●Defense systems

Topics

Space Utilization Initiatives

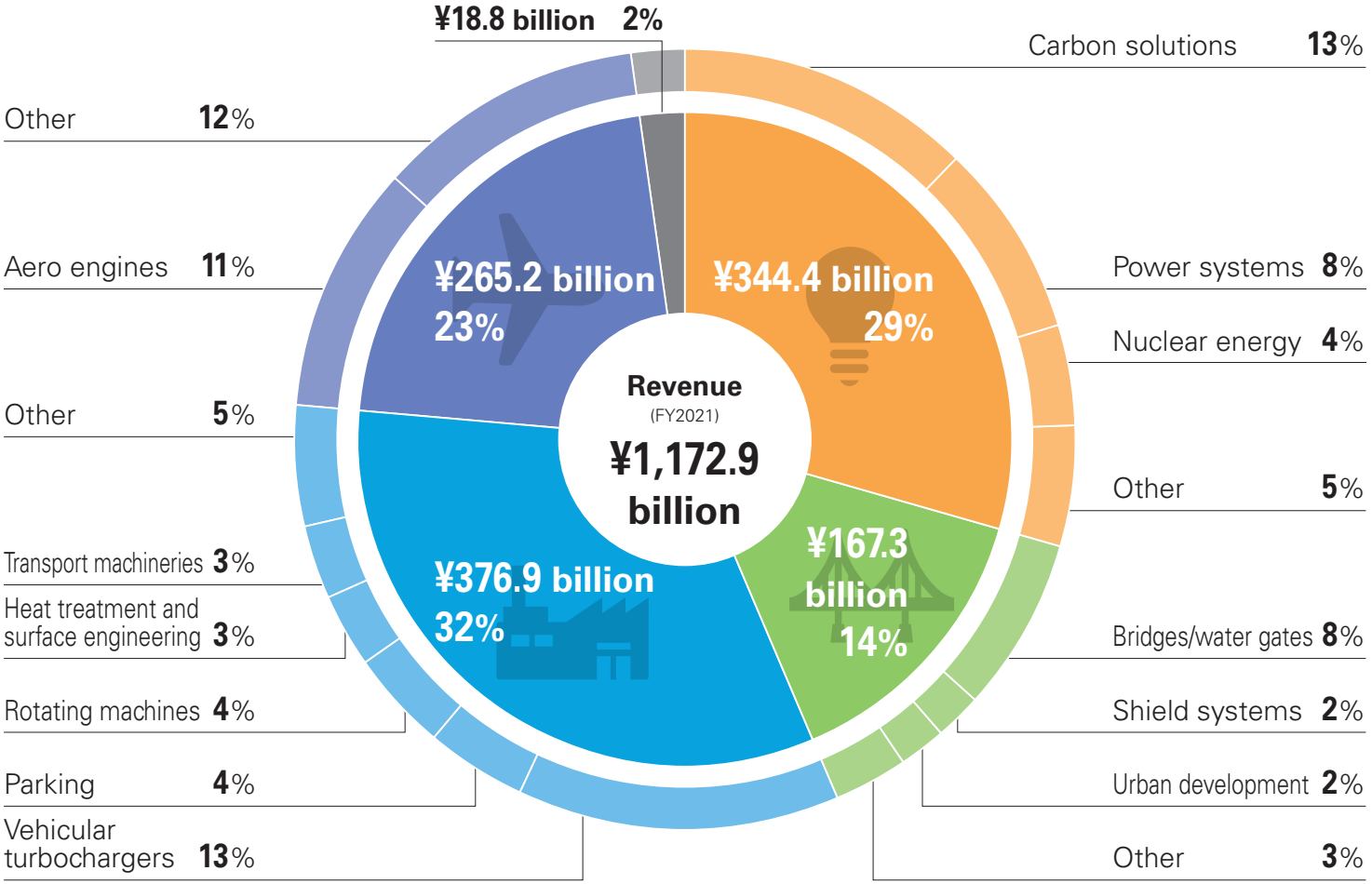
IHI Aerospace Co., Ltd. (hereinafter "IA"), a subsidiary of IHI, is in charge of manufacturing and developing the airframe systems for the Epsilon Launch Vehicle developed by JAXA*1, contributing to the successful launch of five satellites in a row as of fiscal 2021. In April 2022, IA received an order for the launch of the sixth commercial satellite for the first time. Currently, the Epsilon S Launch Vehicle is being developed in collaboration with JAXA with IA planning to develop launch services after development.
In addition, the IHI Group has begun collaborating with Sumitomo Forestry Co., Ltd. for the realization of a consulting business for the appropriate management of tropical peatlands*2 using satellite data, and is moving forward with the commercialization of space utilization through activities including the launch of the nano-satellite IHI-SAT in February 2022.

▲Launch of Epsilon-5
◀Exterior of the IHI-SAT

*1 Japan Aerospace Exploration Agency
*2 Soil formed by the accumulation of plant remains that have not decomposed in water said to store about 10 times as much carbon as the world's annual carbon emissions. Groundwater levels must be properly managed because dryness can cause peat fires.

Financial/Non-financial Highlights

Business Overview

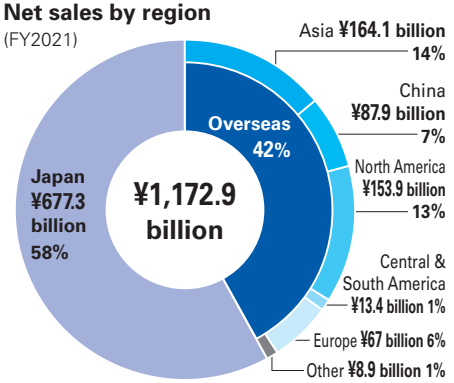


■Resources, Energy & Environment ■Social Infrastructure & Offshore Facilities ■Industrial Systems & General-Purpose Machinery
■Aero Engine, Space & Defense ■Other and adjustments

Note: Sum of percentages for all segments may not total 100%, as figures are rounded to the nearest 100 million yen.

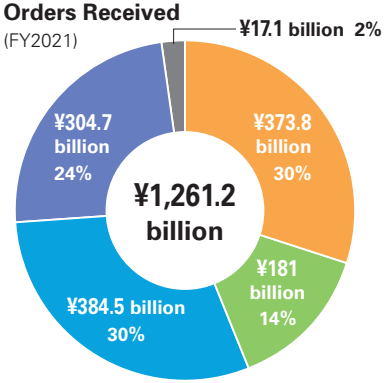
Net sales by region

(FY2021)



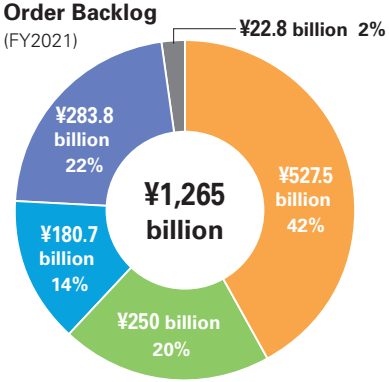
Orders Received

(FY2021)

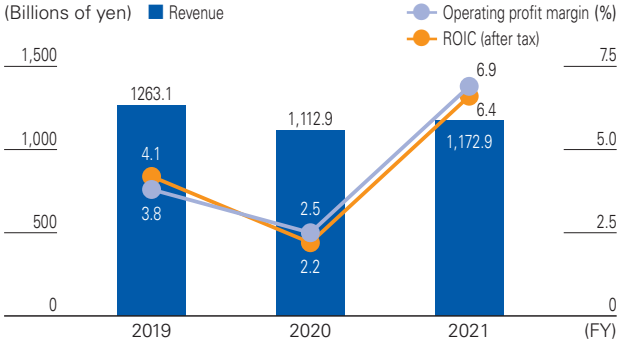


Order Backlog

(FY2021)

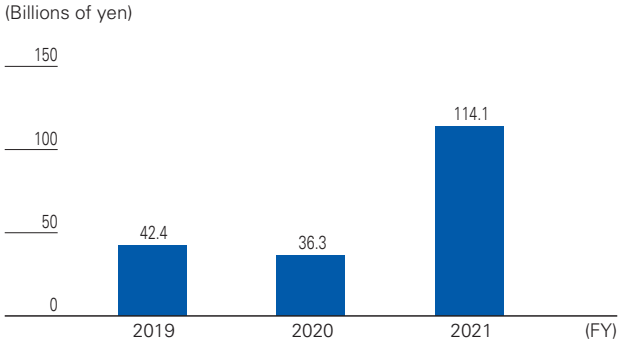


Financial Revenue, Operating Profit Margin, and ROIC (After Tax)



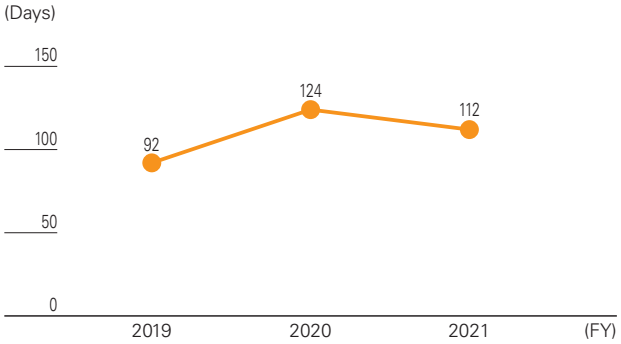
Fiscal 2021 revenue was 1,172.9 billion yen, an increase of 5.4% year on year. Operating income increased 192% to 81.4 billion yen, and the operating profit margin increased 4.4% to 6.9%. Increased sales of spare parts for commercial aircraft engines, nuclear power business, and heat & surface treatment engineering business as well as sales of properties contributed to the increase in profits. ROIC after tax was 6.4%, exceeding the target of 5.5%.

Financial Operating Cash Flows



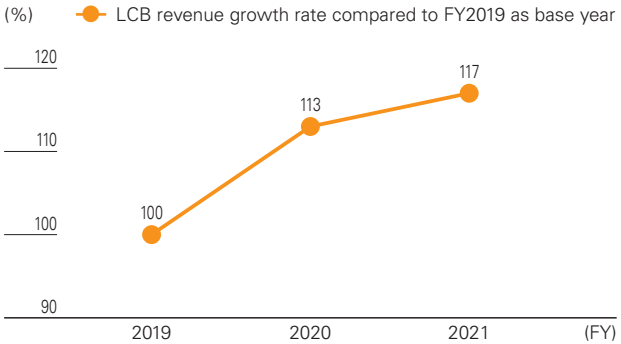
Cash flows from operating activities were in excess of 114.1 billion yen (in excess of 36.3 billion yen in the previous fiscal year). Despite an increase in inventories, profit before tax rose 217% year on year to 87.6 billion yen, while depreciation remained high at 67.5 billion yen with the reduction of trade payables and an increase in contract liabilities contributing to the increase.

Financial Cash Conversion Cycle (CCC)



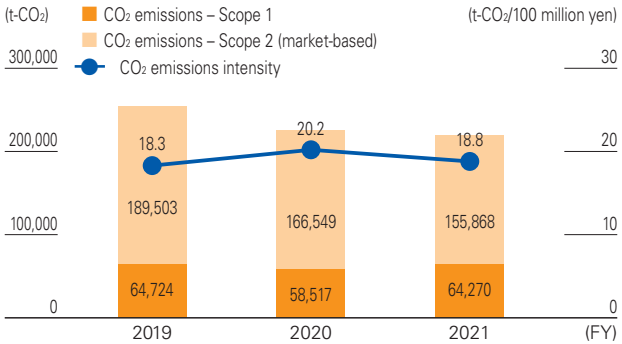
The CCC was 112 days, which slightly missed our target of 110 days, but came very close to reaching the target. In fiscal 2021, we thoroughly focused on cash generation and worked to reduce working capital. We will continue to promote a shift to business operations that further enhance our cash-generating capabilities.

Financial Life Cycle Businesses (LCB) Revenue Index



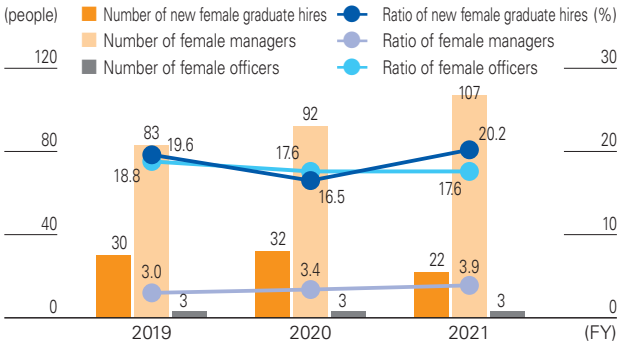
In fiscal 2021, LCB revenue increase of 17% compared to fiscal 2019, the year we started to initiate LCB. Efforts to shift resources, including human resources, promote DX, and expand business on a global level are beginning to show results. We will continue to accelerate various initiatives to further expand the scale of earnings and generate stable cash flow.

Non-financial CO_2 Emissions



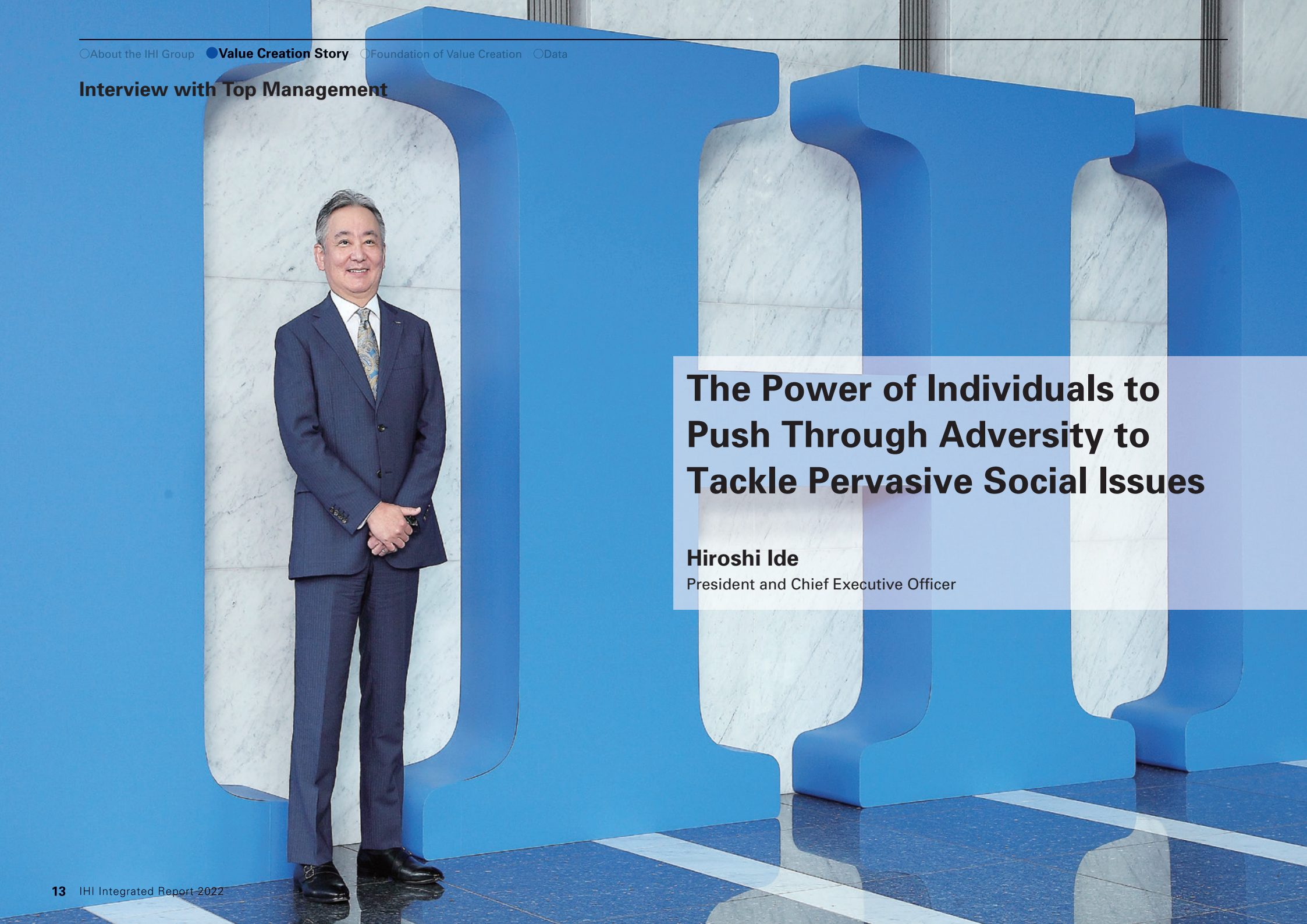
The IHI Group aims to reduce CO_2 emissions from plants, offices, and other business facilities in line with the Japanese government's policy target of a 46% reduction in 2030 (compared to fiscal 2013 levels) and carbon neutrality by 2050. CO_2 emissions intensity (t-CO_2/100 million yen) in fiscal 2021 was 18.8 t-CO_2/100 million yen, achieving our target of 3% reduction from 22.2 t-CO_2/100 million yen in fiscal 2018.

Non-financial Active Participation of Women



We are prioritizing promotion of diversity and inclusion as part of our management strategy. With the aim of creating innovation and new value for solving social issues, we are promoting efforts such as diversifying candidates for senior management positions. Although the number of new female graduates hired decreased in fiscal 2021, the ratio of new female graduates hired and the number of female managers increased.

Interview with Top Management



The Power of Individuals to Push Through Adversity to Tackle Pervasive Social Issues

Hiroshi Ide
President and Chief Executive Officer

The IHI Group has promoted management that embraces ESG values and makes proper social and environmental considerations in the Medium-Term Management Plan "Project Change." The year 2022 is the last year of this three-year business plan. Our future aspiration is to "create a world where nature and technology work in unity." This approach questions convention and inspires new ideas necessary to unify the organizational strengths of the IHI Group. We asked President Ide about these strategies and the IHI initiatives to accomplish them as well as his cooperative approach with stakeholders.

Role of the CEO and Contributions to IHI Future Aspirations

— Could you please tell us about your particular style of management as the CEO of the IHI Group, in addition to the contributions you can make to realize IHI's future aspirations based on your experience thus far?

I try to always keep in mind a sense of urgency and scale when communicating with our executive officers. My style of management particularly emphasizes this. The IHI Group is involved broadly in businesses related to infrastructure, whether it be social, aircraft, space, or energy. Our products and services directly connect to solutions to overcome social issues. That is why we must engage in our work with that sense of scale. In our intense pursuit of carbon neutrality today, almost every business in the IHI Group needs to envision how to dramatically shift our mindset with this sense of scale. Our products have tremendous scale, meaning much time is required for realizing a transformation; however, a sense of urgency is essential to resolve the social issues directly confronting us. Japan has been said to have "lost three decades," but what I think it has particularly lost is its sense of scale and urgency. To recover what we have lost, scale and urgency are vital to IHI Group management.

I have spent most of my career overseas since joining IHI. I was in charge of overseas sales, and during my time seconded to other companies, I gained experience in our international division adjusting with various economic organizations and participating in APEC business conferences. I also put together business ventures while discussing business with top management executives at overseas firms. Companies overseas are symbolic for multiculturalism and diversity. The key therein was urgency—the ability to make prompt decisions. Being aware of diversity and work done with a sense of urgency is not an impossible task, as I have learned from my own experiences. I believe that these experiences can contribute to future IHI Group aspirations.

Environmental Awareness, Points to Keep in Mind, and the Relationship with Value Creation

— The business environment surrounding the IHI Group is dramatically changing from the continued spread of COVID-19 to the conflict between Russia and Ukraine. Could you please tell us how you see the medium- to long-term business environment? Moreover, could you explain the key points to keep in mind in efforts to foster subsequent growth?

I have worked at IHI for nearly four decades. Since my youth, every generation has been referred to as "a time of change."
This is the same today. There is one major difference—the complexity of multiple crises and various changes all occurring simultaneously, to the point where crises have become the norm. The continuous spread of the COVID-19 virus, the conflict between Russia and Ukraine, the chaos due to an insufficient supply of semiconductors, and many more issues are driving these changes. Past changes and crises were less complex, while those today are becoming more complicated and layered. I think this is the fundamental difference between changes in the past and present. Another major difference is that these changes are going beyond acceptable limits. Past environmental issues were significant, but action had been able to resolve and normalize situations. Because the issues today surpass acceptable limits, we cannot return fully to what was once normal, and only expect a small amount of recovery. Every effort needs to focus on stopping almost uncontrollable environmental issues and natural disasters. The various economic activities of mankind have had a surmountable and irreversible impact on our environment. I see the complexity and depth of societal changes and the adverse effects that have surpassed acceptable limits as two clear differences from those in previous times.
The significance of irreversible change surpassing acceptable limits begs the question of how close can our technology bring back what has gone too far with technology. I believe that this presents a great opportunity for IHI to fulfill its duty to society. The environment is changing drastically, and this has a huge impact on our company including disruptions in the supply chain, but I think it is important to see how we can contribute to solving these social issues.

Although this does tie in to "Project Change," a company must have a resilient business structure to endure future uncertainty and a variety of variables. There is a reason for strengthening our earnings base and reforming the business structure. In the past, large IHI projects have suffered losses and compliance issues, but these problems exhaust our strength, leaving nothing for us to take action moving forward. Future growth is important, but we need to prioritize building a robust and resilient business structure before anything else. This is why IHI is heavily focusing on cash management and profitability.
Building resilient businesses is also key. Our aircraft engine business suffered major losses as a source of revenue due to the spread of the COVID-19 virus. However, our other businesses outside of aircraft engines responded to make up for those losses from 2020 to 2021. I would like to once again reiterate the importance of making existing businesses resilient—this may as well be "the first building block standing on the first avenue of management." That is why efforts to reinforce our existing businesses will not change in the future. IHI must not only invest in growth markets but also in the capabilities to stand up to change.

Thus far, IHI has been hastily responding to issues arising from various changes. This has been the conventional IHI Group risk management approach. We must once again recognize the weaknesses in our business processes and assume a serious severity of risks with even a 1% chance of manifesting. Our Group will imagine risk scenarios in advance to take proactive actions when signs show these risks coming to light. This approach will be our way of countering risk.

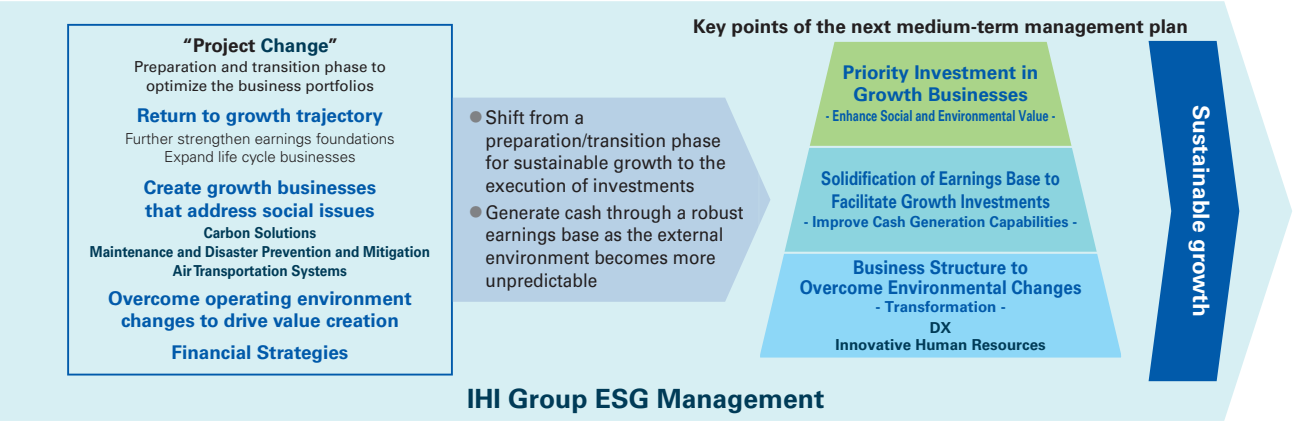
— Could you please tell us about the strategies that will help create value? While the current medium-term management plan "Project Change" emphasizes three growth strategies, what kind of approach will subsequent medium-term management plans take?

IHI's next medium-term management plan is currently in internal discussion. "Project Change" advocates carbon solutions, maintenance and disaster prevention and mitigation, and air transportation systems as three growth fields for IHI Group initiatives. However, we go beyond this, such as our engagement in business combining space and energy ventures, including a joint consultation project that uses forest management technology in tropical rain forests with Sumitomo Forestry Co., Ltd. IHI has also started integrating multiple business fields, such as initiatives that contribute to disaster prevention and anti-flood control in basins, taking full advantage of satellite and surface weather data, as well as water gate control technology.
Without expanding ideas isolated within each organization throughout the IHI Group, there is no way for us to resolve social issues and create new value. Of course, IHI will collaborate with other companies as well, but a wide range of crossovers within our Group will put us on a path to tackling complicated social issues. In addition, I believe that the IHI Group needs to use its conglomerate structure to gain a competitive edge. Within this area, I know there is a wide range of potential businesses even beyond our three growth domains.
Our creation of growth businesses has primarily focused on Japan up until now, but IHI will continue to investigate and review businesses related to ammonia and hydrogen with Australian and other companies overseas. We will cooperate with these overseas companies and institutions from the launch of projects. In the ammonia and hydrogen value chain, the value chain cannot create intrinsic value without our "killer content" technology, including not only the products and services provided by the IHI Group, but also the products and services provided before, during, and after the ammonia and hydrogen value chain. This is the model necessary to generate the demand for energy. It is important for IHI to fully encapsulate these technologies because the IHI Group has always existed on its technological strengths. We want to not only invest in businesses, but also create things people cannot live without as our core technologies.

— IHI emphasizes ammonia combustion and aircraft engine technologies. Could you please tell us what "killer content" technologies means in this context?

The term "killer content" technologies has two meanings.
The IHI Group is the pioneer of ammonia combustion technologies worldwide. This is one type of "killer content" technology, but this alone is not enough. Our objective is to create markets that generate demand. Ammonia combustion technology is the trigger to create these markets. Obviously, infrastructure covering everything from production through transport and storage services is essential to grow markets advancing ammonia as a fuel. As one "killer content" technology, IHI will expand ammonia combustion as an influential business.
The second implication is one that would not be possible without this technology. Lighter aircraft engines are one example of its benefits. Lighter and more efficient engines are necessary even for the use of Sustainable Aviation Fuel (SAF), which is the final object in aircraft fuel for our aircraft engine business. Even in a period of transition when fossil fuels are still used, the reduction of CO_2 emissions requires lighter aircraft engines. Considering this, the "materials" for building the engines is our other "killer content" technology. In fact, we do use material such as carbon fiber reinforced plastics (CFRP), which illustrates how a single material can be a "killer content" technology as a detonator that enhances the potential of a business.
If a value chain lacks links to new technologies and products when using them, the only choice is to transform the value chain itself. That is why IHI cannot simply focus on products alone. It is important that we also emphasize the value chain, including its services.

Toward the Next Medium-Term Management Plan



Use of Intangible Assets to Generate Cash Flows and ESG

— What are the obstacles standing in the way of innovation? Could you please tell us about initiatives to leverage human capital and other intangible assets?

We have to realize carbon neutrality and innovation to generate IHI Group earnings. Typically, we have taken dynamic action within the organizational structure of each business domain as a way of driving our existing businesses. Taking dynamic action as an organization based on directives from top management is important, but innovation does not happen at an organization where top management and employees are in conflict with one another. Work styles and diversity are vital to inspire innovation, but the question is where to start. IHI decided to kick things off by eliminating honorifics inside the company as a way to lessen being conscious about the position of others. Even in our emails, everyone quickly became accustomed to not using titles such as Mr. or Mrs. A transformation of the corporate climate and culture like this is vital.

Putting things in perspective based on position in a workplace, people only worry about those above and below them. That is why IHI created a type of "flat" organization, although it did not work as well as I had hoped. I think listening to those on the front lines is what is important. Management has to go and see what is actually happening on-site and talk with all the different people working there to discover new ideas about compliance, quality control, and many other matters.

IHI still has a mountain of obstacles standing in its way, and our transformation has started from a diversity perspective. We are not only promoting the recruitment of women—who are few and far between in technology companies—but also people from overseas as well as experienced mid-career human resources. One challenge in particular is increasing the ratio of men taking parental leave, with our target set as 100%. While searching for the real underlying cause of this problem, we pushed forward reforms always aware of the many ins and outs of diversity.

These reforms have already resulted in employees taking the initiative to share their thoughts on things. However, it is not very easy to produce results. Even with a variety of ideas, innovation did not happen until after a year of discussions. I have told everyone working at IHI to try even if they fail, and that it is important to promote your actions by starting off small. If it does not work out, you can always move on. My attitude is, if something does not work, you stop it. If you cannot explain why you are doing the work that you do, stop it, and speed up the examination of the business model. Telework also has become an option that increases this speed while making it more efficient to talk about things in the company.

Awareness-Raising Initiatives to Create Innovation

A transformation in the corporate atmosphere makes the wheels of thought turn faster, simultaneously speeding up execution. This is the approach IHI is taking now.

It is also important for us to create opportunities for skilled employees to actively get involved regardless of gender or nationality. Generally, these attributes come into play later on, but the truth is that bias comes with a person's attributes. In the past, the seniority system had rules such as age restrictions on when someone could be promoted to the next grade (position), but now, IHI has eliminated this condition. These initiatives have greatly broadened our ability to capitalize on human capital. At the same time, the way of measuring employee skills is also becoming more important than ever. The IHI Group did not have a lot of communication across business areas because each of our four business areas had a high level of independence, with human resources transferring only within those business areas. It was difficult for people to say anything about another business area in meetings, but the corporate officers now are able to share their opinions about other business areas. This communication has deepened understanding about every business area and advanced efforts to visualize human resources. In some cases, employees have even been appointed to positions across organizational boundaries. This initiative has only just begun.

— What impact will the effective use of human capital have on business in the future? Would you mind also touching on the governance and new initiatives supporting this impact?

IHI is engaging in the "E" (environment) of ESG management, which is positioned as a transition and transformation phase. Presently, the operation of thermal power plants is necessary to the power supply, but greater efficiency is a must to reduce CO_2 emissions. The key to transition is how to minimize fossil fuels as the input while maximizing power as the output. We are already involved in life cycle businesses, which also helps improve efficiency.

IHI is using its existing technologies in this way in an effort to reduce CO_2 emissions, but the transformation will happen by introducing ammonia as a fuel into the boilers for thermal power generation systems that have been using fossil fuels. The same can also be said about using synthetic methane and SAF. Clients and partners with whom IHI has built a relationship with through its existing technology may become new customers and partners in the transformation to realize new technologies. For example, our clients of industrial machines may become energy customers. In this way, businesses crossing over to various other IHI businesses will become vital in the future. It will also become a necessity to communicate and share human capital with other business areas.

In terms of governance, IHI is most lacking in a sufficient dialogue with its stakeholders. We do engage in IR activities, but these efforts are not enough. Our executive officers, myself, and everyone at IHI need to communicate more frequently with all of our investors. Furthermore, we do not have any communication activities with non-governmental organizations (NGOs). The fact is that our interactions with these organizations have only been passive. To actively drive forward ESG management, IHI has to deliberate on matters by not only listening to feedback from NGOs but also disclosing its own information. We have to recognize where IHI is lacking and better understand one another. The Group also has to engage in dialogues with local communities, governments, and all of our other stakeholders. There is no way for us to gain any trust from stakeholders without these dialogues.

Ongoing Dialogues with Stakeholders as a Must

Both the Board of Directors meetings as well as the Management Conference must thoroughly debate serious risks and results. Previously, topics that satisfied a certain set of criteria were only discussed by the Board of Directors. However, the approval or reporting of these matters is meaningless without debating the underlying strategies and inherent risks, which we have been engaging in for well over a year. Our outside directors have mentioned how much more active discussions are at the Board of Directors. The amount of time spent on these matters has also changed for the better. Diversity has effectively stimulated this transformation, as our outside directors join these discussions to provide a wealth of suggestions based on their experience and high level of expertise as top management.

Stakeholder Engagement Initiatives

— IHI has rolled out efforts to directly talk with employees since the COVID-19 pandemic to deepen mutual understanding. Please introduce any insights into management that you have gained from this experience.

When I became President in 2020, I had a close-up view as the spread of the COVID-19 virus simultaneously overlapped with the strong demand for carbon neutrality. I have thought about the day marking the end of thermal power using fossil fuels since I was the President of the Resources, Energy & Environment Business Area. Many IHI employees may not have felt much apprehension about any of this. However, everyone working in a business related to thermal power using fossil fuels is concerned by the uncertainty of its future. There is no doubt they are. The use of fossil fuels in thermal power will not come to an end tomorrow, and that is why I have shared the type of preparations and actions necessary for the future in my own words with our employees. I wanted them to have a proper awareness of the crisis.

These messages help broaden the right understanding of the situation and penetrate awareness that the future of thermal power using fossil fuels is shifting, but there is no need for undo concern. I have expressed these same things with our employees about "Project Change" and ESG management. My approach focuses on not making each site responsible for communicating and deepening understanding about corporate policy because IHI is such a large organization. All of this needs to be made clear to the executive officers, managing directors, businesses, and general managers. Otherwise, employees on the front lines will worry, which is something that must be avoided.

I have had a wide range of insights thanks to my interactions with our employees. Often, the things you think are happening are different from those that are actually happening on site. Sometimes, each site needs to correct the course of a measure. As an organization gets larger, it become more important for it is to take care in these efforts. If not done right, anything meant to incite change may in fact change nothing.

— Lastly, what is your approach to engagement with local communities and future generations? Would you mind also sharing any decisions about enhancing corporate value?

IHI has a jet engine plant in Soma City, which is located in Fukushima Prefecture. This region of Japan has relatively large earthquakes on an almost annual basis. With the recent torrential rains, Soma City has helped us in many different ways. In turn, we supported Soma City when it was afflicted by disaster. IHI views this kind of corporate citizenship as an essential effort. This approach is the same at other plants and offices in Japan in addition to subsidiary companies and plants overseas. We are grateful to the local communities where IHI is developing businesses. Building frameworks to prosper together with these communities is extremely important to business continuity. We can generate employment for communities where IHI is building businesses. The respect of human rights for everyone working within the Group and the establishment of a work-friendly environment create a business development cycle.

We also have to communicate the kind of company IHI is to future generations.

IHI teaches classes to the future generation at Shibaura Institute of Technology and other universities as an important engagement activity. Japan has lost the competitive edge it once had in some science and technology fields today. Therefore, our goal is to share the importance of science and technology as well as engineering and manufacturing in addition to explaining how IHI is involved with future generations. I hope this hints at the type of work people may want to do in the future.

The social problems that need to be tackled are enormously complex and will greatly impact humanity. The aim of the IHI Group is to "create a world where nature and technology work in unity." IHI will seek business opportunities to resolve social issues to live up to the expectations of all stakeholders by enhancing both social and corporate value.

Message from the Financial Officer

Enhancing Cash Generation Capabilities and Improving Corporate Value Along Three Axes

Takeshi Yamada
Executive Vice President
Senior Executive Officer

Corporate Value from Financial and Capital Strategy Policies Along Three Axes

The basic policy of the IHI Group's financial strategies is to maintain a sound financial position while making investments for sustainable growth through optimal allocation of funds, leading to enhanced corporate value. Financial strategies and capital policies do not exist independently, but are positioned as the foundation to realize the management strategy and business strategy.

What is the IHI Group's corporate value? It is the social value brought by resolving social issues through business activities, and one more is the economic value of profits and cash. What is important is that these are created in balance. In recent years, in addition to social and economic values, time value has also been emphasized. Social value and economic value are meaningless if they are short-term. Sustainable time value that continues into the future is required.

In the current medium-term management plan Project Change, social, economic, and time values are set as the three axes of corporate value, and we manage our business with the improvement of these in mind. This way of thinking will remain unchanged in the next medium-term management plan.

Management Indicator Changes and the FY2021 Financial and Capital Strategy Results

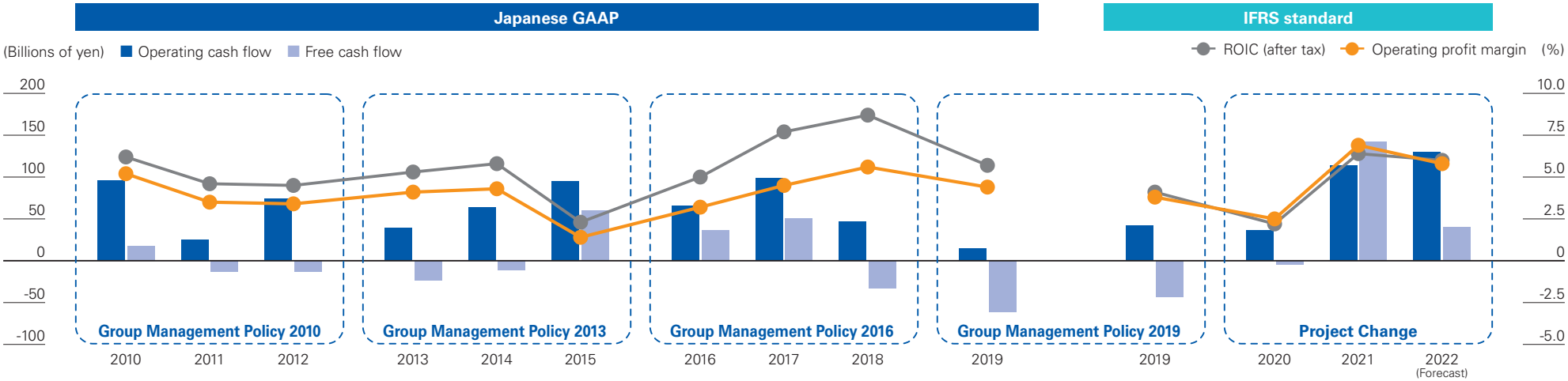
Group Management Policy 2019 and Project Change look closely into the global social issue of climate change as a risk and opportunity for the IHI Group. By focusing on this social issue, we were able to clarify the path that we must take, and, additionally, to organize the future management policies. In addition, with "growth" as the keyword and considering what we do for the future is important, we have set KPIs (key performance indicators) including capital efficiency.

Looking back at the IHI Group financial strategy together with the KPIs set in past medium-term management plans, in Group Management Policy 2013, "growth" was decided as the medium-term management plan keyword since the business scale had not grown that much, and arrangement of the liabilities had progressed, so we focused on expanding received orders and revenue. At this time, we received orders for a major North American LNG plant and maritime development projects, but we incurred a huge loss due to work schedule confusion accompanying major machinery transportation delays and lack of pre-investigation. For several years, we were forced to put out fires. We have reflected sincerely on the loss since fiscal 2013, and now we have progressed improvements in project risk management methods, so that large losses will no longer be incurred from projects.

This experience has led to the current onshore heavy machinery departments' (specifically the Resource, Energy and Environment; Social Infrastructure and Offshore Facilities; and Industrial Systems and General-Purpose Machinery business areas) profitability improvements. When the spread of COVID-19 caused a major blow to the civil aero engine business, which had been the mainstay of our operations, onshore heavy machinery departments were able to compensate for this to some extent. Meanwhile, even more investment capital is required for the creation of growth businesses being pushed in Project Change. In the past, we would sell assets to compensate for losses, but we predicted that in fiscal 2020 to fiscal 2021, securing an operating cash flow (hereinafter "operating CF") would be difficult due to the slump in civil aero engines, so we sold assets to secure investment capital in advance.

Regarding cash generation, by continuing meticulous improvement activities, the operating CF in fiscal 2021 was 114.1 billion yen, exceeding 100 billion yen for the first time. In this way, the operating CF standard greatly exceeded our assumptions, and we considered this as a significant achievement in terms of performance evaluation, and we developed a feel that, if we carry out this plan, we can generate CF. First, methods for earning operating CF require sufficient operating profits, but efficient business operation, in other words, working capital improvements, is also an important procedure, meaning there is room for further improvements. As a financial KPI, we aim for an 80-day cash conversion cycle (CCC). Shortening CCC by even just one day has an effect of about 4 billion yen in operating CF. In fiscal 2022, the plan is to secure an operating CF of 130 billion yen.

Past Medium-Term Management Plans and Trends in the Main Management Indicators



	Group Management Policy 2013	Group Management Policy 2016	Group Management Policy 2019	Project Change
	Growth	Strengthen earnings foundations	Full-scale business transformation	Preparation and transition for business transformation
Net sales/Revenue	Approx. 1,400 billion yen	1,700 billion yen	1,500 billion yen	1,400 billion yen
Operating profit	Approx. 70 billion yen	—	—	—
Operating profit margin	—	7%	8% or more	8% or more
ROIC (after tax)	6.5%	10%	10% or more	10% or more
D/E ratio	1.2 times or less	0.7 times or less	—	—
Investment standard (3-year)	400 billion yen	400 billion yen	420 billion yen	380 billion yen
CCC	—	—	80 days	80 days

This will be achieved by improving capital efficiency, such as reducing working capital, including inventory reduction, in addition to generating cash from normal operations.
The important points in the future financial and capital strategies of the IHI Group are to continue to conduct business that helps society move toward the future, and to create new businesses by making profits from these operations and using them as a source of investment capital. For example, cultivation of the ammonia value chain that the IHI Group considers to be our "killer content" business requires considerable growth investment. Currently, we are in the process of earnestly considering this scale of investment, but to create growth businesses such as the ammonia value chain, we think it is necessary to prepare as a source of funds over 30% (over 50 billion yen) of the total investment quota of 150 billion yen including the annual research and development costs.
If we calculate backward what level of business results we need to achieve to secure this investment capital, the operating income will be about 100 billion yen. Project Change's goal of an operating profit margin of 8% is a guideline to earning an operating income of 100 billion yen, and the operating CF generated from that is from 130 to 150 billion yen. If that is used as a source of funds, as well as putting in funds continuously to the growth investment, by earning profits through launching new businesses from here at an early stage, we think it will lead to contributions to all stakeholders including stockholders and employees.
To obtain the required investment capital, we will increase our cash generation capabilities such as improving the profitability in life cycle businesses (LCB). If there is a profit standard, then the balance sheet (B/S) is strong, which makes good quality fund procurement possible. Through capital measures, a specific goal for capital adequacy ratio is not set, but we will continue to secure a strong financial foundation.

Improve Cash Generation and Profitability Via Business Transformation Through Expansion of Life Cycle Businesses

The financial and capital strategies of Project Change, the final year of which is 2022, are assessed as having gone well overall. On the other hand, because of the environmental changes such as inflation in materials coming from unexpected geopolitical risks, etc., there are items for which the white flag has been raised concerning achieving set KPIs. Initially, of the increased profit amount estimated in Project Change, half has returned due to the elimination of the COVID-19 pandemic, and the remaining half has improved through our own efforts. Improvements progressed through our own efforts, but part of that was offset due to changes in the external environment. In fiscal 2022, the goal to achieve an 80-day CCC was set, but we expect it to be in the 90-day range. Since working capital efficiency is higher due to high inventories on the B/S, it is necessary to devise how to reduce inventories on the B/S and link this to cash. As there was a risk of disruption to the supply chain and difficulties in procurement of materials and equipment, we wondered whether we should reduce inventories to a just-in-time level. However, we have indeed achieved an 80-day CCC in the past (Japanese accounting standard), so this is not an impossible figure, rather an appropriate level. In fiscal 2023 to 2024, we will strive to achieve a CCC in the 80-day range, and we believe that improvement in the working capital is necessary to move in that direction.
LCB, a method for earning cash, is going well, and it has the momentum to surpass the initial plan. For LCB, the goal was put forward to increase the business scale by over 30% in the onshore heavy machinery departments in fiscal 2022 compared to fiscal 2019, and this looks like it will largely be achieved. However, LCB profitability varies according to each unit of business, and there is an issue with some fields having high profitability, while there are fields that do not earn very much. In the future, we will decide targets for each business, where it will be necessary to change policies and goals.
Generally, LCB have shorter delivery times and therefore generate cash more quickly. The profitability also has a higher added value than the main business, and this originates in the fact that LCB take root in diverse ideas. For example, LCB customer support earns a gross margin of over 30%, which means that expanding LCB will increase the profitability of the IHI Group as a whole.
LCB's biggest advantage is that the operating status of products supplied to customers can be comprehended. If the knowledge obtained here is fed back, this can lead to increased product quality and improved performance, and so we expect that we can develop products with a large competitive advantage. Up to now, the majority of sales in customer support businesses were of a "wait-and-see" style in which the salesperson would go out to a customer if contacted by the customer. Recently, based on the policy of strengthening LCB, we actively invest resources such as human resources and funds in the LCB business, for example, placing the best staff there, so the transformation is starting to move toward a proposal-style solutions business. One tool for this purpose is the utilization of digital. We make effective proposals for the customer, and expect that this will lead to a synergy in which our added value rises.

Future Ways of Thinking and Criteria Concerning Growth Investment

The important point in the financial and capital strategies in the next medium-term plan is to materialize Project Change further. We want all investors to feel the three corporate values of social value, economic value, and time value.

Regarding growth investment in the next medium-term plan, discussions about figures are for later, but a continuation of the situation up to now is important. We will maintain at least 150 billion yen annually in investment and financing such as facility investment, research and development investment, and M&A, and we think that over 30% of that should be allocated preferentially in growth businesses. Since there is a tendency for lots of small businesses to be created if investment is too diversified, we narrow down businesses and focus investments. As a result of this, growth investment in the next 10 years will be on the scale of 500 billion yen. Up to now, our company rules set an internal profit rate of 10% or more within a payback period of 10 years as a guideline for judging whether or not to invest, and we have discussed the propriety of investments in a meeting body called the investment review board. However, regarding new businesses with the purpose of resolving the social issue of climate change, for example, in the case of building the ammonia value chain, an investment on a scale of several tens of billion yen is required. As this project will create new markets in the future, if scrutinized based on the existing markets, it may not be accepted as an investment project. Thus, we have introduced the concept of two-sided management in which reviews are conducted of growth investment with a different way of thinking than the investment reviews up to now. Specifically, we have started from fiscal 2021 to take the stance of, having decided an investment quota of a certain scale, make the judgment focused on whether or not the investment aligns with the IHI Group management policy rather than on the internal profit rate.

From the fund procurement perspective, transition bonds of 20 billion yen were issued on June 6, 2022. Since businesses related to climate change will be viewed with an eye on the future and a considerable scale of investment is anticipated, we think that transition bonds are an effective fund procurement method. When the transition bonds were issued, the bond issuance environment was not very good, but we were able to issue them on generally low terms.

Regarding M&A, rather than implementing large-scale investment projects, we consider projects that will supplement IHI Group businesses, and emphasize the importance of synergistic effects in particular. For M&A, we want to carry out the sale or purchase in as short a time as possible. Rather than being particular about the other party's business profit rates, we consider it a good deal if IHI's "killer content" business will become stronger if the key content the other party owns is incorporated.

Policies Concerning Stockholder Returns and Information Disclosure

To cause the stock price to rise, stockholder returns are recognized as important. With the foundation of dividends that are stable and paid out continually, and a consolidated payout ratio of around 30% as a guideline, while taking into account the overall balance such as investment and strengthening equity capital, we determine the dividend amount. Going forward, if we grow profitably, we want to increase the dividend as well.

To raise corporate value, it is necessary for stakeholders including investors to firmly understand our activities and way of thinking. For that purpose, we view information disclosure to be extremely vital. We conduct IR and SR activities with the need to communicate information in a timely, accurate, and easy-to-understand manner. We think that impartiality in information disclosure is important, so we disclose materials related to financial results and securities reports in Japanese and English on the same day. We try to accurately understand the expectations and issues of the capital markets, and to incorporate those into the disclosed materials.

We hope that investors will cooperate in various aspects of the IHI Group's business transformation and accompany us over the long term.

Main Management Indicators (Consolidated)

	IFRS standard			
	FY2019	FY2020	FY2021	FY2022 (Forecast)
Orders received	1,280 billion yen	1,097 billion yen	1,261.2 billion yen	1,330 billion yen
Revenue	1,263.1 billion yen	1,112.9 billion yen	1,172.9 billion yen	1,350 billion yen
Operating profit	47.8 billion yen	27.9 billion yen	81.4 billion yen	85.0 billion yen
Profit attributable to owners of parent	8.2 billion yen	13 billion yen	66 billion yen	50 billion yen
Operating cash flows	42.4 billion yen	36.3 billion yen	114.1 billion yen	130 billion yen
Investment cash flows	-85.5 billion yen	-40.4 billion yen	27.9 billion yen	-90 billion yen
Free cash flow	-43 billion yen	-4.1 billion yen	142 billion yen	40 billion yen
Dividends per share	50 yen (¥30 interim; ¥20 year-end)	0 yen	70 yen (¥30 interim; ¥40 year-end)	80 yen (¥40 interim; ¥40 year-end)
ROIC	4.1%	2.2%	6.4%	6.8%
Operating profit margin	3.8%	2.5%	6.9%	6.3%
CCC	92 days	124 days	112 days	96 days
D/E ratio	2.00 times	1.85 times	1.24 times	1.05 times
ROE	2.8%	4.5%	19.3%	12.6%
Ratio of equity attributable to owners of parent	15.0%	16.4%	20.3%	22.9%

ROIC: (Operating profit + Interest and dividend income) after tax / (Equity attributable to owners of parent + Interest-bearing liabilities)
Cash conversion cycle: Working capital / Revenue × 365 days
D/E ratio: Interest-bearing liabilities / Total equity
ROE: Profit attributable to owners of parent / Equity attributable to owners of parent
Ratio of equity attributable to owners of parent: Equity attributable to owners of parent / Total liabilities and equity

Message from the ESG Officer

Solving Social Issues with Our Greatest and Unique Asset — Human Resources

Akihiro Seo
Director, Managing Executive Officer
In Charge of ESG

Ideal Relationship of the Individual and the Organization for the IHI Group

"Human resources are our single most valuable asset." This is the value that the IHI Group considers vital, and is one of the two management philosophies. Human resources are a true driving force that creates value, and the company has grown precisely because of the growth of its employees. What is important "now" for the IHI Group to continue to grow and exist as a company in society in the future? That is, each and every employee have a renewed understanding of our management philosophy of "Contribute to the development of society through technology," and our sustainability goal of "Creating a world where nature and technology work in unity," and that they are aware of other parties, think for themselves to tackle the job proactively, considering things as their responsibility. In addition, we believe that key elements to attaining sustainable growth are to align the organization and employees and ultimately to maintain a relationship where we contribute to each other's growth and the ideal relationship of the individual and the organization.

Material Issues in the IHI Group's ESG Management, and Our Goal for Society (S)

We announced IHI Group's ESG Management (hereinafter, ESG Management) in November 2021. The IHI Group will "Create a world where nature and technology work in unity." This sustainability goal is, in other words, to address every social issue through business, create social value, and together, enhance the corporate value. To realize this goal, we set the material issues that must be addressed preferentially in ESG management. In total, there are four material issues - working on countermeasures to climate change as one of the biggest social issues; respecting the human rights of all people involved in our business; accepting and promoting diverse and inclusive workforce; and lastly, securing stakeholder trust through business activities.

To contribute to the resolution of social issues and realize our sustainability goal, coordination and collaboration with a variety of stakeholders is essential. It is the “people” who support this, and without respect for each other's values and individuality, cooperation and collaboration cannot be achieved. From that fact, we believe that human rights and diversity and inclusion are the pillars of the society (S) aspect of ESG Management.
The long-term goal of IHI Carbon Neutral 2050 has been set concerning the environment (E) of ESG Management. Regarding society (S), it is necessary to determine equally high goals and specific activities to be undertaken in the future. We will not only make decisions from the top down, but also through workshops, etc., we will show the company's direction to the entire group, aligning the company's and employees' vectors. Since the society (S) of ESG Management includes many factors affecting the individual directly such as human rights and work-style reforms, the key is to create opportunities for employees to understand and empathize with ESG issues and to see them as "their own business”. I believe that my role is to encourage this.

Human Rights as the Driving Force for Growth

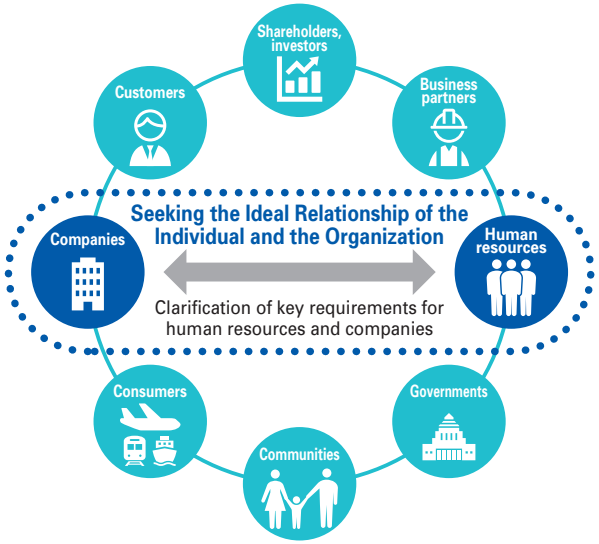
The IHI Group’s business activities impact the environment and society across the whole value chain. In order to address climate change, a material issue for E (environment), we are working to reduce greenhouse gas emissions not only in our own business, but also throughout the entire process from the procurement of raw materials to the disposal of products. On the other hand, as a member of society, a company must respect the human rights of the various people it interacts with through its business activities. We are aware of the impact of business activities on society, and as with the environment, so also with human rights, we are responsible for conducting business activities that consider the human rights of people connected to us in the value chain.

The vital thing about human rights is to conduct dialogue to deepen mutual understanding with stakeholders that are rights-holders. IHI's goal of an ideal relationship of the individual and the organization is one that not only does not violate the human rights of stakeholders, but one that also enables us to provide higher value. Our business is to maintain societal infrastructure to enrich the lives of all people. On the other hand, dialogue is necessary to comprehend the negative impact our business has on people in the entire value chain.
This way of thinking is also necessary in the process of shifting our business toward carbon neutrality. For example, we are shifting in a direction of suppressing coal use globally, but the impact on people that have been involved up to now in business such as coal-mining or power generation is considerable. We will transition to a decarbonized society without diminishing the quality of life of such people, in other words, for a just transition, a close dialogue between stakeholders is essential.

Diversity and Inclusion Drives Value Creation

In the perspective of diversity and inclusion that considers the entire value chain, through the network centered on human resources that are the driving force for realizing the image aimed for, we aim to maximize corporate value and social value.
Many diverse and complex social issues cannot be resolved by the IHI Group alone, and for precisely this reason, we must cooperate and collaborate effectively with a variety of stakeholders. For that reason, we strengthen partnerships with stakeholders and aim for coexistence and co-prosperity. Before we can address complex social issues, we must obtain human resources with flexible ideas, and have an organization with the flexibility to convert those ideas into businesses. Creating an organizational culture will enable the IHI Group to organically connect diverse viewpoints, seek the ideal relationship of the individual and the organization, and generate innovation and creation.

Seeking the Ideal Relationship of the Individual and the Organization



A Robust Structure to Promote ESG Management

To conduct ESG Management effectively, we must arrange a system so that our total power as a group is increased through organic ties between businesses.
From fiscal 2021, the IHI Group has established the ESG Management Promotion Committee in which the CEO acts as chairperson. This committee holds the purpose of evaluating and improving their implementation state, as well as considering basic ESG basic management policies and specific measures.
As an issue going forward, we believe that it is necessary to review corporate functions from their fundamentals. To penetrate ESG Management for the whole group, a firm foundation of corporate departments to carry out various strategies.

Diverse human resource activities are realized from the ideal relationship of the individual and the organization.

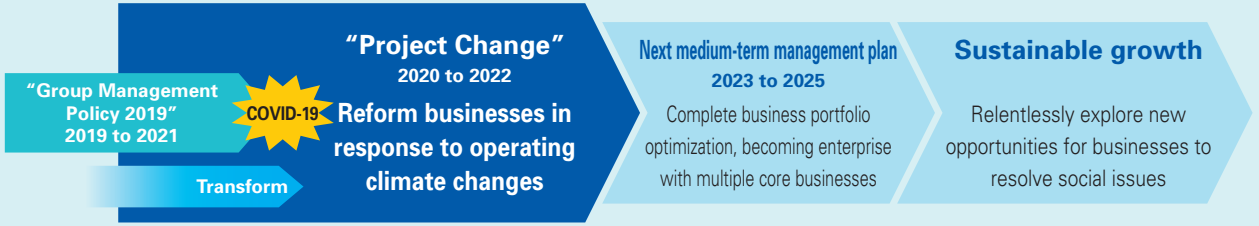
Medium-Term Management Policy "Project Change"

In November 2020, the IHI Group has been moving forward with its Medium-Term Management Policy "Project Change", positioned as a preparation and transition phase for business reform in response to environmental changes to 2022. The plan retained the basic concept of our previous medium-term management plan, Group Management Policy 2019. Under "Project Change," we aim to swiftly return to a growth trajectory by pursuing business structure transformation that will enable us to overcome operating environment changes, implementing financial strategies that will strengthen our earnings foundations, and steadily expanding our life cycle businesses. Furthermore, we are accelerating the creation of growth businesses capable of contributing to a sustainable society, and moving forward with transforming our business portfolio.

The earnings forecast for fiscal 2022, the final year of "Project Change", is expected to fall short of the management target due to the impact of the COVID-19 pandemic, disruptions in the supply chain, soaring raw material prices, and the emergence of geopolitical risks.

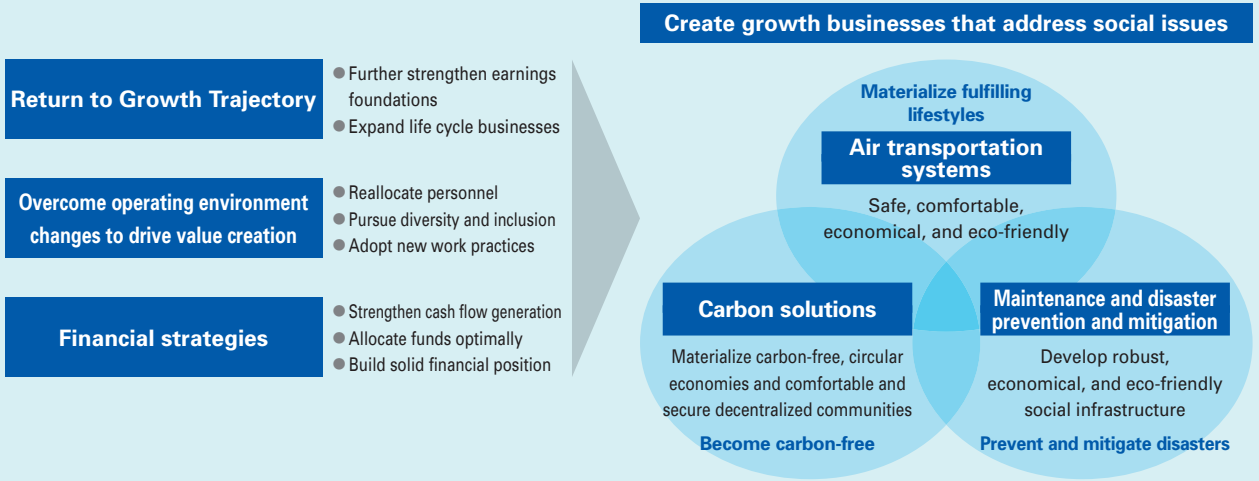
However, we will continue to respond to rapid changes in the business environment with a sense of speed by returning to a growth trajectory by strengthening our cost structure and further accelerating the expansion of our life cycle business by strengthening our revenue base through business structure reforms and further accelerating the expansion of our earnings foundations on the premise that airline demand will recover as the COVID-19 pandemic subsides.

Positioning

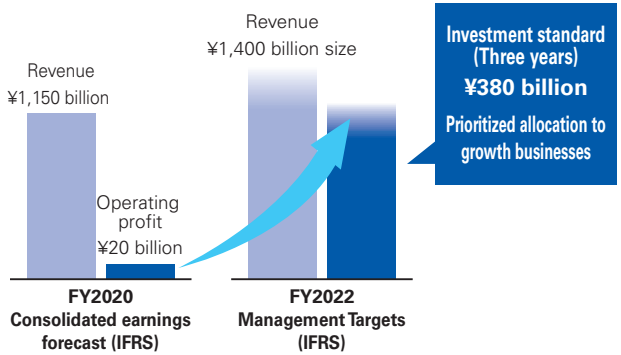


Retain basic concepts from the Group Management Policy 2019

"Project Change" emphasis: Management that embraces ESG values



FY2022 Management Targets (IFRS Basis)



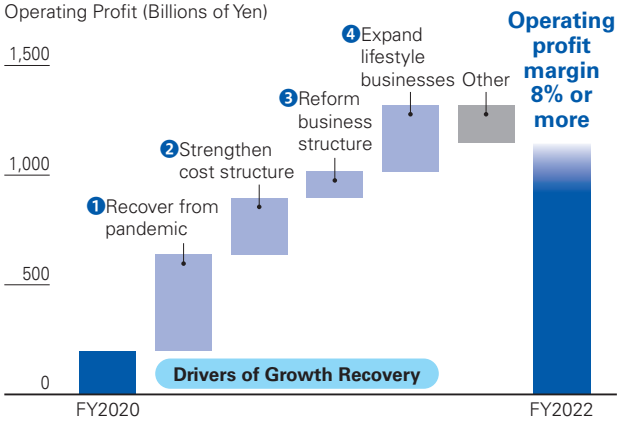
Content of Management Targets

Capital investment efficiency	ROIC (after tax)*1	10% or more
Cash generation capabilities	CCC*2	80 days
Profitability	Operating profit margin	8% or more

*1 ROIC (after tax): (Operating profit + Interest and dividend income) after tax / (Owned capital + Interest-bearing liabilities)

*2 Cash conversion cycle (CCC) = Working capital / Net sales × 365 days

Path to achieving management goals (at the time of planning)



"Project Change" Second-Year Summary

Recognition

<A world in which dramatic changes have become normalized>

- Frequent and major natural disasters
- Prolonged impact of the COVID-19 pandemic
- Surging toward carbon neutrality
- Increasingly uncertain world situation

Results

- Fiscal 2021: Higher revenue and profits than in the previous fiscal year
  Revenue: 1172.9 billion yen an increase of 5.4% year on year
  Operating Income: 81.4 billion yen an increase of 53.5 billion yen year on year
  Mainly due to an increase in sales of spare parts for commercial aero engines, higher sales in the nuclear power business and heat and surface engineering business, as well as the sale of large assets (59 billion yen).
- Favorable progress in expanding life cycle businesses
- Accelerated initiatives for creating growth businesses

Challenges

- Build a revenue base that can withstand change (reinforce cash generation capabilities)
- Change business structure based on the assumption that "dramatic changes will become the norm"

Business Results and Forecast

Earnings for fiscal 2022 are expected to fall short of Medium-term Management Policy targets due to the impact of the COVID-19 pandemic, disruptions in the supply chain, soaring raw material prices, and the emergence of geopolitical risks.

	FY2021 Results	FY2022 Forecast
Revenue	¥1,172.9 billion	¥1,350 billion
Operating profit	¥81.4 billion	¥85.0 billion
Operating profit margin	6.9%	6.3%
ROIC (after tax)	6.4%	6.8%
CCC	112 days	96 days

Initiatives

●Financial Strategy: Strengthen Cash Flow Generation

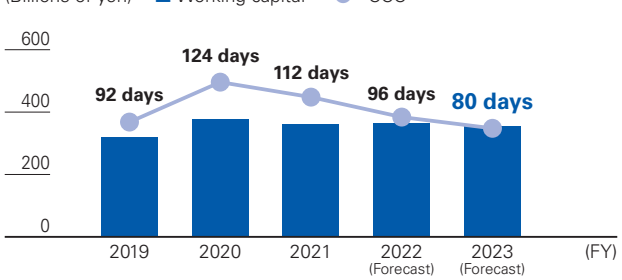
Evaluation

As a result of efforts to reduce working capital, such as reducing excess inventories, shortening lead times, and tightening deposit and withdrawal management, operating cash flow exceeded the 100 billion yen level in fiscal 2021, and CCC steadily improved.

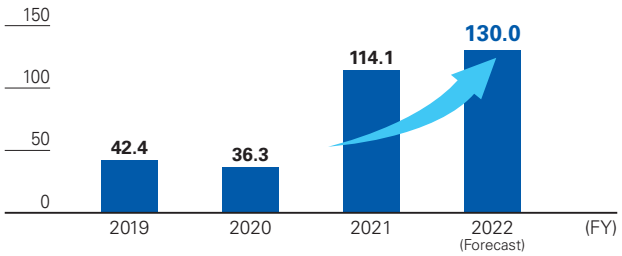
Forecast

We will speed up changing our business models and business processes to promote a shift to business operations that are focused on cash generation.

Cash Conversion Cycle (CCC) by Year



Operating Cash Flows



●Return to Growth Trajectory: Expansion of Life Cycle Businesses

Results

Life cycle businesses revenue for fiscal 2021 increased 17% (compared to fiscal 2019)

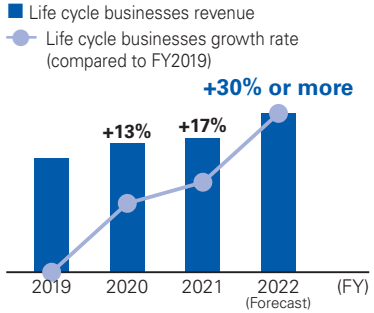
Forecast

In fiscal 2022, we will promote the active use of DX, shift resources, and focus on global deployments, aiming to expand by more than 30% (compared to fiscal 2019) in the three sectors excluding the Aero Engine, Space & Defense Business Area.

Initiatives for Expanding Life Cycle Businesses

- Resource shifts
- DX promotion
- Global deployments

Life cycle businesses sales



●Business Constitution for Overcoming Changes in Business

- Emphasize diversity in order to promote the creation of new ideas and value
- Promote the creation of an environment that enables flexible work styles and autonomous career development in which each and every one of us can work independently and actively and take on challenges on our own
- Attract professionals

➡P.55 Human resource strategy

●Creation of Growth Businesses

Progress in deploying growth businesses

Carbon Solutions

- Demonstration and development of ammonia combustion technology and promotion of overseas expansion
- Examine ammonia production business for the establishment of the ammonia value chain and develop reception and storage technologies
- Promote the development of carbon recycling technologies such as methanation
- Participation in the Small Module Reactor (SMR) project
- Development of Electric Turbocharger (ETC) for fuel cell vehicles

Maintenance and disaster prevention and mitigation

- Incorporation of countermeasures work in the National Resilience Plan
- Promotion of our rocket, satellite, and data utilization businesses
- Expand business by upgrading water utilization and flood control management systems

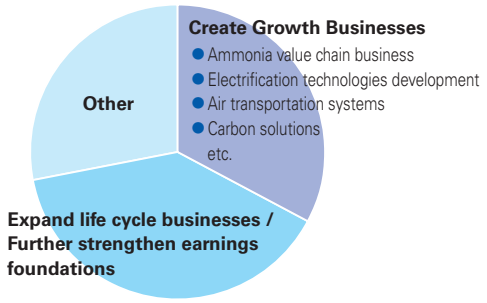
Air transportation systems

- Acceleration of the development of composite fan blades and ceramic matrix composites (CMCs)
- Participation in the conceptual design of next-generation engines

Investment stance

- We plan to make investments that exceed levels before experiencing the impact of the COVID-19 pandemic
- More than 30% of investment funds (around 50 billion yen) will be allocated to the creation of growth businesses
- In order to secure investment resources, we transferred large-scale fixed assets from fiscal 2020 to fiscal 2021
- In fiscal 2022, we raised funds through transition bonds

FY2022 Investment Amounts by Purpose



Growth Businesses / Carbon Solutions

Aiming for Carbon Neutrality by 2050

Social Issues Addressed by IHI

Growing demands for decarbonization, including the Japanese government's 2050 Carbon Neutral Declaration, are aimed at the reduction of risks associated with climate change. The IHI Group will transition its energy mix toward 2050 for a society centered on the use of hydrogen, ammonia, and renewable energy. At the same time, in response to this spread of renewable energy, the IHI Group will be able to combine the use of nuclear power generation as a base power source with the adaptability associated with the rollout of small nuclear reactors. In addition, we believe that decarbonization technologies that capture and use CO_2 will provide support during the transition period until 2050. Therefore, we consider the realization of decarbonization, in which environmental performance and economic rationality are compatible, to be a social issue that needs to be addressed.
In particular, we establish the following three items as specific issues.

1. Decarbonization of the energy value chain
2. Realization of safe and eco-friendly nuclear power generation capable of load adjustment
3. Realization of carbon recycling

IHI's Business Opportunities

●Ammonia Project

Since ammonia does not emit CO_2 when combusted, its use as a fuel will lead to the decarbonization, such as for thermal power generation. The IHI Group considers the entire ammonia value chain as a business opportunity, and together with user-side initiatives, making efforts to develop technology for the supplier side and commercializing them. As an example of a user-side initiative, we have already been working on the development of environmentally friendly technology to combust ammonia stably. Our strength is that development has already gone ahead with demonstration tests using actual boilers and other. In addition, on the supplier side, we are working on developing technology to synthesize ammonia efficiently, with the aim of early establishment of an ammonia value chain.

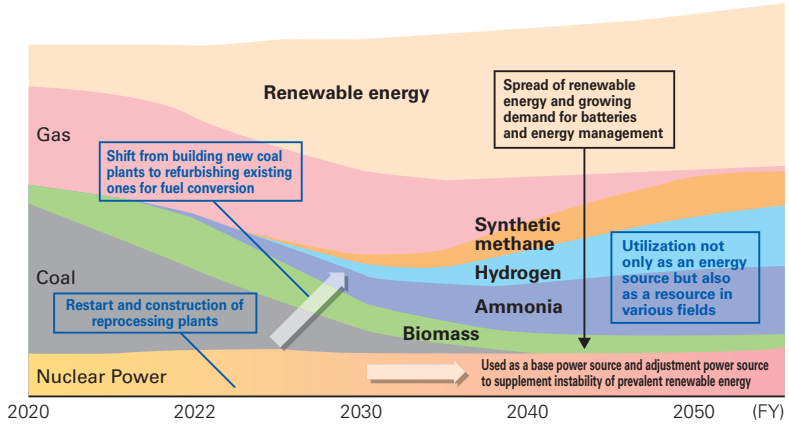
●Small-Scale Nuclear Power Generation

IHI's involvement in the small-scale nuclear power business via the nuclear power technology developed until now is a large business opportunity. Societal trends are also backing this business, with the Japanese government's Sixth Strategic Energy Plan publicizing the progress in initiatives targeting R&D and demonstrations through international collaboration in small modular reactor (SMR) technology. In addition, in the U.S.-Japan Joint Leaders' Statement issued in April 2021, the launch of a "U.S.-Japan Climate Partnership" and a "U.S.-Japan Competitiveness and Resilience (CoRe) Partnership" was announced, and the future commercial expansion of innovative nuclear power including SMR is anticipated.

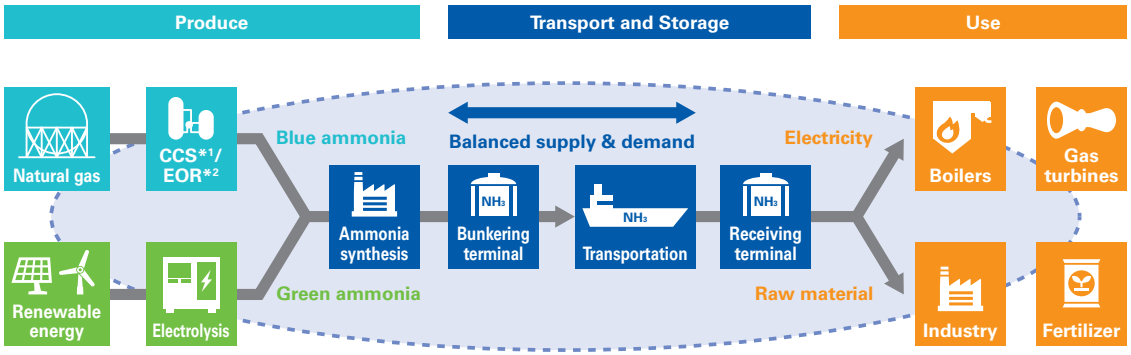
●Carbon Recycling

The IHI Group is not only developing CO_2 capture technology, but also technology to produce hydrogen efficiently, and technology to convert CO_2 to value-added materials through its reaction with hydrogen. Since CO_2-derived value-added materials are relatively expensive compared to conventional materials, cutting costs is important in commercializing them. By combining three technologies, the IHI Group is conducting significant cost-cutting initiatives through the effective use of energy and other means.

Estimated Change in Proportion of Energy Resources by 2050



Constructing the Ammonia Value Chain



*1 CCS: Carbon dioxide Capture and Storage
*2 EOR: Enhanced Oil Recovery

Commercialization Possibilities Under Consideration by IHI

●Ammonia Project

We will stimulate demand for fuel ammonia toward 2030. With comparatively low investment costs for that purpose, we will move forward with development of technologies enabling modification of existing facilities to become suitable for fuel ammonia. At the same time, we will prepare infrastructure and standards for fuel ammonia, and work on the expanded use and spread toward 2040. For that purpose, IHI will not only conduct R&D, but will also drive public–private collaboration to build the necessary standards and mechanisms to popularize fuel-ammonia. Subsequently, through IHI itself taking the initiative for and executing three "Actions" simultaneously, as well as contributing to the expansion of the ammonia market, we will make connections to IHI businesses.

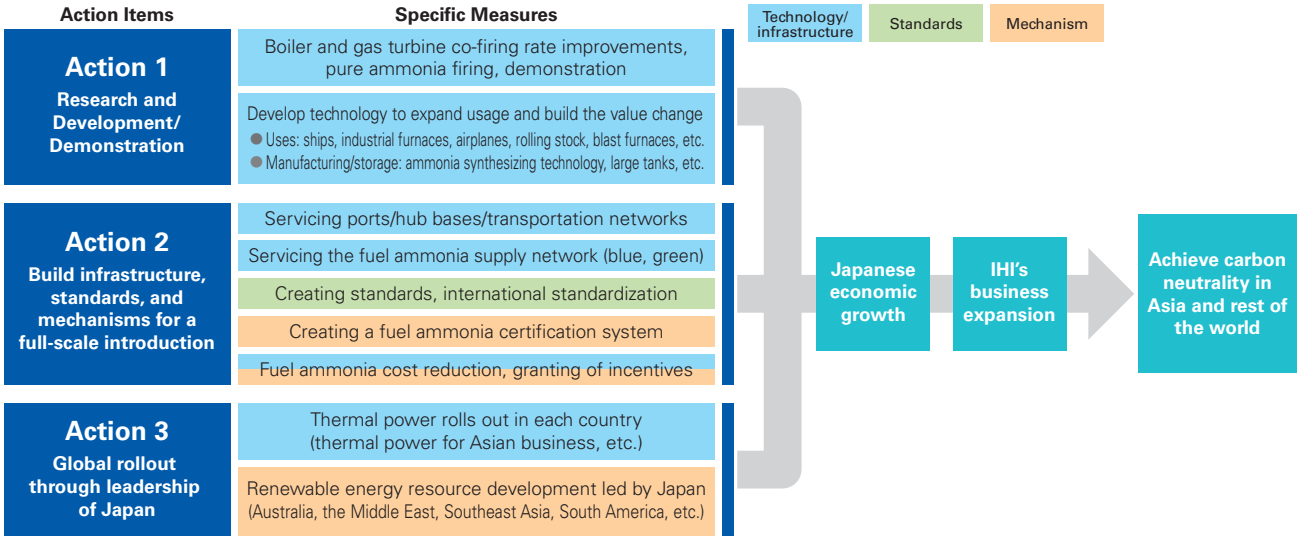
●Small-Scale Nuclear Power Generation

The SMRs of the US company NuScale Power, LLC that IHI invests in are capable of load-following operation by operating while controlling the number of units, and are expected to play the role of regulating power sources for renewable energy. In addition, the same SMR has completed design certification by the US Nuclear Regulatory Commission (NRC), the first for an SMR. The company is expected to take a certain share of the future global market. The plan is to shoulder the core of the business by making use of a rich track record and through supply of the main machines and engineering.

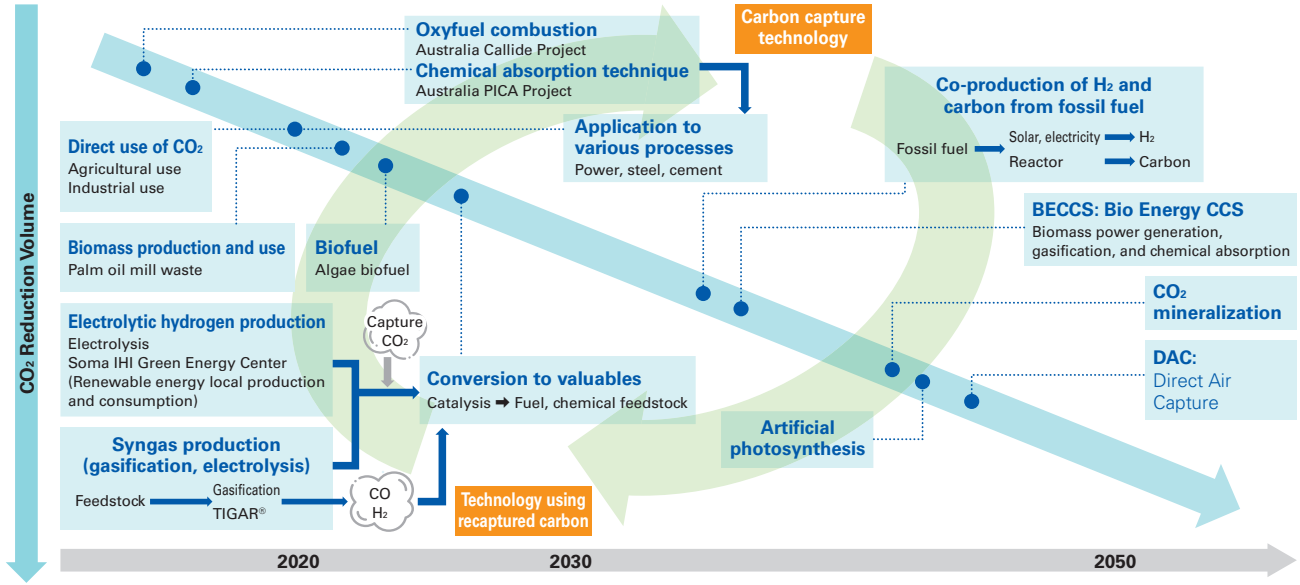
●Carbon Recycling

We are going to provide CCUS technology to target industries searching for CO_2 capture as a decarbonization method, and the industry searching for carbon-neutral fuels and raw materials. In addition, forest conservation that takes up part of carbon recycling not only fixes CO_2 but also leads to the protection of the ecosystem existing there. We will work on large-scale forest conservation by making use of our strengths in technology using artificial satellite data advanced over many years within space development, and climate observation and prediction technology.

Action Under Consideration by IHI for Implementation of Fuel Ammonia Society



Carbon Recycling Road Map

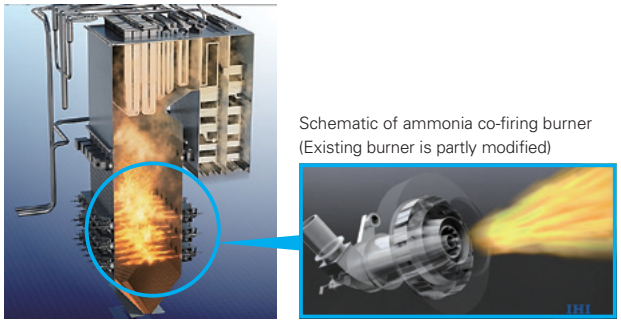


IHI's Specific Products and Technology

●Ammonia Project

● Boiler Firing Technology

IHI's technological strength in thermal power generation boilers is to reduce the emissions of hazardous substances (NOx) to the same quantity as in the case of coal firing, while keeping the ammonia firing state stable. Usually, ammonia burns slowly, so a mechanism is necessary to make it combust stably in a boiler. Also, if it is not combusted appropriately, substances such as nitrogen oxide that cause acid rain and global warming will be produced. There is a trade-off between the conditions under which ammonia stably combusts and the conditions under which hazardous substances are easily emitted. To resolve this issue, we advanced development of the burner and identification of suitable combustion conditions. As a result, we are leading the world in being able to work on demonstration tests using an actual boiler. In demonstration tests on an actual machine, together with JERA Co., Inc., we are working on power generation demonstrations via coal and ammonia gas co-firing in a large, commercial coal-fired power generation unit. As a project subsidized by the New Energy and Industrial Technology Development Organization (NEDO), we are moving forward with a demonstration project at JERA's No. 4 Thermal Energy Power Plant aimed at establishing technology in which fuel ammonia is 20% co-fired in fiscal 2023. This demonstration project is an important first step toward low-cost and speedy decarbonization for countries including Japan that require thermal power generation.



Schematic of ammonia co-firing burner (Existing burner is partly modified)

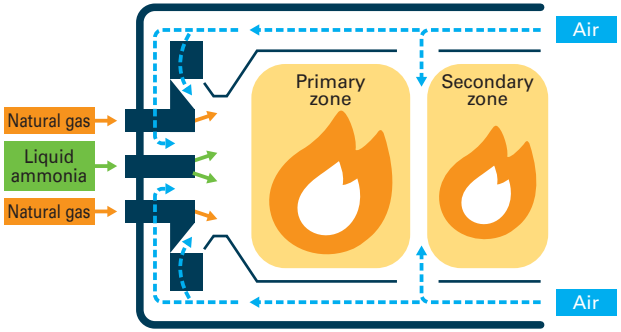
Power generation boiler

On the other hand, we are aiming to improve further the co-firing ratio, and using the Green Innovation Fund, we are developing a new burner that can co-fire with over 50% ammonia by fiscal 2024, and are advancing development targeting a demonstration by fiscal 2028. In addition, we are progressing development in parallel aimed at pure ammonia firing, and we succeeded in pure ammonia firing in an NOx state in the small combustion test facilities at the IHI Aioi Works in May 2022. Due to this, the practical realization of pure ammonia firing technology in thermal power generation boilers made a significant advance. Going forward, we will implement evaluations of impacts on burner structural improvements and boiler performance, and for the demonstration of the pure ammonia-firing burner, we are aiming for a demonstration test in 2025.

● Gas Turbine Combustion Technology

IHI's strength in gas turbines is that we are the only company in the world that can burn 100% liquid ammonia. Since ammonia that is stored in a liquid state is used directly without converting to a gas, as well as ancillary facilities being unnecessary, it has advantages such as improved control. Usually, since liquid ammonia has a lower combustibility than natural gas and ammonia gas and is harder to burn, when the ammonia co-firing ratio is increased, stable ammonia combustion and suppression of emission of greenhouse gases in the exhaust gases are issues. Until now, when operating with a high ammonia co-firing ratio exceeding 70%, a type of greenhouse gas with approximately 300 times the greenhouse effect of CO_2, nitrous oxide (N_2O), is generated, and the issue is that even if CO_2 emissions are reduced, this does not lead to a reduction of greenhouse gases. Therefore, we worked on development related to a new combustor and combustion conditions, and as a result of running a test with a newly developed combustor installed in a 2,000-kW gas turbine in the IHI Yokohama Office, greenhouse gas reduction of over 99% was achieved even with a high ammonium co-firing rate of 70% to 100%, and power generation at a rated output was demonstrated with liquid ammonia-only combustion. In future development, we will improve operability as well as further reduce NOx reduction, and conduct durability evaluations over a long duration, and we will advance the initiative toward practical use of 100% liquid ammonia combustion gas turbines in 2025.

Gas Turbine Two-Stage Combustion Method



● Design and Construction of Liquid Ammonia Storage Tanks, Etc.

IHI's strength regarding ammonia storage tanks is that we are the top manufacturer in Japan with a design and construction track record of approximately 30% of LNG receiving stations in Japan and approximately 50% of LNG storage tanks. Also, the structural design, material technology, and manufacturing technology supporting that are strengths. Currently ammonia is used as a raw material, but when used as a fuel, a far larger quantity is required. Therefore, by expanding the technology developed until now for receiving and storing ammonia, IHI is working on development of a large ammonia-receiving base to build at a low cost and at an early stage infrastructure for efficiently receiving large quantities of imported ammonia. In the future, we aim to enlarge the bases to the same scale as bases for receiving liquefied natural gas (LNG), and aim to complete development in 2025.

●Carbon Recycling

● Development of technology for synthesizing methane, a main constituent of city gas, using captured CO_2 as raw material

For CO_2 separation and capture technology, we demonstrated performance for operating times exceeding 13,000 hours in an actual thermal power plant, and we provide customers with economical CO_2 separation and capture equipment. In methane synthesis technology, we are working on development of a catalyst with the characteristic of a long lifespan. By providing CCS and methane synthesis technology as a set, we increase the efficiency of the

whole process from CO_2 separation to methane synthesis. In addition, as strengths in engineering capability for implementation, as a NEDO green innovation fund project, for nine years from 2022, we have been selected as the intended implementer of development of innovative methane synthesis technology using low-temperature processes. We will be in charge of engineering for implementing groundbreaking methane synthesis methods in society.

● Collaborative Development of Technology to Convert CO_2 to Value-added Materials with World's Top Class Research Institution

We have signed an MoU (memorandum of understanding) with the Institute of Sustainability for Chemicals, Energy and Environment (ISCE2)*, a research institution affiliated with the Singapore Agency for Science, Technology and Research (A*STAR), to establish a joint center for conducting joint research and development. From 2011, we worked on joint research and development of methanation catalysts with ISCE2's predecessor, the Institute of Chemical and Engineering Sciences (ICES), and we completed the joint research in 2018. In 2019, we launched demo equipment at ICES for methanation technology for synthesizing methane from CO_2, and in 2021, we delivered the first IHI machine to a customer for demonstration test purposes.
Due to the establishment of the joint center, as well as conversion from CO_2 to value-added materials represented by methanation, lower olefins, and sustainable aviation fuel (SAF) as part of the development related to carbon solutions that we are working on, we will also accelerate development of the technology required for a recycling-oriented society.

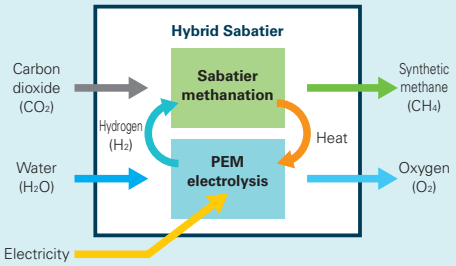
● Creating Value of Natural Capitals

IHI will drive forward a business partnership with Sumitomo Forestry Co., Ltd. regarding Forest Management Consulting Business and Developing sustainable businesses that maximize the value of natural capital. We are currently developing methods to widely spread Tropical Peatland Management Technology to the world, with the aim of commencing business rollout in 2022. In addition, we will evaluate with high precision the value of forests as natural capital that goes beyond carbon dioxide absorption as well as develop monitoring methods.
Sumitomo Forestry's significant strengths are the forestry management technology it developed in Japan and overseas, the tropical peatland management technology in Indonesia, which is a unique example of success globally, and the accumulation of ground measurement data. The IHI Group's strengths are the technology using artificial satellite data advanced over many years within space development, and climate observation and prediction technology. Combining both companies' strengths, we will develop methods to spread widely around the world tropical peatland management technology, and are aiming to commence rollout as a consulting business in 2022.

* The Institute of Sustainability for Chemicals, Energy and Environment (ISCE²): a new research institute established by A*STAR to support Singapore's sustainability goals.

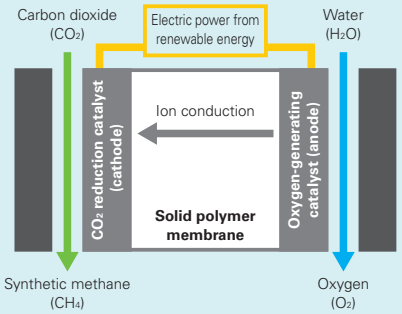
Main Research and Development Topics Synthetic Methane Manufacturing

❶Hybrid Sabatier method



- JAXA: responsible for device improvement and evaluation
- Tokyo Gas: responsible for evaluation and continuously running testing

❷PEM CO_2 reduction technology



- Tokyo Gas: Responsible for device improvement, evaluation, and continuously running testing

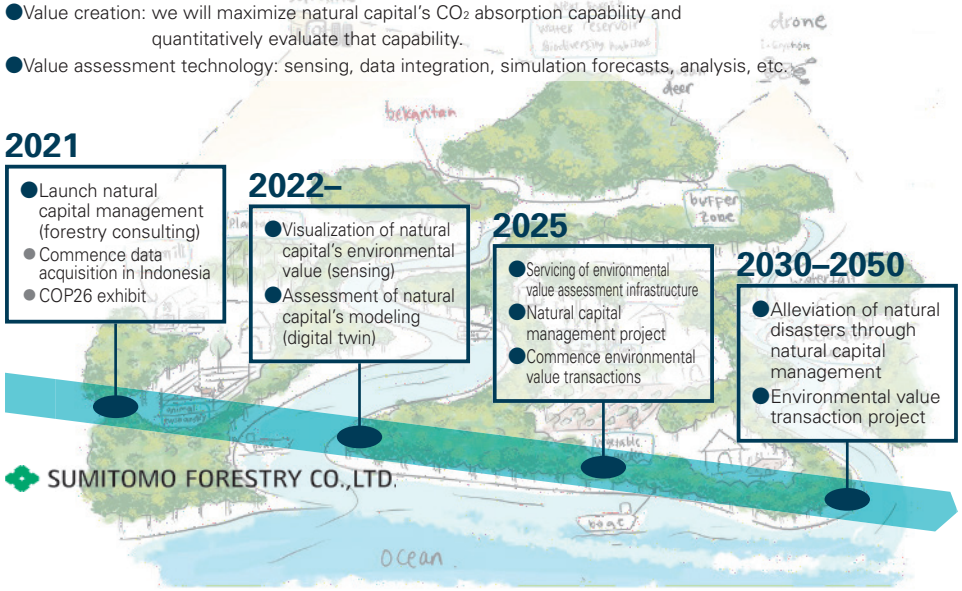
❸Scaling up development

- IHI: responsible for scale up development of Hybrid Sabatier technology and PEM CO_2 reduction technology
- Tokyo Gas: responsible for evaluation and running testing

Natural Capital Value Creation Road Map

We will create natural capital's environmental value and provide it to society

- Value creation: we will maximize natural capital's CO_2 absorption capability and quantitatively evaluate that capability.
- Value assessment technology: sensing, data integration, simulation forecasts, analysis, etc.



Aiming for Safe and Clean Transportation

Social Issues Addressed by IHI

●Air Transportation Systems

In the aviation industry, reduction of CO_2 emissions to realize environmentally friendly air transportation is an issue. A switch from conventional jet fuel to sustainable aviation fuel (SAF) is expected. In October 2022, the International Civil Aviation Organization (ICAO) adopted the goal of effectively zero aircraft CO_2 emissions by 2050.

●Automobiles

To achieve carbon neutrality, the migration to electric cars and fuel cell vehicles is progressing in the automobile industry. While each automobile manufacturer is advancing development of technology for decarbonization in their respective scenario, we are working on decarbonization in the automobile industry through technological issue resolution in which each scenario is imagined.

IHI's Business Opportunities

●Air Transportation Systems

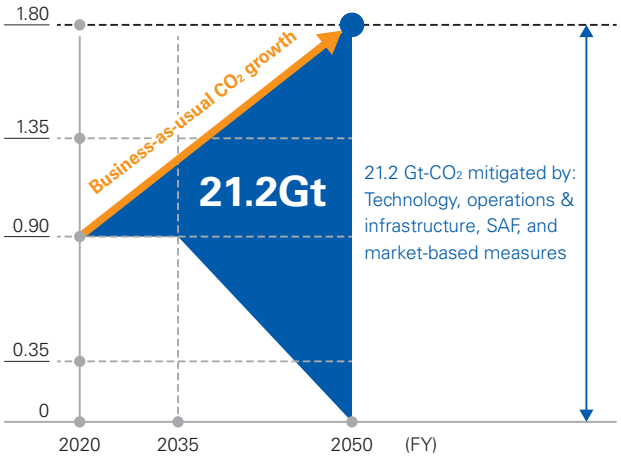
In December 2021, the Japanese Ministry of Land, Infrastructure, Transport and Tourism announced the schedule for reduction of CO_2 emissions in the aviation field, and launched policies for investigating specific measures in the three fields of (1) introduction of new technology to aircrafts, maintenance items, etc., (2) operation improvement based on optimized flight profiles, (3) SAF introduction and promotion. The IHI Group perceives these kinds of movements toward decarbonization in the aviation field as business opportunities. In particular, with the strength of our value chain and track record in developing the main parts for aircraft engines for the private sector, we are working on introducing new technologies for improving fuel consumption and reducing engine weight. As a further transformation, we are targeting expansion of application of new technology for weight reduction, and the realization of engine and airframe systems applying our original electrification core technology. In addition, regarding SAF, too, which is a large element contributing to decarbonization, we must find the business opportunities and apply technologies developed in other fields while working on research and development toward introducing SAF.

●Automobiles

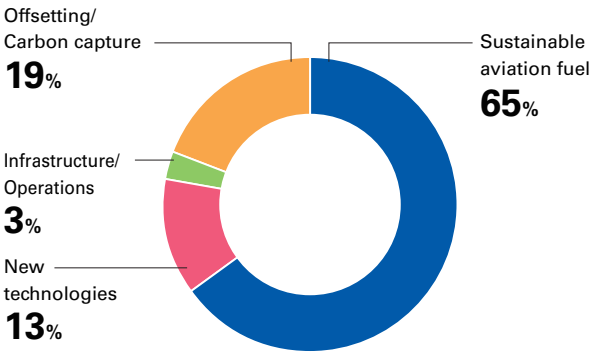
To realize carbon neutrality in the automobile industry, it is expected that gasoline cars and diesel cars will be replaced with electric vehicles (EVs) and fuel cell vehicles (FCVs). For large commercial vehicles, there is active development and partnerships for an advantageous FCV from the viewpoint of cruising distance, fuel filling time, and load capacity. For that reason, a production increase is expected going forward, and along with that, it is expected that the demand for electric turbochargers aimed at FCVs will steadily grow. The IHI Group perceives the electric turbocharger as a business opportunity, while making use of the technology and value chain for vehicle turbochargers.

Net Zero: Aviation Carbon Emissions to Be Abated by 2050

(Gt CO_2)



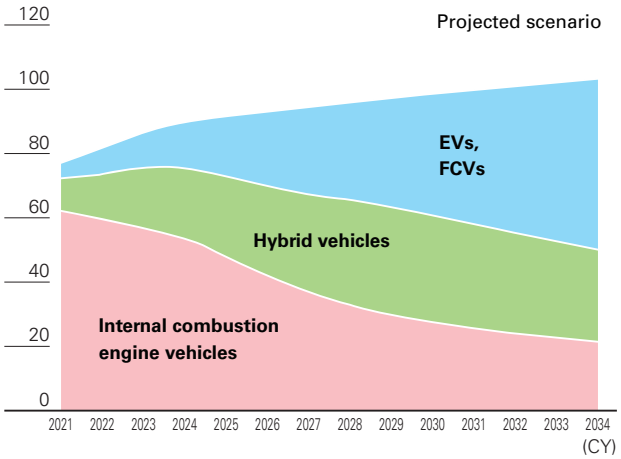
Contribution to Achieving Net Zero Carbon in 2050



Source: Net-Zero Carbon Emissions by 2050, IATA Press Release No. 66, October 4, 2021

Vehicle Production Volume Scenario

(Million vehicles)



Commercialization Possibilities Under Consideration by IHI

Air Transportation Systems

With the period until around 2035 as the transition period, we will raise the environmental performance while maintaining the economy of current projects by making aviation parts light and introducing high heat resistance. During this transition period, we will concentrate our efforts on developing new technologies aimed at carbon neutrality. From 2035, we will productize technologies suitable for hydrogen and substitute fuels. With stable earnings, we can earn the source of funds for decarbonization, and progress the transformation while minimizing the risk. In that case, securing safety regarding new technology is the most important factor. The IHI Group will advance activities to realize safe aviation transportation making use of new technologies by moving from the stage of international technology standard formulation to collaborating with each country's aviation authorities, airframe manufacturers, and engine manufacturers.

Automobiles

The IHI Group has been developing an air supercharger for fuel cell systems since around 20 years ago, and we have productized it in parallel. In 2018, we led the world in productizing an electric turbocharger with a turbine installed for the first time aimed at fuel cell systems. It is installed in the Mercedes Benz GLC F-CELL. In 2021, we concluded an agreement to cooperate on technology with a major global automobile power train engineering company, AVL List GmbH (hereinafter "AVL"). Firstly, we intend to install the electric turbocharger that we are developing in AVL's fuel cell system. AVL and IHI also plan to cooperate on other projects.

IHI's Specific Products and Technology

Air Transportation Systems

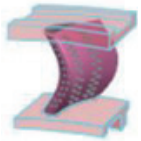
- Apply carbon fiber reinforced composite (CFRP) to the fan blades
- Apply ceramic matrix composite (CMC) to the turbine blades.
- Electrification of aviation engine systems
- Bio-jet-fuel produced from microalgae.

Lightweight and Heat-Resistant Aircraft Components

Carbon fiber reinforced plastics (CFRP) **Ceramic matrix composites (CMC)**

Fan blades

Low-pressure turbine stator vane



High-pressure turbine stator vane*

* Under joint research in the JAXA En-Core Project (2018–2023)

Aircraft and Engine System Electrification

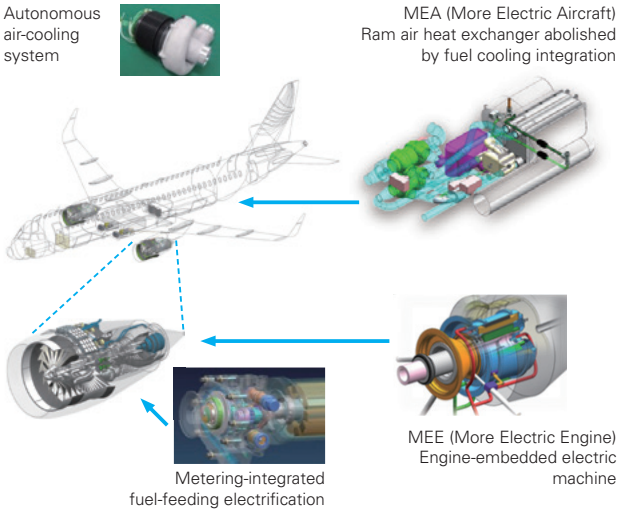
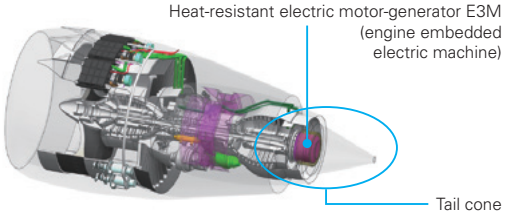
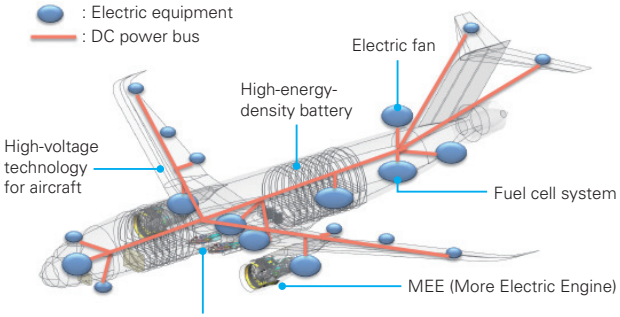


Illustration of Engine Embedded Electric Machine



Envisioned Electrification System of the 2030s

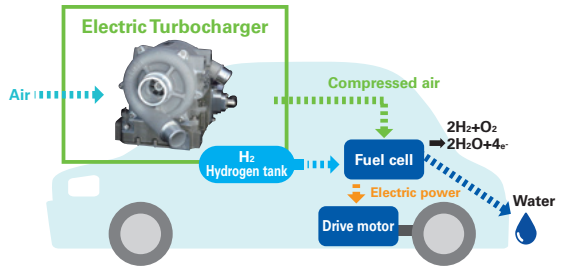


Automobiles

- Electric Turbocharger for FCVs

The poisoning problem caused by the lubricant mist of the catalyst used in the fuel is resolved by achieving oil-free through the adoption of an air bearing. By recovering the exhaust from the fuel cell in the turbine, the system's high efficiency is realized and this contributes to making it small and light.

How Electric Turbocharges Add Power to Fuel Cell Vehicles



Growth Businesses / Maintenance and Disaster Prevention and Mitigation

Creating Urban Environments Where People Can Live Safely and Securely

Social Issues Addressed by IHI

In recent years, the aging of social infrastructure is becoming apparent in Japan. Many bridges, which are typical infrastructure, were built in the period of rapid economic expansion in the 1960s, and bridges over 50 years in age have risen to approximately 40% of the 700,000 bridges nationwide, so promotion of maintenance work for those bridges is an issue.
On the other hand, natural disasters are reported to be rapidly increasing, and in Japan, typhoons as well as floods and rainstorms caused by linear rainband, and consequently damage to the infrastructure has been rapidly increasing since around 2000.
IHI sees the minimization of the economic damage due to aged infrastructure and natural disasters as a social problem that must be tackled.

IHI's Business Opportunities

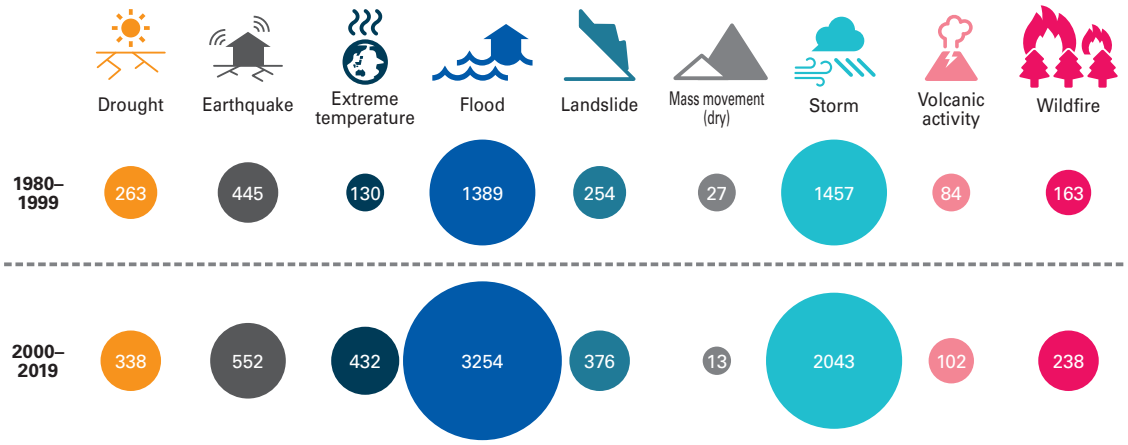
In the Fundamental Plan for National Resilience formulated based on the lessons learned from the disasters in recent years and the changes in the social and economic situation, the Japanese government points out "countermeasures for aging infrastructure" and "responses to climate change" as individual priority items, and we perceive contributing to these as a business opportunity.
For "countermeasures for aging infrastructure through preventive maintenance," in addition to the technological capability we possess, we are establishing management methods using monitoring data throughout the life cycle of bridges, water gates, etc., and are working on expanding preventative maintenance.
For "responses to climate change" on the other hand, we focus on the frequent occurrence of flood damage, and develop dual measures (including hardware and software) in the context of "basin-wide flood control" promoted as a response to increased rainfall.
Specifically, we realize a dual-use solution where "water usage" and "water control" coexists, through the establishment of basin-wide water control technologies, combining our dam/water gate technologies, sophistication of irrigation water control system, and meteorological data acquisition/utilization technologies. Through this, we aim to enrich the life of people along the river, in addition to contributing to disaster prevention/mitigation.

Commercialization Possibilities under Consideration by IHI

●Preventative Maintenance of Bridges

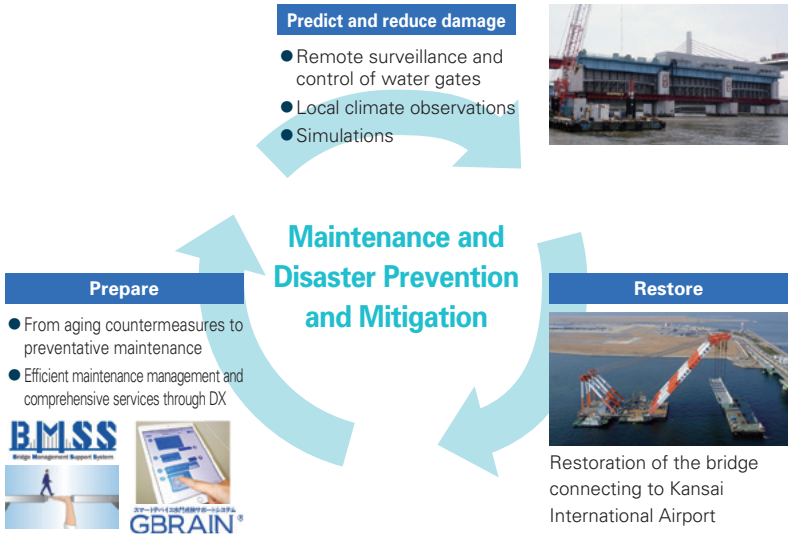
Based on the know-how built up from bridge repair work, we will establish management methods to maintain the soundness of bridges as preventative maintenance.
Across the whole of Japan, approximately 100,000 bridges are in a state requiring repairs. Toward resolving this issue, we have made use of our technology and know-how concerning bridges, and together with rationalizing maintenance management of bridges, we have built a bridge management support system that supports damage diagnosis and up to

Total Disaster Events by Type: 1980–1999 vs. 2000–2019



Source: Human Cost of Disasters 2000–2019 Report, UN Office for Disaster Risk Reduction
Note: The statistics in this report come from the Emergency Events Database (EM-DAT) maintained by the Centre for Research on the Epidemiology of Disasters (CRED), which records disasters that have killed 10 or more people; affected 100 or more people; and resulted in a declaration of a state of emergency, or a call for international assistance.

Overview of Disaster Prevention and Mitigation Systems



Restoration of the bridge connecting to Kansai International Airport

repair plan formulation by using data obtained via inspections, etc. By fusing the bridge technology and digital technology we possess, we will establish innovative preventative maintenance mechanisms and create a new life cycle business.

●Water Gate Facility Maintenance and Sophistication Of Water Management

We will roll out maintenance management for the dam and water gate facilities scattered about the river basins for the regions as a whole in place of the facility units individually in which maintenance has been handled until now. Specifically, we will provide value to all stages of the life cycle for water utilization facilities in the whole basin spanning inspection and repairs from when newly constructed, control and information systems, and water management systems.

By doing this, not only will we improve water utilization functions, but also we will contribute to flood damage reduction through basin flood control, and so develop a business that realizes safe and secure living in the region.

IHI's Specific Products and Technology

●Bridge Management Support System (BMSS)

BMSS is a system that aims to increase the efficiency of bridge maintenance management work. The maintenance management work is rationalized by managing the bridge location information, specifications, and the history of the inspection and repair data. Along with using this information, through functions supporting cause and effect analysis based on damage information and repair methods and cost calculations, we will support formulation of a repair plan.

In addition, we will raise effectiveness by simplifying the selection and ordering of bridges for repair and by supporting formulation of a plan to extend life spans, and so we will realize improved economy and efficiency of bridge maintenance management in the whole region.

●Inspection Technology Using GBRAIN

To deal with the labor shortage in handling the inspection work, etc., in maintenance management of water gate facilities, we have developed GBRAIN, a tool that enables efficient inspection work using digital technology and remote work support.

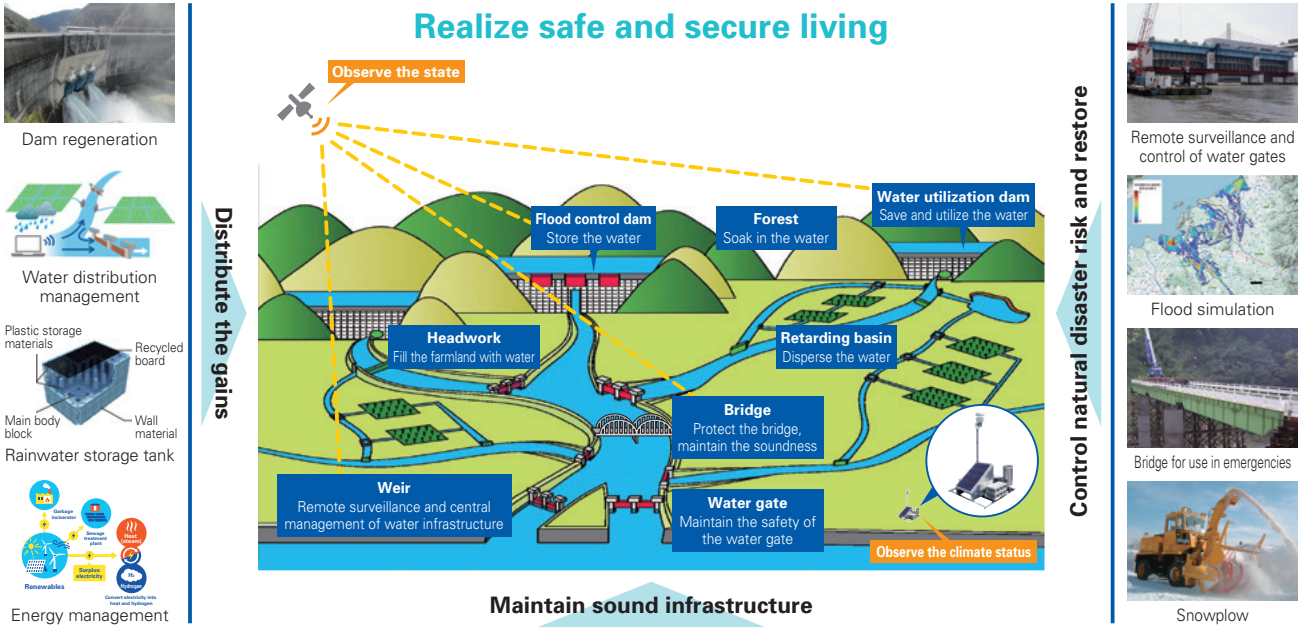
In addition to this, we train essential staff in operation, inspection, and maintenance at the Disaster Prevention and Water Gate Technical Training Research Facility established to support training technicians for all regions and the whole industry.

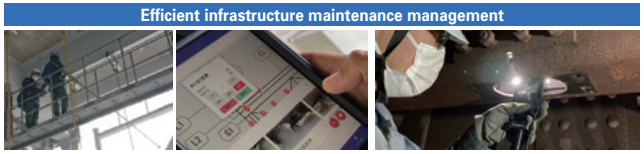
●Next-Generation Integrated Water Management System (Advanced Water Utilization and Flood Control Technology)

We are progressing with the development of an advanced water management system so that in agricultural regions opening out in the river basins from the dams, we optimize water use based on a detailed water distribution plan in normal times, and during heavy rain, in addition to optimal operation of water utilization facilities such as water gates, we contribute to flood control including the use of green infrastructure such as rice fields.

Toward the realization of this, we are progressing with the demonstration of water distribution simulation technology based on monitoring water distribution in water utilization using high-density climate observation technology (POTEKA) and satellite observation technology. In addition, we are developing high-precision flood simulation technology in flood control, and by integrating this with the water utilization technology, we are progressing with development of a water management system that contributes to both water utilization and flood control in the region.

Next-Generation Water Utilization and Flood Control System Under Consideration by IHI





Growth Business / 2050 Carbon Neutrality Roundtable

IHI Initiatives to Becoming Carbon Neutral

Emphasis on Ammonia and Carbon Recycling

In October 2020, Japan declared its commitment to becoming carbon neutral by eliminating all greenhouse gas emissions by 2050. The Ministry of Economy, Trade and Industry also announced its estimate that at least a 17 trillion yen investment in public and private sectors would be necessary in decarbonization for 2030 alone.
The IHI Carbon Neutrality Roundtable brings together five top executives to discuss the means to achieve carbon neutrality by 2050, emphasizing solutions and business strategies through innovations offered by the IHI Group.

(Date: June 16, 2022; Venue: IHI Club Hall [The 25th Floor of IHI's Head Office])

Left to right: Kouji Takeda, Nobuhiko Kubota, Hiroshi Ide, Noriko Morioka, and Jun Kobayashi

Business Strategies Toward IHI Group Carbon Neutrality and the Market Size

— Could you please give us a brief overview of the 2020 business strategies toward carbon neutrality?

Ide

I would first like to talk about the IHI Group business strategies intended to achieve carbon neutrality by 2050. Presently, IHI is taking action with a focus on ammonia and carbon recycling. On a time axis, there are transitions using existing technologies and transformations through the introduction of new technologies through technological innovations.
First, the transition capitalizes on an approach that uses existing technologies and equipment to reduce CO_2. As an example, coal-fired power plants can reduce CO_2 emissions by co-firing ammonia with coal. Our endgame aims to shift the existing coal-fired power plants to ammonia-fired power plants. In addition to a value change that uses ammonia as a carrier of hydrogen, I think it is important to commercialize applications for ammonia and hydrogen as well. Another important point is carbon recycling, which reuses CO_2 as a carbon resource. We have already started to commercialize methanation as a process to convert CO_2 into methane gas, which is a primary component of city gas. IHI even possesses technology to hydrogenate CO_2 for synthesizing olefins, the raw material for plastics. We are also considering the production of Sustainable Aviation Fuel (SAF), which is gaining quite a lot of attention as a fuel for aircraft engines. This is one action generating momentum toward our transformation.
IHI is focusing on ammonia combustion. We aim to build and commercialize a total upstream and downstream value chain that not only handles the production of ammonia through innovations but also its transport and storage (large ammonia storage tanks) as well as its use (combustion/synthesis) toward carbon neutrality by 2050. IHI will actively expand businesses in Japan and overseas with its customers and partners through its original technologies and future innovations.

To accomplish these business strategies, we launched the Corporate Strategy Headquarters in fiscal 2021. I am serving as the General Manager while corporate decides on the size and domains for investments across the entire organization. This has put in place organizational management that can use original IHI technologies to create new markets. Noriko Morioka, who has joined us for this discussion today, has been appointed as the Deputy General Manager of the Corporate Strategy Headquarters and the General Manager of the Strategic Project Department who plans and executes our business strategies and long-term vision. Nobuhiko Kubota is in charge of incorporating these strategies and vision into IHI technology as the General Manager of Technology & Intelligence Integration. Jun Kobayashi is currently seeking out partnerships and expanding IHI business models as the General Manager of the Solution & Business Development Headquarters. Although IHI is presently in the transition process, we have begun expanding our businesses around ammonia co-firing and other ventures in the energy sector. Kouji Takeda is taking the lead in these efforts as the President of the Resources, Energy & Environment Business Area.

IHI Group Ammonia Value Chain Strategies

— IHI still faces numerous technical challenges. What is the size of the market you anticipate once a carbon-neutral society has been realized?

Kobayashi

As ammonia and hydrogen become mainstream, the key will be securing volume and setting a reasonable price. In the transition process, it is expected that fuel conversion will proceed by taking advantage of existing equipment. During the transformation process, new manufacturing technologies for ammonia and hydrogen that are economically viable and eco-friendly will become necessary.

Let's consider the ammonia value chain as an example. To achieve carbon neutrality by 2050, society will require 70 to 100 million tons of ammonia a year by 2040 to use as fuel for marine vessels and 100 million tons by 2030 to use as fuel for power generation. A conservative estimate for these two types of fuel alone would mean a market with a size of between 40 to 50 billion dollars. In addition, to convert thermal power plants from using coal to ammonia, capital investment for ancillary equipment such as tanks and plant modifications will be required. In the marine industry, we expect that larger capital investments will be required not only for the improvement of marine engines, but also for all aspects of the value chain, including refueling and storage facilities for marine vessels. Regarding the production of ammonia, we intend to determine the scale of the business and investment jointly with our partners. Considering the economics, though, innovations must lower the price of ammonia by ton to at least 400 to 500 dollars.

— Why is IHI focused on ammonia rather than hydrogen? Could you please explain the reason as well as introduce some original IHI technologies?

Kubota

In the hydrogen society that is expected to arrive in the future, hydrogen must be transported over long distances and easily stored. From this point of view, ammonia was considered to be most economically rational. IHI has been allocating resources to ammonia and advanced the technological development for the past decade. Initially, this development aimed to convert ammonia (NH_3) back into hydrogen (H_2) but IHI believed that it could directly burn ammonia due to its long-honed ability in combustion technologies. However, burning ammonia directly produces nitrogen oxide (N_2O, which has 300 times the global warming potential compared to CO_2, and NOx, which is an air pollutant) and the temperature of the combustor drops, too. However, IHI has utilized the combustion technology it has developed over the years to realize 20% ammonia co-firing in a coal-fired boiler and 100% ammonia combustion in a gas turbine. These innovations have the potential to dramatically reduce the greenhouse gas emissions produced when burning fuels. These were the first of these types of efforts in the world. Currently, the JERA Hekinan Thermal Power Station (highest total output in Japan at 4.1 million kW) in Hekinan City, Aichi Prefecture,

Hiroshi Ide
Chief Executive Officer
General Manager of Corporate Strategy Headquarters

is working with NEDO to demonstrate the potential of ammonia co-firing. Combustion technology is extremely complex. Every day of work already done in this field becomes an IHI asset while also diversifying our technology.

— Would you mind introducing the IHI technology used in upstream processes of the value chain for producing ammonia?

Kubota

Think about a society in which ammonia is a major fuel source in the world. Business possibilities will expand everywhere, from upstream ammonia production through transportation and storage to final combustion and utilization as well as ancillary facilities in the value chain.

For example, most ammonia in circulation today is produced from fossil fuels, but these are gray ammonia, which emits large amounts of CO_2 in the production process. To convert gray ammonia into blue ammonia, which does not emit carbon dioxide into the atmosphere, carbon dioxide capture and storage (CCS) and carbon dioxide capture and utilization (CCU) are required. IHI continues to develop production technology for blue ammonia and is strongly promoting the development of production technology for green ammonia, which is synthesized from hydrogen produced using renewable energy, as we believe that it will be required in the future.

To realize carbon neutrality and an ammonia society, it's important to reduce the price of ammonia by ton to roughly 300 dollars. In addition, we also need an inexpensive hydrogen supply that uses water electrolysis devices. Right now, green ammonia

is synthesized from hydrogen made from renewable energy and nitrogen from the air. However, next-generation co-electrolysis technology can produce green ammonia about 30% cheaper than current production process by causing a reaction between water and air. The issue is that co-electrolysis is still in the fundamental research stage and is difficult to scale up to plant-level production. IHI is working with research institutes overseas to advance research and development, such as scaling up the technology, hoping to realize its practical application.

— What kinds of business opportunities are expected in the process to transport ammonia?

Ide

IHI does not plan to become involved in vessels for the transport of ammonia. In spite of that, I hope converting to ammonia as an alternative fuel for marine vessels will contribute to reductions in the CO_2 produced by these marine vessels. More specifically, our subsidiary, IHI Power Systems, is working with NYK Line in the development of a four-stroke ammonia engine for ocean-going vessels (axillary engine) and a four-stroke ammonia engine for coastal vessels (primary engine) through a NEDO project grant. IHI has been innovating engines running on ammonia fuel since Niigata Power Systems took over the business from Niigata Engineering in 2003, and has emphasized this initiative as part of its value chain toward decarbonization.

Kubota

Marine engines running on ammonia fuel are nearing a level accommodating practical application. Unlike boiler furnaces and gas turbines engines, marine engine ignition and combustion are repeated as the engine rotates. Therefore, combustion must be finished within roughly 0.01 second. To overcome this problem, small amounts of liquid fuel are injected to burn ammonia, which has a high ignition temperature and a slow combustion rate. Boiler furnaces are still in the demonstration stage for 20% ammonia co-firing, but marine engines have already demonstrated that it is possible to co-fire ammonia at levels close to 100% ammonia.

Takeda

If the fuel for marine engines is changed to ammonia, refueling will be required in the transportation process of the value chain, and bunkering facilities for ammonia fuel supply are expected to be installed everywhere.

Kouji Takeda
Managing Executive Officer

President of Resources, Energy & Environment Business Area

— Can we expect these kinds of business opportunities in processes to store ammonia?

Kubota

Ammonia becomes a liquid at −33°C at normal pressure. I know it would be easier to construct a storage tank for this than for LNG at −162°C. However, ammonia has a corrosive property known as stress corrosion cracking, which does not happen with LNG. Measures to counter this corrosive effect have not been sufficiently established worldwide. Utilizing the technology amassed in stainless steel components of nuclear power plants, though, IHI possesses a proprietary means to prevent stress corrosion cracking even if the material changes or becomes thick. Additionally, we have established evaluation methods to determine the environment in which stress corrosion cracking occurs. IHI can even employ the technology we have cultivated in our extensive experience with LNG tanks, which have captured the second largest market share worldwide.

Takeda

As with LNG tanks, power producers would need to install new large liquid ammonia tanks near power generation plants. In fact, the largest market in the value change is the storage process for ammonia centrally oriented around ammonia storage tanks. I expect this will provide an interesting way to expand business through our differentiated technologies.

— What kind of technology and track record does the IHI Group have in regards to the recent hot topic of CCUS?

Kubota

As I said earlier, the conversion of grey ammonia into blue ammonia requires CCU or CCS. IHI is conducting a technical study of CCS, which is the capture and storage of CO_2 emitted from IHI boilers operating at the Hokkaido Electric Power Tomatoh Atsuma Electric Power Station. This study was commissioned by NEDO jointly with Hokkaido Electric Power and JFE Engineering. This project is also taking on the challenge of CCU, a technology that converts the CO_2 that is captured into valuable materials. IHI has already established CO_2 capture technology, and is currently actively engaged in methanation of the captured CO_2. Methanation causes a reaction between CO_2 and hydrogen using a catalyst as a means to synthesize methane gas, which is a valuable resource. IHI has been working with research institutes under the Agency for Science, Technology and Research (A*STAR) to research and develop a methanation process since around 2011. This initiative has finally borne fruit with the development of a unique catalyst for methanation combining high reaction efficiency and durability. This catalyst is one amazing core IHI technology that boasts at least double the lifespan of commercial methanation catalysts.

Takeda

Every gas company in Japan is advancing plans to replace 1% of domestic gas sales with synthetic methane by 2030. As a rough estimate, the replacement of 1% of the domestic demand in Japan with synthetic methane would require 360 million Nm^3 of synthetic methane every year. Each company is working to establish a large-scale production process, but the key is the catalyst and the reactor technology to effectively utilize the catalyst.
At the same time, a variety of offices and factories in Japan are looking deeper into the reduction of their CO_2 emissions to realize carbon neutrality. Some of these companies have expressed interest in small-package methanation systems that convert the CO_2 that is captured into synthetic methane to use as an in-house power source. IHI has delivered its first methanation system to Asahi Group Holdings. We have also received inquiries from chemical, steel, and

other companies, and plants are shifting to medium- and large-scale plants. The business is currently small, but IHI methanation technology has gained recognition in what seems to be a growing market.

— What kind of business opportunities are there in CO_2 use (recycling) for the IHI Group?

Takeda

Methanation has an exothermic reaction during the process to capture CO_2. The reuse of this heat has the potential to become a valuable content. There are no companies other than IHI that have this heat recycling technology and the methanation catalyst technology discussed earlier, as far as I know. This fact is our strength and can be IHI's original killer content. We can accommodate large-scale plants and are at a stage in which we are currently exploring actual projects. IHI Yokohama Office is handling a gigantic reaction vessel for the production of raw ethylene oxide and acrylic. This vessel will become a prototype that has a high potential of commercializing large reaction vessels for methanation.

Kubota

An extension of the methanation to produce synthetic methane is olefination that produces olefins used as a raw material for plastics by synthesizing CO_2 and hydrogen with a unique catalyst. Olefins are much more expensive than methane as a product with a higher added value. In the current basic research phase, the conversion efficiency is roughly 20%, but this is one technology in which we expect to see future expansion due to the needs for chemical and other companies to shift to raw materials better accommodating carbon neutrality, even if just a little.

Business Expansion of Ammonia Power Generation and Nuclear Energy

— IHI is currently working with JERA to demonstrate the concept of 20% ammonia co-firing. What kinds of business opportunities are there in addition to expanding business to power and other such companies?

Takeda

There is a stronger trend toward closing old coal-fired power plants due to extremely low efficiency while leaving highly efficient Ultra-supercritical plants which are relatively new. Even USC plants use coal as fuel, so CO_2 emissions cannot be permitted as in the past. Therefore, we need to transition to carbon-neutral fuels such as biomass and ammonia. JERA, the largest power company in Japan, is the most advanced in this fuel transition. The JERA Zero CO_2 Emissions 2050 Roadmap clearly shows the start for demonstrating a 20% co-firing rate of ammonia at an early stage in 2025, and then rapidly bringing it into the market base. Thereafter, the plan aims to realize highly efficient ammonia co-firing at around 50% before targeting thermal power plants using 100% ammonia fuel by 2040. There is a reason this plan targets a 50% co-firing rate of ammonia. When the ammonia co-firing rate reaches 50% to 60%, CO_2 emissions become lower than those of a natural gas-fueled gas turbine.

When ammonia is used as a fuel in thermal power plants, the consumption increases rapidly and coal infrastructure must be replaced for ammonia. New tanks would be required for storage, new loading arms would be needed for transport, and even the burners would need to be modified to those able to burn 100% ammonia.

Power companies see how very important and effective it is to shift to ammonia as an alternative fuel and are watching the trajectory of JERA closely. In fact, IHI has received inquiries from all of the power companies in Japan about the potential of shifting to ammonia as an alternative fuel. Tentatively, every one of these power companies would quickly take action to shift to ammonia as an alternative fuel if JERA succeeds in a 20% co-firing rate with ammonia by 2025. In the Japan market, it isn't very expensive to change burners, but a shift to this new fuel would mean investing in infrastructure. This includes the installation of ammonia storage tanks and carrier pumps to vaporizers that can vaporize the ammonia.

The Japanese government has announced the Asia Energy Transition Initiative (AETI) as a way to encourage carbon

Nobuhiko Kubota
Managing Executive Officer

General Manager of Technology & Intelligence Integration
In Charge of Group Engineering

neutrality in ASEAN nations. Currently, though, there are many emerging nations that have no choice but to rely on coal as an energy source due to issues in the regional distribution of fuels. The Japanese government is considering providing technical and financial support to such countries to determine whether it is possible to reduce CO_2 emissions while making effective use of existing facilities, and what Japan should do to achieve this. In the future, IHI will surely begin working with the Japanese government to renovate existing boilers in Indonesia, India, Malaysia, and other developing nations in addition to initiatives that contribute to CO_2 reductions.

— Will IHI push forward the development of ammonia combustion gas turbines as part of its value chain?

Takeda

On June 16, 2022, IHI announced that it has achieved CO_2-free power generation using only liquid ammonia as fuel in the IHI "IM270" 2,000 kW-class gas turbine installed at its Yokohama Works, successfully reducing greenhouse gas emissions during combustion by over 99%. Coal-fired steam turbines of the same size have a power generation efficiency of about 30%, while the IM270's efficiency is about 50%, which is no worse than that of a natural gas-fired gas turbine.

We would like to adopt the IM270 at other IHI works and by customers who want to reduce CO_2 emissions from an ESG perspective, and hope to build up a track record of success. To do this, we first need to raise customer awareness about ammonia power generation and alleviate concerns about safety. We hope to create a market with IHI's unique technology.

The next three-year medium-term management plan will advocate the commercialization of the 2,000kW gas turbine with 100% ammonia combustion.

— There seems to be a trend in which Europe and the US is reevaluating nuclear power. For instance, the European Commission labeled nuclear power as a clean energy in January 2022. What kinds of strategies is IHI pursuing with its nuclear power plants?

Ide

One major condition of carbon neutrality by 2050 is ensuring energy security. Considering Japan's geopolitical position, I think it has to restart its nuclear power plant operations. In Japan, we intend to allocate resources to restart operations, decontamination and decommissioning of nuclear reactors, and operation of the nuclear fuel cycle in Rokkasho Village. Overseas, we believe that there will be a gradual transition to SMRs (small modular reactors lowering the output of each nuclear reactor to make reactor cooling easier, which in turn enhances safety) handled by NuScale Power, LLC, an IHI investee company in the United States. The Russia–Ukraine conflict has really highlighted the issues of energy security, even overseas. Nuclear power is a must as a stable, carbon-neutral energy source. This SMR is the first model certified by the U.S. Nuclear Regulatory Commission (NRC). I know this will make the NuScale Power SMR moving toward commercial use an extremely viable option.

Takeda

Any surplus power can be used as electricity to produce hydrogen. If there is a surplus of electricity, the power can be used to produce hydrogen, and then stored as ammonia, etc. We believe that the range of ways in which electricity generated by nuclear power can be used will expand in the future. IHI hopes to maintain its technological development capabilities in nuclear power equipment by getting involved in the manufacture of nuclear reactors for overseas markets. There is the possibility that equipment may be ordered from NuScale Power beginning around 2024. The Yokohama Works has already begun mock-up fabrication of components and technical verification for the first project scheduled for Oklahoma, USA. Business is accelerating toward actual commercialization.

Noriko Morioka
Executive Officer

Deputy General Manager of Corporate Strategy Headquarters
In Charge of New Corporate Businesses Headquarters

Carbon Neutrality and the Aircraft Business

— What kind of carbon-neutral business opportunities do you see for Sustainable Aviation Fuel (SAF) and the rest of the aircraft engine business?

Morioka

At the International Air Transport Association (IATA) annual general meeting on October 4, 2021, the IATA approved a resolution for the global air transport industry to achieve net-zero greenhouse gas emissions by 2050. It also announced its policy to explore partnerships with energy and other industries in the pursuit of accelerating the shift from traditional jet fuels to SAF. In order to become carbon neutral by 2050, we expect to see the development of hydrogen-fueled aircraft, while shifting to SAF as fuel.

We have just mentioned methanation, which synthesizes methane gas from CO_2 and hydrogen, and olefination, which synthesizes olefins from CO_2 and hydrogen, and beyond that, we are looking forward to the possibility of synthesizing SAF based on CO_2 and hydrogen. IHI has produced bio-jet fuel from oil produced by algae and obtained ASTMD7566 Annex 7, an international standard. Research and development is progressing steadily. However, we believe that a chemical synthesis approach from CO_2 and hydrogen is necessary from the standpoint of large-volume and stable production. The SAF distributed worldwide is mainly made from waste cooking oil and grease from restaurants and food factories. Currently, the SAF produced from waste cooking oil is the most inexpensive. The problem is the limitations in securing enough as a raw material. In the future, it will be necessary to produce SAF from CO_2 and hydrogen in scale plants.

Now, back to aircraft engines. IHI is a jet engine manufacturer that has primarily handled precision and mechanical components. We had known that electrification of the engine system would significantly improve fuel efficiency. We had already been pioneering this development for several decades before the debate even began about decarbonization. The power generated by engines drives all the systems in current aircraft, including actuators and air-conditioning units. We believe that electrification technology will improve the fuel efficiency of the engines themselves, increasing the overall efficiency of the aircraft and leading to decarbonization. IHI's motors have a high heat-resistance technology that can withstand use in high-temperature areas close to the exhaust of jet engines, and are unrivaled by any other company. IHI has also taken advantage of its proficiency in rotation machine technologies to succeed in developing a compact high-output motor. IHI is the only company in the world that has successfully demonstrated an electric motor that generates electricity by mounting this motor on the rear part of the jet engine shaft.

Furthermore, it is expected that the responsibilities will be expanded to include not only the conventional mechanical parts of the engine, but also the electric motors built into the engine. In addition, as development of electric drive units and systems for aircraft progresses, our business domain will expand from engines to the entire aircraft. IHI has long been involved in joint development of electrification of aircraft systems with partner companies and other organizations in Japan and overseas. In place of conventional mechanical power, hydraulic pressure, and pneumatic pressure, using electricity generated by an electric motor to operate airframe systems will help improve the fuel efficiency of the aircraft as a whole. We live in an era when automobiles are being replaced by hybrid and electric vehicles. Aircrafts are the slowest to be electrified because of the need for high safety and light weight, but this trend is expected to accelerate in the future. Using electrification as an opportunity, we hope to change the game in future aircraft and make aircraft carbon-neutral.

Carbon-Neutral Society Created by Hydrogen and Ammonia and Next Mid-Term Management Plan

— There have been many reports in Japan about the coming hydrogen society, but will hydrogen and ammonia coexist toward carbon neutrality?

Kobayashi

People often misunderstand and ask me whether they should choose hydrogen or ammonia, but I don't think it is a choice between the two. For example, even if a hydrogen society arrives, we still need ammonia, and even if an ammonia society arrives, we still need hydrogen. Looking at the global market, I think there is a suitable place for each of hydrogen and ammonia. It seems strange that hydrogen is discussed in Japan as if it is more effective than ammonia. Globally, energy policies based on suitable locations are being discussed. IHI believes that ammonia is more suitable for Japan and Southeast Asia. For example, in the USA, a hydrogen society is not coming anytime soon at this stage, so they will probably adapt to a combination of CCS and LNG on large tracts of land. In Europe, the Russian–Ukrainian crisis has led to a return to nuclear power and temporary thermal power generation, but renewable energy sources such as wind power have been decided as the basic power source.

While keeping an eye on such market trends, IHI would like to develop its business by combining its regional and technological strategies. With a focus on ammonia, for blue ammonia we would like to provide key technologies and products for building the value chain, such as ammonia co-firing, gas turbines, and ammonia storage tanks. However, blue ammonia and blue hydrogen have a high fuel cost burden in the end, so fuel price trends will be key to their widespread use. Eventually, we would like to focus on green ammonia, which uses fuels derived from renewable energy sources. Then the key point is how to cheaply and efficiently produce fuel, which is a fixed cost for the electric power companies. We intend to actively invest in such upstream areas.

Taking a long-term view, a time may come when natural gas (LNG) can no longer be used. Europe has already shown its intent to stop using natural gas, which is a fossil fuel. In this context, when IHI considers expansion into areas other than renewable energy, it is a clear choice to focus on ammonia and nuclear power. People often ask why IHI is so focused on ammonia, but IHI is also working on hydrogen, and also handling ammonia as a carrier for hydrogen. Instead of either hydrogen or ammonia, IHI is trying to do both.

— How will IHI's next medium-term management plan define the business strategies to realize carbon neutrality?

Ide

IHI is drafting its next medium-term plan set to start in fiscal 2023 right now. Presently, the discussion is focusing on ammonia as an alternative fuel to coal. As already mentioned, IHI plans to contribute to building an entire ammonia value chain and to enter into the production of ammonia itself as a fuel. In the next medium-term management plan, we want to illustrate the entire picture and story of these efforts. It will be difficult to materialize the production of ammonia during the period of the next medium-term plan, and we must continue to develop the technology. Nevertheless, it is necessary to at least invest and sow the seeds of technology during the next mid-term management plan period.

The basic axes of the current "Project Change" Medium-Term Management Plan and IHI Group ESG Management will remain the same in the next medium-term management plan. In addition to growth areas, we would like to include carbon neutrality as an axis of value creation, as well as respect for human rights and diversity in the next medium-term plan. With regard to our business portfolio, we aim to build business synergies with carbon neutrality as a value criterion. For example, SAF is handled by the Resources, Energy & Environment Business, but also involves the Aero Engine, Space & Defense Business as an aircraft fuel. The Industrial Systems & General-Purpose Machinery Business also must

Jun Kobayashi
Executive Officer

General Manager of Solution & Business Development Headquarters

consider labor savings and decarbonization in industrial fields together with the Resources, Energy & Environment Business. I think we should create organic synergies among our businesses and materialize the next strategy for each business, based on the theme of deoxygenation rather than just ammonia combustion and methanation.

CO_2 emissions are not an absolutely bad thing, but rather we hope to realize carbon neutrality through ingenuity and innovation toward decarbonization. Continuity is also important to industry. For instance, we cannot stop developing nuclear power and other such technologies. IHI is a company entrusted with social infrastructure worldwide and must never give up on sustaining those technologies.

I see the next medium-term management plan as a vital period to demonstrate the transition of our businesses. Its core axis is decarbonization. I want to make carbon neutrality a great business opportunity through innovation.

Business Strategy / ●Resources, Energy & Environment Business

Providing New Solutions to Customers and Society to Create a Carbon-Neutral Future

Kouji Takeda
President of Business Area

Main Businesses

- Power systems (power system plants for land use/power systems for ships)
- Carbon solutions (boilers/storage facilities)
- Nuclear energy (components for nuclear power plants)

Business Strategy Points

- The fiscal 2021 operating profit was 22.9 billion yen, a 19% increase on the previous year, with the carbon solutions business and nuclear energy business contributing
- In the second year of the medium-term management plan "Project Change," selection and concentration of business operations resulted in strengthening our ability to create cash
- LCB earned a large part of the operating profit, and the policy going forward is to focus on maintaining and expanding its operating profit
- We are aiming to maximize cash flow, and are in the process of strengthening the carbon solutions business

Strengths

1. Strong capabilities in the engineering of large-scale structures
2. A rich track record in the energy industry
3. A rich track record in power systems for ships

Opportunities

1. Increasing energy demand in emerging countries
2. Increasing demand for clean electric power and eco-materials accompanying the expanding demands of society
3. Increasing demand for energy management-related infrastructure accompanying the progressing introduction of renewable energy
4. Increasing demand for distributed power sources

Risks

1. Early shrinking of the thermal power generation business due to accelerating decarbonization
2. Intensification of competition in emerging countries
3. Increasing opposition due to differing views on nuclear power generation
4. Early introduction of environmental regulations on ships

Review of FY2021 and Progress of "Project Change"

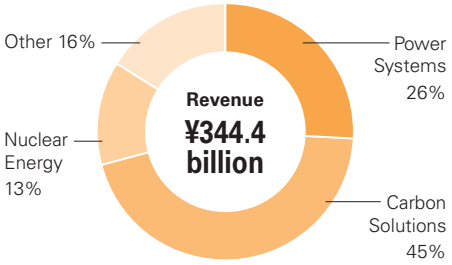
●Ensuring Increased Revenue and Profits Through Increased Orders Received in FY2021

Business innovation planned for the second year of "Project Change"

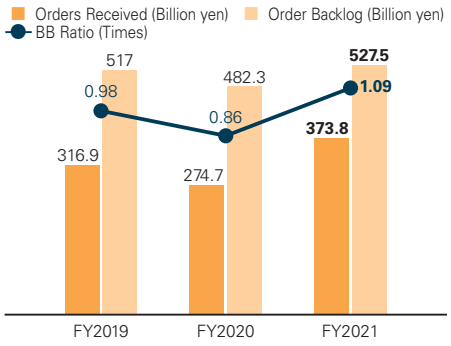
The fiscal 2021 operating profit in the Resources, Energy & Environment Business Area was 22.9 billion yen, an increase of 19% year on year. Viewed by business, factors that increased profits were the favorable exchange rate for overseas construction in the carbon solutions business and the increase in construction orders for the nuclear energy business. As factors that reduced profits, we can put forward the downturn in overseas construction and the failure to achieve the life cycle businesses (LCB) expansion plan in the engine business.

Progress in the second year of "Project Change" is generally according to plan. The main outcomes were the progress in selection and concentration of business operations and the effectiveness resulting from the initiative to strengthen our ability to produce cash. We progressed with selection and concentration in business operations with the launch of the carbon solutions business that integrated the boiler business and plant business, as well as the sale of the medical plant business and the transfer of the large maritime power systems business. In addition, we strengthened our ability to produce cash, including downturn prevention and other initiatives. In the third year, we plan to further increase profits by again reviewing the profit structure so that we can accomplish the profit plans in all businesses.

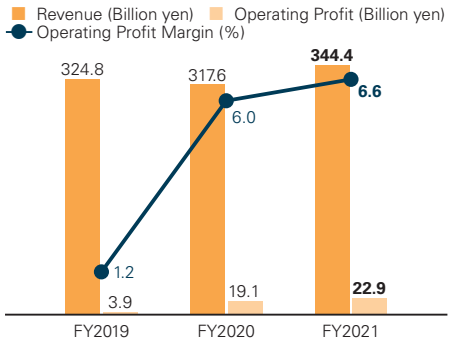
Major Product Revenue Composition



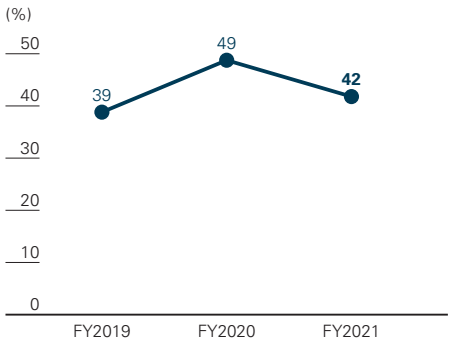
Orders Received, Order Backlog, BB Ratio



Revenue, Operating Profit, Operating Profit Margin



LCB Revenue Structure Comparison



The Value We Want to Offer Toward a World Where Nature and Technology Work in Unity

●Contributing to Carbon-Neutral Society Through Transforming Existing Businesses into Carbon Solutions

COP26 set out long-term goals for global greenhouse gas emissions and absorption. Against this background, our thought is to contribute to carbon neutrality for customers and society with the vision of "Let's Build a Carbon-neutral Future!" With the period up to 2030 as a transition period, we are preparing for the transformation from 2030. We will build a social system that can supply resources without using new fossil fuel resources by effectively using existing facilities, building a value chain based on ammonia, which does not generate CO_2 even when combusted, and making progress in technological development and business investment toward the realization of carbon recycling in which CO_2 is used in a cycle.

To realize the plan stated above, we have formulated a plan to transform the business portfolio in the Resources, Energy & Environment Business Area. Fiscal 2022 is the starting year of that execution. Firstly, we aim to create the carbon solutions business, and launched the carbon solutions business unit. We will further progress selection and concentration in business operations. In 2030, we will transform to a hydrogen and ammonia business, converting to zero emissions from existing thermal power, for example, and to various businesses aiming to realize carbon neutrality, such as methanation.

Return to Growth Trajectory and Financial Strategies

●Maintaining and Expanding LCB and Increasing Cash Flow

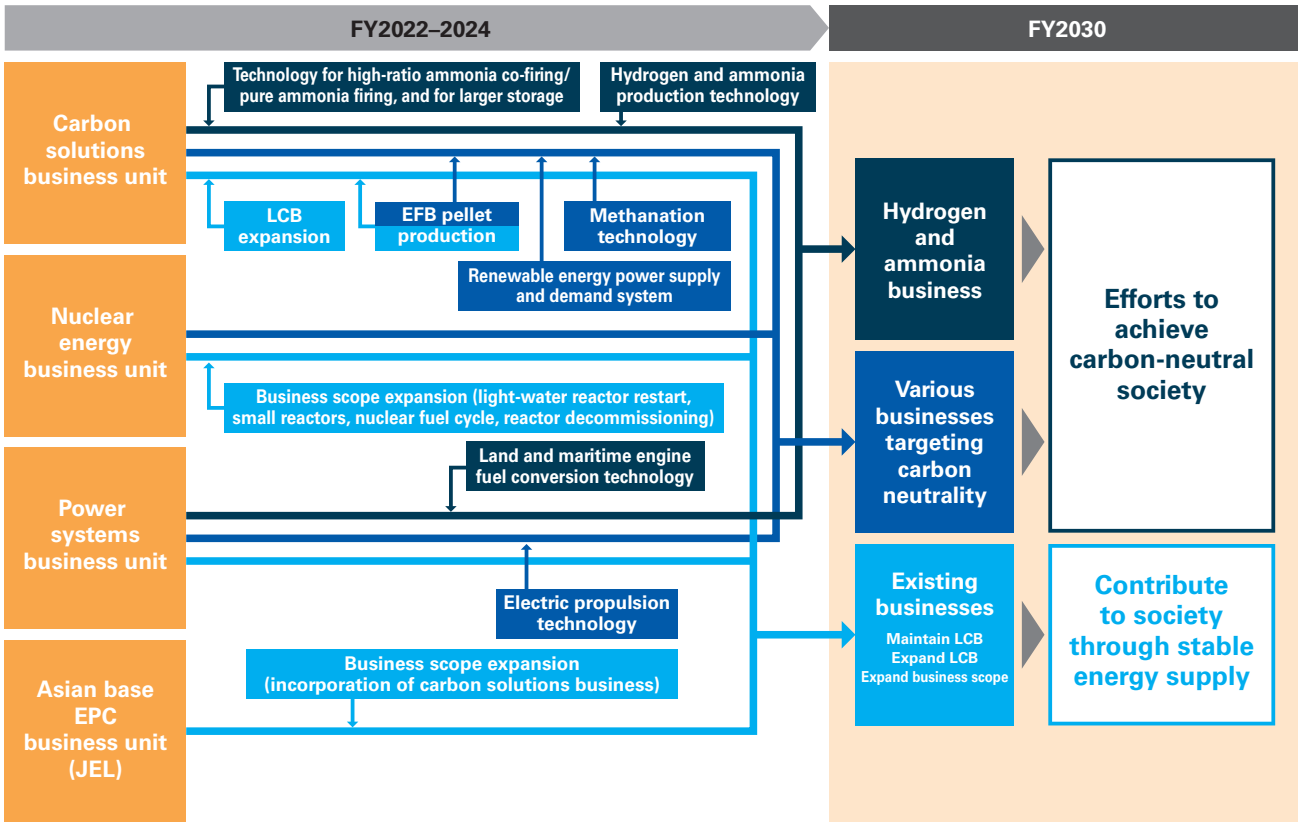
To make progress in the transformation of our business portfolio, it is necessary to produce profits in the existing businesses of the LCB as a revenue base. Currently, the LCB is responsible for the majority of the revenue. However, since the amount of construction work varies each year due to factors such as the timing of regular inspections of thermal power plants or the restart of nuclear power plants, revenue also fluctuates due to the impact of these. For the existing LCB, the market scale is expected to shrink in the future, but our policy is to expand as much as possible while maintaining revenues at the current levels.

The three points of effort toward maintaining and expanding LCB are as follows. The first is to optimize maintenance and operation through the application of DX, and reduce the customer's business operation cost by undertaking regular inspections over a long period. The second is to increase the added value of existing facilities through conversion of fuel, extending the life span, and increasing reliability. The third is to expand the business scope of LCB by incorporating other companies' products and businesses, and advancing into new business fields.

At the same time as maintaining and expanding LCB, we will also progress the initiative to increase cash flow. In particular, in the carbon solutions business, we will proceed with management strengthening aimed at prevention of a downturn in overseas businesses and enhancing the securing of revenue.

In the Resources, Energy & Environment Business Area, while securing revenue in LCB, we will accelerate the transformation of carbon-neutral business, which covers all steps from carbonization to ammonia manufacturing, to our mainstay business. In addition, we will push forward with the realization of carbon neutrality by 2050 through steadily cultivating medium- to long-term development projects such as the application of energy management, carbon recycling, use of small-scale nuclear power reactors, and electrification of ships.

Plans for Selection and Concentration of Business Until 2030



Business Strategy / ●Social Infrastructure & Offshore Facility Business

Unite All Stakeholders and Vectors So That Maintenance and Disaster Prevention and Mitigation Take Root as a New Business Axis

Takeshi Kawakami
President of Business Area

Main Businesses

●Bridges/water gates ●Transport systems
●Shield systems ●Concrete construction materials
●Urban development (real estate sales and rental)

Business Strategy Points

- ●The fiscal 2021 operating profit was 15.3 billion yen, 10% down year on year, due to the skyrocketing cost of maritime transportation, price of steel, etc.
- ●The second year of the medium-term management plan "Project Change" resulted in changes in the production processes and CCC improvements in the bridge business
- ●In LCB, while expanding the maintenance work in each business through promoting DX, we progressed the strengthening and acceleration of technological support for preventative maintenance and the maintenance management support business
- ●Targeting the maximization of cash flow, we continuously reduced the amount of on-site work through rectification of the bridge production process and the introduction of DX

Strengths

1. Sure technical knowledge backed by infrastructure construction and material and equipment production and sales
2. Engineering capability from construction to repair of long-span bridges
3. Diverse technical knowledge based on a wide variety of businesses and the ability to deploy businesses overseas

Opportunities

1. Increase in measures for intensifying natural disasters based on "Five-Year Acceleration Plan for Disaster Prevention, Disaster Mitigation, and Building National Resilience"
2. Increase in pre-disaster prevention measures that incorporate hardware and software approach based on the river basin flood control project
3. Increase in demand for maintenance of aging infrastructure, including bridges in middle-income and developed countries and continued stable demand for new constructions in developing countries

Risks

1. Decrease in competitiveness due to slow response to changes in the business environment
2. Reduction in public investment in new constructions in Japan
3. Worsening of the shortage of labor in the construction industry

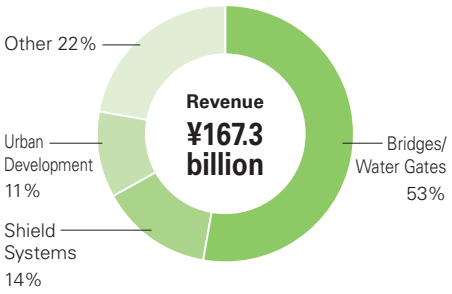
Review of FY2021 and Progress of "Project Change"

●Large Impact from Business Environment in FY2021 Steady Results in the Second Year of "Project Change"

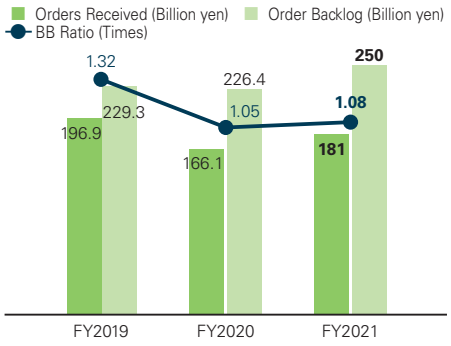
The fiscal 2021 operating profit in the Social Infrastructure & Offshore Facilities Business Area was 15.3 billion yen, a decrease of 10% year on year. Viewed by business, revenue increased in the bridge and water gates business and the shield systems business, but due to logistics confusion, the actualization of geopolitical risk, and other factors, profits fell in the bridge and water gates business due to the skyrocketing steel price and maritime transportation costs.

Progress in the second year of "Project Change" is generally according to plan. The main achievement was that the initiatives to improve the bridge manufacturing process and improve CCC proved effective. In the bridge manufacturing process, we established a reduction in the manufacturing time through manufacturing innovations at plants and the promotion of DX. Thanks to the CCC improvements, we were able to see cash flow improvement due to the optimization of the cash-out timing. In the third year, we aim to further strengthen the cost structure, and increase productivity by synchronizing the plants and construction sites, as well as horizontal expansion of DX utilization cases within the business area. In addition, we will expand the life cycle businesses (LCB), and address both corrective maintenance and preventative maintenance.

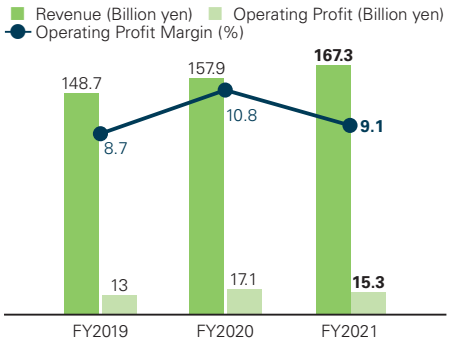
Major Product Revenue Composition



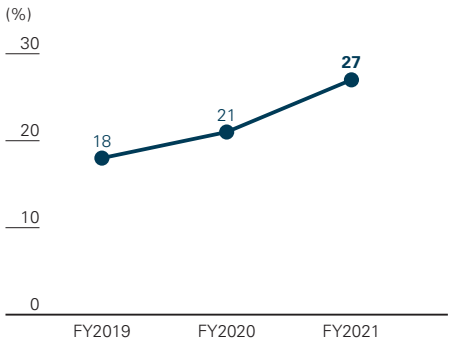
Orders Received, Order Backlog, BB Ratio



Revenue, Operating Profit, Operating Profit Margin



LCB Revenue Structure Comparison



The Value We Want to Offer Toward a World Where Nature and Technology Work in Unity

●Aiming for "Dual Use" that Extends Infrastructure Life Span and Responds to Intensifying Disasters

Our business area deals with the infrastructure aging and disaster intensification that are threats to everyone's safe and secure lives. We will provide technology and services capable of "Dual Use," strong during emergencies and comfortable during normal times, to create a world where nature and technology work in unity. Specifically, we will realize support to lengthen the life span of road infrastructure using maintenance technology. Regarding natural disasters, we will focus on flooding and drought countermeasures, and will build an advanced water management system that combines remote control and water distribution simulation technology, satellite data, etc. to realize optimal water utilization and flood control in river basins.

In the Social Infrastructure & Offshore Facility Business Area, we will convert to LCB focused on the maintenance business, and shift to a business structure centered on new value provision such as the disaster prevention and mitigation business to realize the above-mentioned systems. Taking into account future reduction in public investment, maintenance of aging infrastructure will become a social issue. In addition, due to the impact of climate change accompanying global warming, both flooding and drought will become major social issues in Japan and the rest of the world. To shift to a business structure centered on new value provision, we will increase the ratio of LCB and the maintenance and disaster prevention and mitigation business in the next medium-term management plan as well as continue to strengthen the cost structure.

Return to Growth Trajectory and Financial Strategies

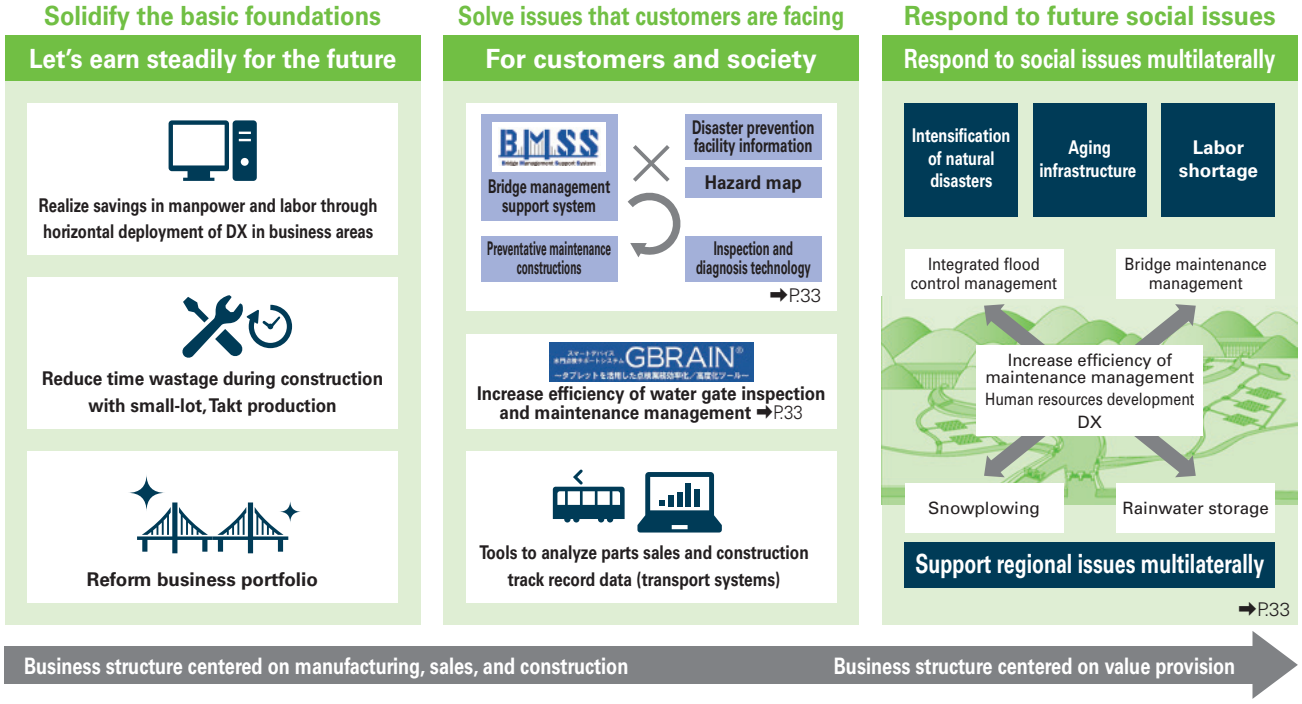
●Expanding LCB and Increasing Cash Flow

In the bridges business, we will increase involvement in repair work, and provide support through a system (BMSS) that supports bridge maintenance management and inspection and diagnosis to lengthen infrastructure life spans. In road maintenance management, we are increasing the application of advanced ICT technology such as augmented reality (AR) technology to increase the efficiency of maintenance work. In the water gates business, we have established a Disaster Prevention and Water Gate Technical Training Research Facility needed to contribute to solving the shortage of managers. In the transport systems business, we will develop tools to analyze parts sales to users and our construction work track record, and we aim to expand the business by realizing broad-fronted, proposal-style sales. Going forward, we will accelerate the expansion of the maintenance business and technological support and maintenance management support services for preventative maintenance. For that purpose, we will optimize the costs related to renovation and repairs by developing deterioration prediction technology using inspection and damage data. In addition, we will build new business models using data, such as eliminating engineer shortages by developing AI, etc., and moving forward with advanced inspection and diagnosis technology.

At the same time as tackling LCB expansion, we will also progress the initiative to increase cash flow. In strengthening the cost structure, as well as continuing to review the bridge manufacturing process and to reduce the duration of on-site work through the promotion of DX, going forward, we will increase productivity by synchronizing plants and construction sites, and reduce time wastage by employing small-lot, Takt production. Also, we will realize savings in manpower and labor through horizontal deployment of DX within our business area. In bridge construction in Japan in fiscal 2025, we aim to cut construction times by 40% and construction costs by 20%.

We believe that it is vital to unite stakeholders and vectors so that maintenance and disaster prevention and mitigation take root as a new business axis. With a view to alliances with other companies, we will maintain close communication at each stage, discover the optimal measures, and set a specific course within fiscal 2022. Also, we will push forward to realize a society of the nature we are targeting, where lives are lived richly in safety and security.

Reform Toward Business Structure Centered on Value Provision



Business Strategy / ●Industrial Systems & General-Purpose Machinery Business

Thinking Outside the Box to Provide New Value for Industrial Activities and Increase Job Satisfaction

Yasuhiro Shigegaki
President of Business Area

Main Businesses

●Vehicular turbochargers ●Rotating machineries (compressors/separation systems/turbochargers for ships)
●Logistics and industrial systems (logistics systems/industrial machines)
●Parking ●Heat treatment and surface engineering ●Transport machineries

Business Strategy Points

- ●The fiscal 2021 operating income was driven by the rotating machineries business and the heat treatment and surface engineering business, and at 12.8 billion yen, we secured an increase of the same of 12%
- ●The second year of the medium-term plan "Project Change" resulted in a strengthened cost structure and LCB expansion
- ●In LCB, we embarked on innovations to change from the individual sales and service approach by business to a horizontal organizational sales and service system
- ●We are aiming to maximize cash flow by promoting appropriate production management in the vehicular turbocharger business and innovation in work processes across all businesses

Strengths

1. Broad customer base in the manufacturing industry
2. Manufacturing system and service network that can be applied globally
3. Technological capabilities for hardware that are excellent for the environment
4. Capability to make proposals for decarbonization, heat usage, automation, labor saving and other issues
5. Capability to propose solutions that go beyond the existing businesses and encompass the entire process value chain

Opportunities

1. Accelerating initiatives for CO_2 reduction and energy saving around the world
2. Rapid increase in e-commerce

Risks

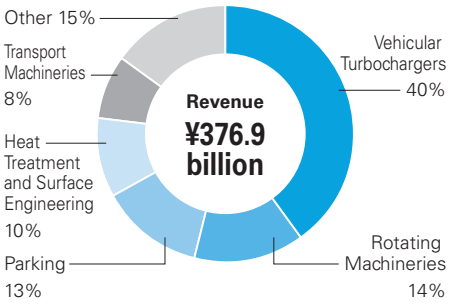
1. Shrinking of the market related to internal combustion engines
2. Maintaining business during changes in the international situation
3. Changes in the competitive environment due to advancement of DX

Review of FY2021 and Progress of "Project Change"

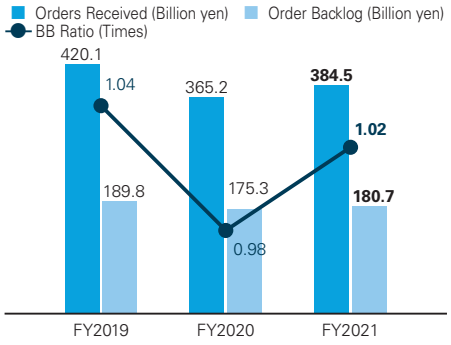
●Operating income increased year on year in FY2021 Progress in strengthening cost structure in the second year of the "Project Change"

The fiscal 2021 operating profit in the Industrial Systems & General-Purpose Machinery Business Area was 12.8 billion yen, an increase of 12% year on year. Viewed by business, the increase in profit was due to rotating machineries business and heat treatment and surface engineering business achieving increased revenue and profits and the non-recurrence of restructuring cost in the agricultural machineries business recorded in the previous year. As factors that reduced profits, we can put forward the decrease in profits and impairment loss on fixed assets in the vehicle turbocharger business and logistics and industrial systems business causing failure to achieve the plan. Progress in the second year of "Project Change" went generally according to plan. Major achievements are strengthening of the cost structure and expansion of the life cycle businesses (LCB). In strengthening the cost structure, we shortened the lead time in the rotating machineries business and the heat treatment and surface engineering business and contributed to increasing profits year on year. In the vehicle turbocharger business, the effects of cutting the break-even point ratio have continued to contribute to improving the profit margin. Concerning LCB expansion, we began preparation for a transformation of integrating service sites of multiple businesses. In the third year, we will continue to strengthen the cost structure while focusing on responding swiftly to the recovery of automobile production and enhancing the service business in Southeast Asia.

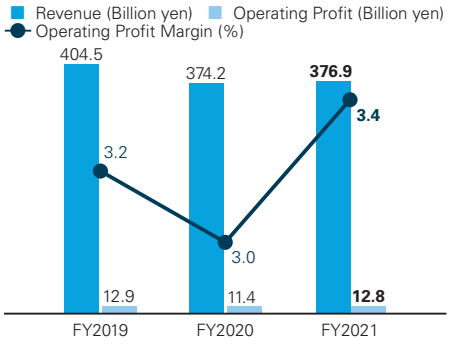
Major Product Revenue Composition



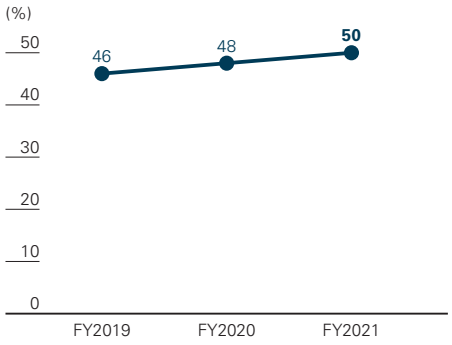
Orders Received, Order Backlog, BB Ratio



Revenue, Operating Profit, Operating Profit Margin



LCB Revenue Structure Comparison



The Value We Want to Offer Toward a World Where Nature and Technology Work in Unity

●Transformation to a Business Entity that Reduces Environmental Impact of the Industry Through Global Diversity

In our business area, we will address the social issues of environmental burdens involving industry to create a world where nature and technology work in unity. In particular, we will achieve decarbonization and efficient usage of heat and energy by reducing the workload via automation and labor-saving. In doing so, we will target business development making use of global diversity, which is a characteristic of our business area. We are advancing globalization of human resources in the IHI Group based on the characteristics of our business area. With bases set up in 24 countries, we have employees of 26 nationalities. Making use of these human resources, we establish both strengthening of coordination in each country and customer service appropriate to each region. To realize the above goals, we will focus not only on advanced countries but also on industry in emerging countries with growth potential by 2030, and we will transform into a business entity able to resolve social issues in accordance with the country or region. For that purpose, we will coordinate with external partners toward improved manufacturing capability, global and local business operations, and acquisition of data management know-how, etc. Toward further expanding our range of solutions, we will offer proposals that go beyond the exiting product and business frameworks and encompass the entire process and value chain.

Return to Growth Trajectory and Financial Strategies

●Expanding LCB and Increasing Cash Flow

To advance transformation of our business entity, profit creation is necessary through expanding LCB and strengthening the cost structure. We are addressing strengthening of the cost structure by continuing to cut the break-even point ratio mainly in the vehicular turbocharger business.

Concerning LCB expansion, we will share across the whole domain information and resources that are vertically divided in each product and service, and we will start a customer success dashboard to organize and visualize customer-originating information and to enable timely product and service proposals. By doing so, we will be able to offer complex products and services promptly, and contribute to continuous business value increases for the customer. In fiscal 2022, we started operating service bases in Nagoya and Sendai. At the same time, as a business making use of global diversity, we will also expand LCB in Southeast Asia.

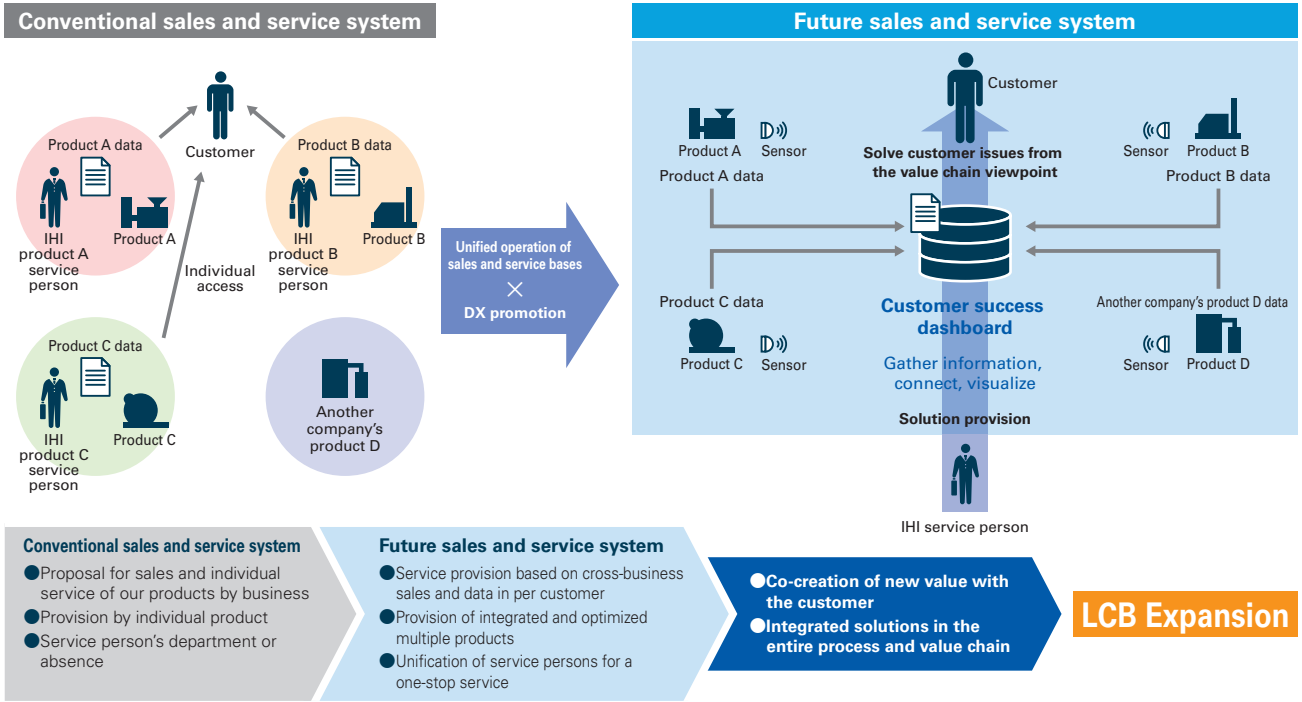
As a representative example of efforts to raise our cash flow-creation capabilities, we are building a system to enable visualization of global production and addressing suitable production management in the vehicular turbocharger business.

In addition, we will advance innovation in work processes across all our businesses, plan to reduce the lead time to product provision, and will realize optimal cash flow management.

Within the megatrend of an increasing need for reduced environmental impact, a shrinking working population, more diverse consumer needs, and ongoing digitalization, we anticipate further rises in consumer needs such as energy efficiency, automation, and labor efficiency in the future. We strongly recognize this flow as a business chance.

To seize this opportunity, we will change to a work style that enables taking up the challenge of transformation more freely and with an open mind and by concentrating resources in businesses that can create new value and growing together with the customer through the life cycle.

Innovation Toward Cross-Business Sales and Service System Per Customer



Entering New Markets to Realize an Affluent, Safe, and Sustainable Society Through Returning to a Growth Trajectory

Hideo Morita
President of Business Area

Main Businesses

●Aero engines ●Rocket systems and space utilization systems
●Defense systems

Business Strategy Points

- ●In fiscal 2021, the deficit in operating profit and loss greatly reduced from the previous year result of 40.1 billion yen to 9.3 billion yen due to the sales expansion in spare parts for civil aircraft engines, improvement of cost structure, depreciation of the yen, etc.
- ●In the second year of the medium-term plan "Project Change," we succeeded in greatly reducing the periodic loss
- ●In LCB, in addition to the cutting-edge Tsurugashima Works entering full-scale operation, we are embarking on improvements in profitability by introducing new technologies such as IoT and AI
- ●Aiming to optimize cash flow, we are targeting drastic increase in productivity through the application of automation and AI technology, and the redefinition of design and production technology

Strengths

1. Partnerships with a major, global aircraft engine manufacturer
2. Technological capability to handle entire process of design to manufacturing of defense engine systems
3. Launching and data acquisition technology in the field of space

Opportunities

1. Expansion of maintenance business using the network of manufacturers of civil aeroengines
2. Full-scale development of next-generation fighters and jet engines
3. Expansion of demand in the rocket business due to the increase in the launch of small satellites

Risks

1. Tightening supply chain and increase of casting and forging product prices accompanying the expansion (rapid recovery) in civil aircraft engine demand, Ukraine crisis, etc.
2. Reduction of domestically manufactured equipment purchase fees due to intergovernmental overseas procurement
3. Rise in businesses launching small rockets in the private sector

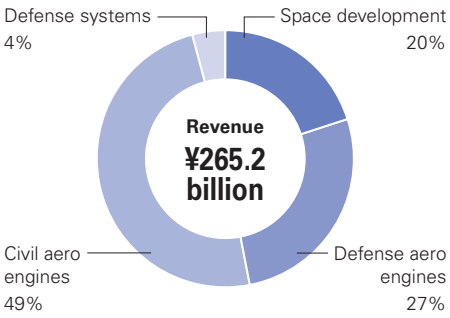
Review of FY2021 and Progress of "Project Change"

●Significant Reduction in Operating Deficit in FY2021
Successful Cost Reductions in Second Year of "Project Change"

In fiscal 2021, the Aero Engine, Space & Defense Business Area had an operating deficit of 9.3 billion yen. However, this represented a deficit reduction of 30.8 billion yen from an operating deficit of 40.1 billion yen in the previous year. Viewed by business, in addition to the increase in sales of spare parts for aircraft engines for the private sector, the strengthening of the cost structure and the depreciation of yen were the causes of the reduction in the deficit. The increase in spare parts sales was due to the gradual recovery in passenger demand, mainly in Europe and the US. Our engines are mounted on relatively new models of aircraft, and due to their superiority in operating costs such as fuel efficiency, operation is being resumed preferentially. For the strengthening of the cost structure, the effects of stabilizing product quality and efforts to utilize DX have become apparent.

Progress in the second year of "Project Change" is going generally according to plan. The outcome was that the operating profit mainly followed a V-shaped recovery trend. In the third year, we are targeting a surplus operating profit, and will focus on LCB through the launch of new repair work process along with cost reductions in new engines and engine maintenance.

Major Product Revenue Composition



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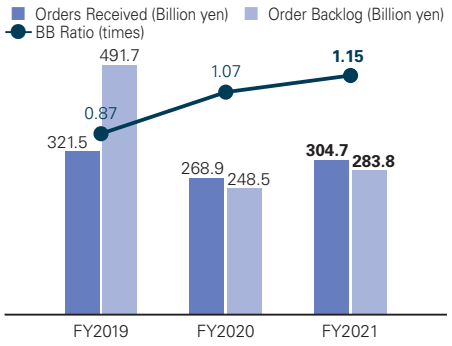
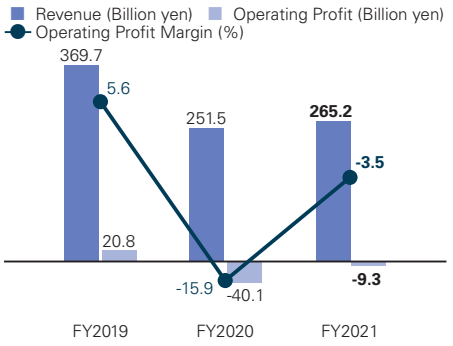
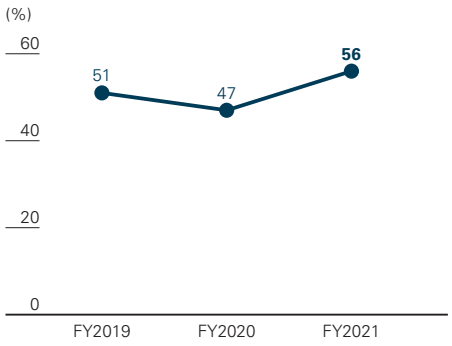


Revenue, Operating Profit, Operating Profit Margin



LCB Revenue Structure Comparison



The Value We Want to Offer Toward a World Where Nature and Technology Work in Unity

●Providing Safe and Clean Air Travel

Our business area leverages advanced technology to open new vistas for air transportation, defense systems, and space utilization, and helps materialize an affluent, safe, and sustainable society. For that purpose, we will contribute to reductions in CO_2 emissions by realizing a new transportation system with improved environmental performance and achieve safe and clean air transportation. With up to 2035 as a transition period, we are defining 2035 and beyond as a transformation period. The transition period is a period of change toward decarbonization, whereby we refine conventional technologies while also developing new technologies aimed at carbon neutrality. In the transformation period, we will introduce a new transportation system that uses hydrogen and substitute fuels using the technologies developed previously in order to accelerate decarbonization.
To realize the above, not only will we need to address expansion of LCB that is the profit source from before, but also strengthen the cost structure utilizing DX and secure stable sources of capital through existing businesses. At the same time, we will focus on fostering an organizational environment to support advances into new markets.

Return to Growth Trajectory and Financial Strategies

●Expanding LCB and Increasing Cash Flow

We will operate the newly built Tsurugashima Works and Mizuho Works as life cycle solution (LCS) centers to improve LCB quality. Through LCS, based on a solid product quality realization system dedicated to civil aero engine maintenance, we will introduce new technology such as IoT and AI, expand the maintenance business, and take on the responsibility to increase revenue.
To strengthen the cost structure, stabilization of product quality and true DX are required. What we consider true DX promotion is not only the digitization of work and manufacturing processes through renewal of the core systems, but also carrying out a transformation of the structure including the regulations and organization, and targeting sweeping productivity increases across the entire business area.

In fiscal 2021, we achieved shortened lead times, reduced inventory, and reduced man-hours. For example, we reviewed technology and inspection methods to enable common application across multiple businesses and products. In addition, we standardized the work data and created a mechanism in which workers' updates are reflected at all times. Through this, we realized a significant reduction in work to confirm data credibility as well as a large reduction in man-hours.
Going forward, we will utilize automation and AI technology to develop new technology with the keywords of redefining design and production technology. Through the efforts to standardize work data, we are aiming to further reduce man-hours by standardizing data interpretation. In addition, we will finish reviewing rules that diverge from reality, under the label "total quality inspections."
In 2050, we must take up the challenge of a new market to "create a world where nature and technology work in unity." For that purpose, it is first necessary to alter the organizational environment. I will build an organizational environment where employees can freely pursue solutions that they dream of without being limited by framework, resources, or existing notions. With that as the base, we will nurture new businesses in the transition period, implement them in the transformation period, and work to realize safe and clean sky transportation.

Story of the Growth of Aero Engine, Space & Defense Business Area

Sustainability Strategy / Technology Strategy

Continue to Provide Technology Required to "Create a World Where Nature and Technology Work in Unity"

Nobuhiko Kubota

Managing Executive Officer
General Manager of Technology & Intelligence Integration
In Charge of Group Engineering

Our Mission to Resolve Social Issues

For many years, the IHI Group has provided diverse products that support people's daily lives such as a variety of plants, machines, and equipment from behind the scenes as industrial or social infrastructure in order to enrich people's daily lives. Currently, to balance pursuit for enriching lives and resolving the significant social issue of climate change, there is a need for technology not only to minimize the impact on the environment but also for technology that contributes to establishing a sustainable, recycling-oriented society.
We conduct technology development with a mission to continuously provide technology required to create a world where nature and technology work in unity. For that purpose, we must set goals with high technological levels and keep on challenging to achieve that goal. We will evolve and fuse our wide-ranging fundamental technology and fully take advantage of our comprehensive capabilities in unison with the IHI Group to create innovation and apply them to society.

The Route to Realizing the Mission

We prioritize development of technology required to create the three growth businesses emphasized in "Project Change": air transportation systems; carbon solutions; and maintenance, disaster prevention, and disaster mitigation. Not limited to the above three businesses, we select what to do now to realize the desired future image, concentrate research and development investment on selected subjects, and to strategically conduct technology development. To accelerate development of pioneering technology, we began conducting short-term proof-of-concepts and establishing a system for

Global Technology Base for Co-creation Activities to Create New Value Through Search for Advanced Technology and Partners

i-Base (Ignition Base)
Through co-creation activities at i-Base based on design thinking and art thinking, we aim for early commercialization of new ideas.

IHI Tsunagu Lab
IHI Tsunagu Lab was opened as the IHI Group's open innovation base. Using the display of our technology and products as a conversation starter, we share customer issues and gain co-creation partners.

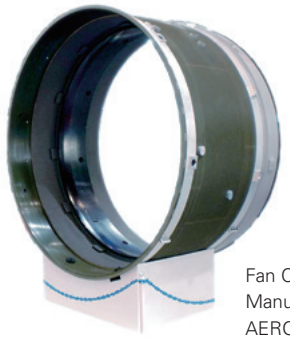
IHI Launch Pad
IHI Launch Pad is a business creation program for the IHI Group to create new businesses in cooperation with the ecosystem including investors and start-ups, in which IHI hosts a workshop for business matching with start-ups, appoints a co-work scheme for development and/or marketing, and other activities.

assembling project teams that consist of members with various expertise from every part of the IHI Group. In addition, we promote open innovation by utilizing global technology bases to work on new value creation.
Technology development sometimes results in failure, but it is important to aggressively take on ambitious goals without fear of failure. We believe that creating innovation can be achieved by constructing a system to share the lessons from failure and to apply them to future technology developments.

For Realizing a World Where Nature and Technology Work in Unity

●Air Transportation Systems

In the aviation industry, reducing CO_2 emissions is a major issue. The IHI Group is working on this issue from multiple angles with a variety of technology, such as weight reduction of aircraft engines and improvement of transport efficiency through a digital twin. In addition, technology development for electrification of aircraft and utilization of sustainable aviation fuel (SAF) and hydrogen fuel is ongoing in anticipation of future technological innovation.
We are contributing to weight reduction of aircraft engines by applying carbon fiber reinforced plastics (CFRP) to their parts. The technology related to CFRP is one of the IHI Group's strengths. We started this technology development in the 1970s. Since then, we have believed that CFRP will become essential in making aircraft engines larger and lighter in the future and have conducted technology development to apply the material to structural members. After many years of technology development, we have achieved practical application to the structural members such as the fan case of aircraft engines. This is an achievement of our efforts to advance technology development toward final goals by thinking what to do now based on backcasting thinking and realize the desired future image.



Fan Case "PW1100G-JM": Manufactured at Tomioka Plant of IHI AEROSPACE CO., LTD.

●Carbon Solutions

With the aim of preventing CO_2 from increasing in the atmosphere, the IHI Group is developing technologies for carbon dioxide capture, utilization, and storage (CCUS). These technologies are intended for effectively using the CO_2 emitted from thermal power plants and other facilities by separating CO_2 from other substances and capturing it. By making the separated and captured CO_2 and the carbon-free hydrogen produced using electricity derived from renewable energy react in the presence of a catalyst, methane, fuel, or olefins, chemical raw materials used to make plastic can be synthesized. We will proceed with further development of this process by establishing catalyst technology for synthesizing fuel and chemical raw materials as well as by lowering the cost of CO_2 capture in order to introduce this process to society. In addition, we will establish the business of supplying equipment for water electrolysis and conversion into valuable substances through acquiring next-generation water electrolysis technology for producing hydrogen as well as technology to co-electrolyze water and CO_2 for producing valuable substances. In 2011, the IHI Group took the lead in the world to begin pioneering initiatives for developing conversion process of CO_2 to valuable substances. As a result of the joint development of methanation technology with Singapore's Institute of Sustainability for Chemicals, Energy and Environment (ISCE2), we have already commercialized a methanation unit. As in this example, we will strengthen our efforts to achieve carbon neutrality in cooperation with partners around the world by jointly developing technology for carbon recycling and utilization of renewable energy with the goal of effectively using CO_2.

Demonstration Plant for Methanation Technology Installed in ISCE²

●Maintenance, Disaster Prevention, and Disaster Mitigation

The IHI Group aims to realize a safe, secure, and comfortable community by constructing and maintaining disaster-resistant, economical infrastructure and by building a system integrating disaster and damage prediction and infrastructure to eliminate human casualties. Using our accumulated knowledge related to maintenance and management centered on bridges as strength, we will expand our business in maintaining infrastructure in a timely and appropriate manner by using sensing technology and monitoring technology as well as by further developing preventative diagnosis technology. Through shortening the construction lead time and automating construction, we conduct maintenance of aging infrastructure in a short time and respond to maintenance demands unmet due to a shortage of skilled workers. With the aim of minimizing human casualties and economic loss, we will develop our original high-precision medium- to long-term weather prediction technology using satellite data and AI and IoT technologies to enable optimal control of regional infrastructure through disaster prediction based on weather information and sensing data related to the disaster. We are working to equip communities with infrastructure that is tough during emergencies and comfortable during normal times.

Toward an Organization that Can Flexibly Solve Continually Changing Social and Customers Issues Using Digital Systems and Data

Yoshinori Komiya

Managing Executive Officer
General Manager of Intelligent Information Management Headquarters

Keys Are Customer-Oriented Business Reform and Creation of Businesses that Solve Social Issues Related to ESG, etc.

While the rapid progress in digital data these days is causing large changes in the whole of society, also in companies, transformation due to digital systems and the expectations of DX (digital transformation) are rising. Within that, the DX that we at the IHI Group target is not just the demand for work and organizational efficiency using just digital technology. As well as promoting the reform in ways of working in which diverse working styles are allowed, in response to issues of the ever-changing society and customer issues, we integrate the organization or data, a variety of people, departments, and communities simultaneously and multiple times use the required digital technology and continue the transformation, but we believe that it is a true X (transformation).

The IHI Group has provided diverse products that support our lives, from a variety of plants, machines, and equipment that support industry and society to familiar facilities in order to arrange a broad range of technologies and solutions. We display those strengths to the maximum, and to resolve issues that are changing, we cross over the departmental and business boundaries, we arrange as in a bookshelf the data accumulated in businesses and the elemental technology particular to IHI that make up the products and services existing inside the silos, we freely pull these out and arrange combined digital architecture, we quickly resolve issues that are changing, and we are aiming for a company that grows through these activities.

The Medium-Term Management Plan "Project Change," and the Positioning of DX in "Project Change"

An important question is, "What is required to achieve this?" The IHI Group is currently launching "Project Change," a management policy aimed at business transformation, and is progressing with the various transformations put forward by all the companies. In particular, in expanding life cycle businesses (hereinafter "LCB") and the further strengthening of earnings foundations placed as the focus of "Project Change," DX is positioned at the center of that transformation, and we are progressing with business model transformations using digital technology.

Incorporating the DX Strategy into "Project Change"

Toward expanding LCB, the IHI Group is working to convert from the conventional focus on selling hardware to one that tackles social and customer issues with customers and create new value (selling services) that aims for the realization of customer success that changes the customer through provision of value.

Within that, we will build a customer success dashboard to share information with the customer, by promoting various data linkages

Three DX Pillars and Data-Driven Management

Business model transformation	Work process reforms	Work-style reform
● Establishment of LCB DX Department: expanding the life cycle businesses (customer experience improvement and strengthening of the earnings foundation) ● A business model transformation by integrating information about customers, products, operation, and maintained information = realization of customer success	● Connect digitally sales, design, procurement, production, construction, and customer support, and optimize the whole value chain ● The optimal work process for each business type of the indent system, the semi-mass production system, and the mass production system	● Strengthening of the ICT base, digitalization of work, rollout of electronic contracts and electronic signatures ● Establish the Smart Work Promotion Department

Data-driven management

● Arranging the data application base for judgment and decision-making based on KPIs (cash flow improvement value, customer repeat rate, etc.)
● (1) Profit structure visualization (2) Work process transformation and improvements (3) Acquisition of customer insight into social issues

starting form customer information. We are working on a business model transformation in which the trinity of sales, services, and technology/manufacturing are linked. In addition, in the indent system business mentioned later, the facilities data are shared with the customer, and we are building and operating MEDICUS NAVI and the Bridge Management Support System as platforms for providing higher-dimensional solutions by sophistication of data application level and utilization of digital technology.
Toward further strengthening the earnings foundation, a wide range of products and services are classified into the three types of mass production system (jet engines, etc.), semi-mass production system (industrial machines, etc., that need customization), and the indent system (bridges, power plants, etc.), and we are moving forward with the work process transformation through digitalization aligned with the characteristics of each.
In the mass production system, we are pursuing improvements in productivity through cost reductions having looked over the whole plant and shortening the lead time for the entire process. In the semi-mass production system, we plan for expansion of revenue and profit by arranging the work process based on the concept of separating packaged and customized, which separates the system into the standard modules (packaged) that target cost reduction through mass production of products, and modules (customized) arranged with options lined up that are matched to customer requests. In the indent system, to stabilize the revenue through prevention of a downturn in the project results and absorbing revenue variations, we are promoting a variety of measures utilizing data.

Specific Initiatives (by area)

Resources, Energy & Environment

An advanced level of data application is achieved through setting issues based on the customer viewpoint and the sharing and analysis of facilities data with the customer, and the aim is to maximize customer values such as operating rate improvement and maintenance cost reduction. This initiative started operation in April 2021, and we are utilizing the platform MEDICUS NAVI to lead to ideal operation and maintenance. MEDICUS NAVI enables improved accuracy of operation surveillance and life-span evaluation compared to previous models, as well as optimization of maintenance plans and labor saving. In addition, AI technology is utilized, and we are planning to further improve services including advanced operation support such as optimization of the environment and facilities control. Knowledge of customer issue resolution obtained from previous models was added to MEDICUS NAVI to resolve the issues of customers working on the realization of carbon neutrality, and it is being rolled out as a service that contributes to carbon neutrality.

Industrial Systems & General-Purpose Machinery

Concerning LCB expansion, we will share across the whole domain, information and resources that are vertically divided into each product and service, and we have started to organize and visualize the customer-originating information to enable timely product and service proposals. Through this, by connecting a variety of businesses and products, we are now able to provide new value to the customer such as environmental load reduction. Specifically, distributed service bases are aggregated, and we can provide new value by utilizing digital data.
In addition, as a strengthening of cash generation capability, we will advance innovation in work processes across all our businesses, plan to reduce the lead time to product provision, and will realize optimal cash management. In the vehicle turbocharger business, we are working on building a global production visualization system, and suitable manufacturing management.

Social Infrastructure & Offshore Facilities

In the social infrastructure field, aging of infrastructure and aging and shortages of construction and maintenance workers are problems. In the bridges and water gates business unit, we combine 3D models and digital technology, and we are developing a platform utilizing "digital twins" in which the structure is reproduced in the digital space. As this platform progresses centralized management and utilization of production and construction management information and product quality information, the efficiency of bridge maintenance management work is increased, and labor saving and efficiency improvement are promoted in plants and on construction sites. For water gate maintenance, we are developing initiatives aimed at the resolution of social issues in the social infrastructure domain such as opening a technical training institute that adopts digital technology, to train human resources broadly in the industry including other companies in the same industry.

Aero Engine, Space & Defense

We are utilizing digital technology in the jet engine maintenance business, enabling visualization of the design and production site data, and we have reduced the tasks required in production and quality management by unifying the data. Through these initiatives, as well as shortening the duration from when the customer leaves the engine with us to when we return it after maintenance, we are now able to handle increases in the number of units accepted for maintenance without increasing the number of staff.
In addition, by gathering a variety of data, with the slogan of "look at the same data," the digital base is maintained and by utilizing the BI tool, we further accelerate improvement activities.
Going forward, we will promote transformation to data-driven work processes and further evolve them to develop initiatives aimed at resolution of social issues in the aerospace, defense, and space fields.

Human Resources that Drive DX Promotion

The IHI Group believes that in DX, "X" (transformation) is more important than "D" (digital). As such, we are focused on the transformation of how the people think. As part of that, we are currently nurturing a corporate culture that will enable the realization of DX by formulating and disseminating the following three articles of DX guidelines.

Three Articles of DX Guidelines

❶Be aware of social issues and value for customers.
❷Be connected with SOTO (outside) / YOKO (horizontally) / TATE (vertically) and have a conversation.
❸Thoroughly implement data-driven decision-making and carry through reforms.

Specifically, DX Leaders are appointed from the middle layers and are expected to take a leading role in the transformation in the major departments of the whole group, and while carrying out education about the "D (digital)" and "X (transformation)" that are required to promote DX, and establishing and running a community, DX promotion and new business initiatives are supported across several departments. At the beginning of fiscal 2022, over 180 DX Leaders were appointed. In addition, as senior management candidates also received DX training, we are planning improved DX literacy and a change in the mindset of top management.
Meanwhile, to raise the data utilization level as a whole, "data analyst training" has been carried out from fiscal 2018 with the purpose of acquisition of skills to apply data analysis in practice, and in addition to planning to educate 1,000 employees by fiscal 2023, we are planning to foster the data utilization mindset by holding an AI contest in which staff will compete in data analysis originality and ideas and other ways.
The measures to foster DX strategy and corporate culture as described above have been recognized and the IHI Group was selected in DX Stock 2022, a recognition system managed by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange that selects and introduces companies that show excellent digital application results.

Sustainability Strategy / Human Rights

Human Rights Policy

The IHI Group formulated the IHI Group Human Rights Policy in December 2020 based on its management philosophy and its approach to human rights outlined in the Basic Code of Conduct for the IHI Group under the approval of the Board of Directors.
Through human rights awareness activities based on international standards, we will fulfill our responsibility to respect the human rights of all by fostering a respectful corporate culture and promoting human rights throughout our business activities.
https://www.ihi.co.jp/en/company/policy/humanrights_policy/index.html

Management Framework

We established the IHI Group Human Rights Committee as a Group-wide committee. The Committee led by the officer in charge of human resources as the chairperson with members from the Head Office Divisions and Business Areas plans and deliberates important policies and promotes initiatives related to human rights. This body reports on important human rights activities at the ESG Management Promotion Committee as a way to consistently instill the importance of promoting human rights throughout the Group.

Human Rights Awareness Promotion Framework

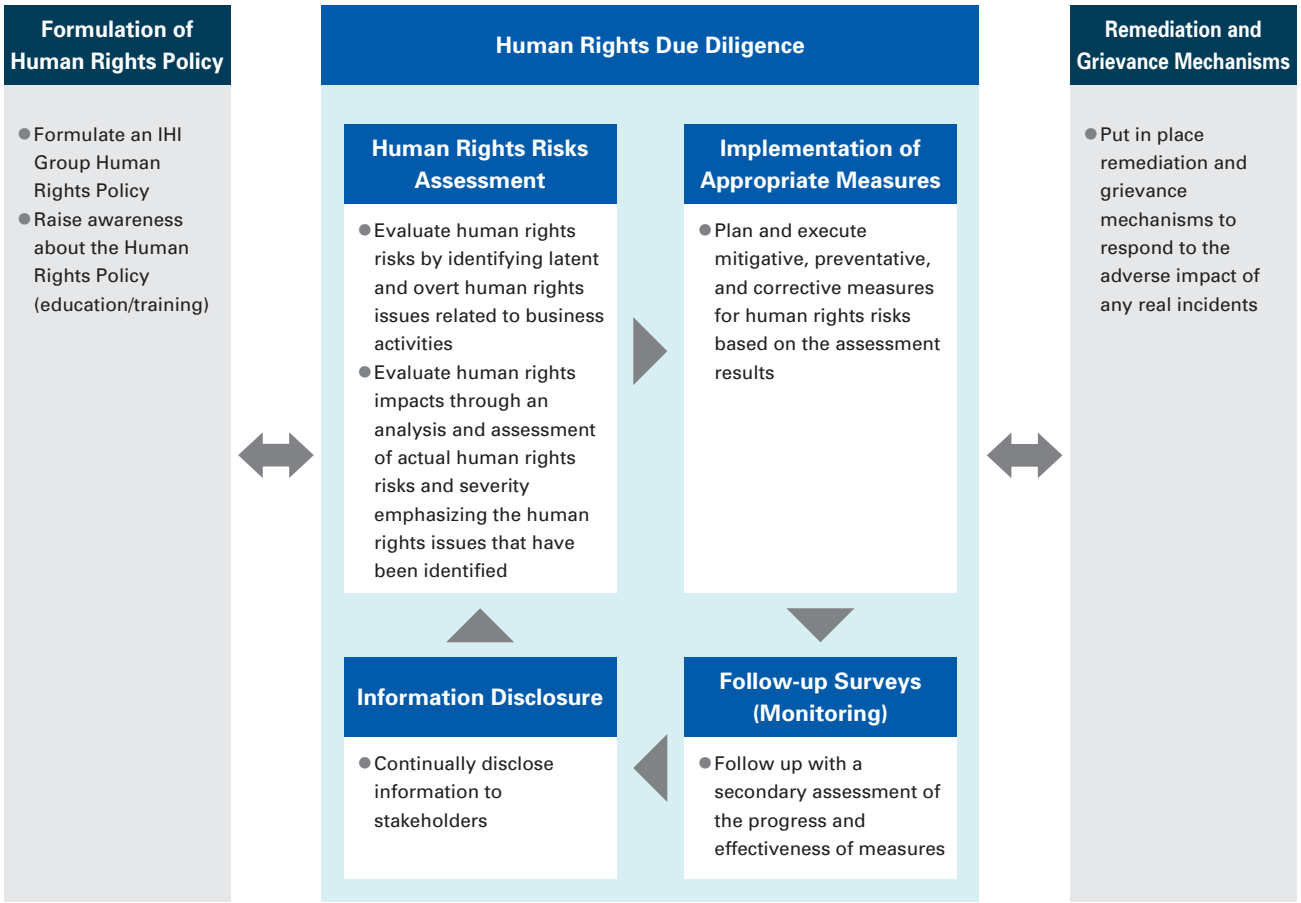
Human Rights Initiatives

The IHI Group is promoting diversity and inclusion as part of its human rights initiatives through ensuring fair employment, fair labor practices, and equal opportunities as well as creating a workplace free of harassment.

●Overall Human Rights Due Diligence

The IHI Group endeavors to ensure respect for human rights through a human rights due diligence process in accordance with the United Nations Guiding Principles on Business and Human Rights. The process ensures that the IHI Group fulfills its responsibility to respect the human rights of all people impacted by its business activities.

Overall Human Rights Due Diligence



●Human Rights Risk Assessment Results

The IHI Corporation and IHI Group companies in Japan and overseas underwent a human rights risk assessment in 2021 while seeking advice from outside experts.
The human rights risk assessment analysis and results, important human rights issues in manufacturing businesses, internal monitoring, and the trends of the international community make clear the important human rights challenges faced by the IHI Group. In addition, we have designated IHI Group employees and suppliers as top-priority rights holders.

●Progress and Initiatives of Human Rights Due Diligence

The IHI Group began carrying out human rights impact assessments at IHI Group sites worldwide in December 2021 to grasp the actual state of important human rights issues.
We plan to finish the survey and analysis of roughly 160 IHI Group companies by fiscal 2024. The fiscal 2022 impact assessments will prioritize the survey and analysis of overseas IHI Group companies in areas with a high risk of serious human rights issues.

We consult with stakeholders and take corrective action and remediation through the proper procedures for any human rights risks due to IHI Group business activities or concerns about human rights risks of IHI Group business activities that the assessment brings to light.

●Survey on Foreign Technical Intern Trainees

In fiscal 2021, we conducted a survey on the actual conditions of the foreign technical intern trainees directly employed by IHI Group offices and plants as well as partner companies including construction sites on IHI Group's premises.
The survey did not find any issues.

●Freedom of Association and Respect for Collective Bargaining

The IHI Group recognizes the freedom of employees to unionize and work together as a labor union and union members. Our Group will never treat anyone involved in the union unfairly. We also engage in sincere collective bargaining efforts founded in a mutual trust between IHI and the labor union.

Approach to the 2021 Human Rights Risk Assessment

Step 1
The IHI Group carried out human rights risk assessments to identify any latent and overt risks in its business fields and expansion by domain, nation, and region.
Extracted a broad range of risks using social, occupational health and safety, and environmental risk data provided by outside experts.

Step 2
We also conducted interview surveys with each business area, the Procurement Strategy Planning Division, Human Resources Division, Corporate Communication Division, and Project Risk Management Division on the progress of management in addressing extracted risks and confirmed the actual status of business activities, employment status, supply chain, and other status and evaluated them.

Step 3
Based on the results of Step 1 and 2, we identified human rights issues to prioritize prevention and response to as the IHI Group in cooperation with human rights experts.

Material Human Rights Issues and Actions

Material Human Rights Issues

- Prohibition of forced labor
- Prohibition of child labor
- Guarantee of equal opportunity
- Prohibition of discrimination and harassment
- Guarantee of safe workplaces ensuring the health of working people
- Respect of the basic rights of working people

Actions

- Conduct a human rights impact assessment
- Strengthen supply chain management
- Provide education and training
- Construct a global human rights risk management system
- Publicly disclose information on the status of initiatives

Sustainability Strategy / Diversity and Inclusion

Basic Concept of Human Resource Management

The IHI Group recruits and trains human resources as the most vital management resource. Our management philosophy ensures that we contribute to the development of society through technology and states that human resources are our single most valuable asset.
The IHI Group believes that having common values among the employees is necessary to reform corporate culture as well as build workplaces and systems that empower people to reach their full potential. We drafted the Group Human Resource Management Policy to embed this basic approach to human resource management in the entire Group. This management policy expands various recruitment, assignment, development, and evaluation measures according to key group, global, and diversity attributes for ideal human resources.

Ideal Human Resources

Integrity and Trust	People who earn trust by fulfilling job responsibilities, and by conducting themselves according to higher standards in addition to norms and rules, alongside three principles: genba, genbutsu, genjitsu.*
For Customers and Society	People who through their work are able to bring prosperity, safety, and security to our clients, society, the Earth, and humankind, and at the same time endeavor to contribute to continuing this development.
Innovation and Creation	People who can think on their own to identify, take on, and overcome issues for the purpose of creating new value through the use of new technical skills, technologies, and ideas.
Teamwork	People who can collaborate with diverse stakeholders and at the same time make maximal use of their abilities to fulfill the shared Management Philosophy, Group Vision, and objectives, both as a team and as members of the IHI Group.
World-class Professional	People who not only have world-class capabilities in their fields of responsibility, but can practically apply their abilities to produce results and continuously strive for further growth.

* The real place, the real thing, and the real situation. This includes seeing, hearing, and feeling for oneself, being proactive, and visiting customers and work sites.

Human Resource Development to Support Business Reforms and New Work Practices

"Project Change" is positioned as a preparation and transition phase for business reform in response to environmental changes. As such, one of its emphases is to pursue business structure reforms that will enable us to overcome operating environment changes. To this end, we are promoting the optimal allocation of human resources, pursuing diversity and inclusion in the workplace, and adopting new work practices.

Overcome Operating Environment Changes ("Project Change")

Strategic Alignment	**Allocate human resources flexibly and optimally in line with business portfolio** ● Prioritize allocations for life cycle businesses digital transformation, and other areas
Create Work Environments in which Employees Can Flourish	**Motivate employees** ● Unlock potential through exchanges of diverse personnel across internal and external boundaries ● Provide opportunities to tackle challenges and learn ● Offer programs that enable employees to design their careers **Attract professionals** ● Clarify duties and posts requiring advanced expertise ● Cultivate change drivers ● Recruit external professionals
Respond to Operating Environment Changes	**Hybrid teleworking and office work setup** ● Reform business processes to create more flexible work environments ● Cultivate work environments that enhance team communication

●Revisions to the Human Resource Treatment Policy

The IHI Group revised its Human Resource Treatment Policy in October 2021 to create an environment where everyone can take on challenges continually. The policy puts in place evaluation, compensation, and promotion systems founded in skill development and motivation as well as links human resource development programs. This gives each employee a chance for early promotion, independent growth, and active participation in the workplace.

●Fair and Equal Treatment

The IHI Group strives for fair and equal treatment according to the position and responsibilities of the employees, with a focus on performance and achievement. Our basic policy is not to simply comply with the minimum wage globally, but rather to provide a higher living wage.

●Social Welfare Programs

Our non-statutory social welfare programs provide a variety of options employees can choose from as a way of supporting the needs of a diverse labor force including basic welfare such as residential and financial support for childcare, nursing care, education, recreation, and other various options.

●Employee-Awareness Surveys

The IHI Group conducts employee-awareness surveys targeting employees in Japan and overseas once a year to grasp the status of employee engagement. To improve employee engagement through a PDCA cycle using these surveys, we visualize the organization, clarify IHI strengths and challenges, analyze the surveys, and plan and execute measures necessary for the Group in its present state.

Diversity and Inclusion (Human Resource Development)

The IHI Group places cultivating ideal human resource attributes as the pillar of human resource development and lays out educational systems, a curriculum, and training plans for individuals in each department.

●Career Development Program (CDP)

The IHI Group has introduced a Group-wide Career Development Program (CDP) in fiscal 2019 as a training system tailored to the career of each employee. Consultation with a superior based on an individual employee's career plan (future design) is held to discuss what challenges and training each employee must undertake to achieve their career plan.

●Human Resource Development Program

The IHI Group has been revising its human resource development programs during fiscal 2021.
We migrated our educational programs to one more focused on career development support programs and voluntary/independent selective training, which helps to accelerate growth and foster ongoing learning. An environment of ongoing independent learning helps expand the potential for everyone to fully participate.

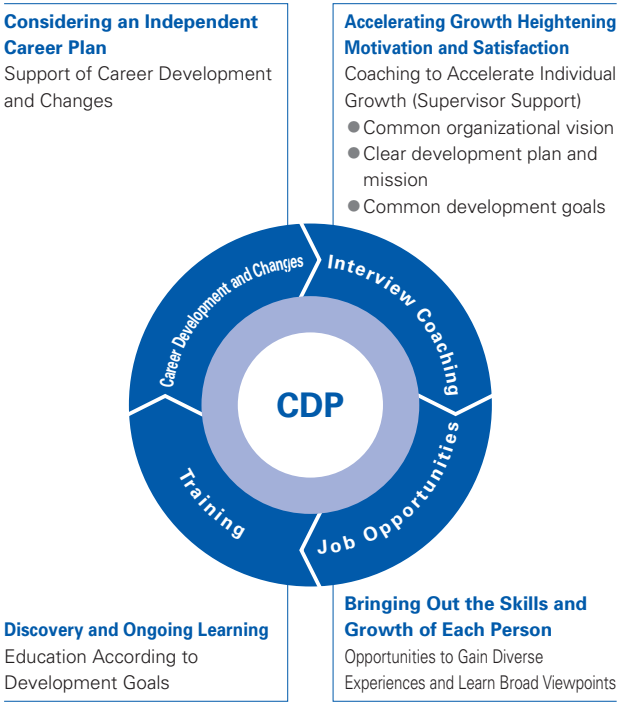
● Career Development Support Program

Based on the Career Development Support Program which supports career design, we hold Career Design Seminars to help our employees consider and execute their plans for developing the skills necessary to better advance their careers. We also strive to provide career management training to supervisors.

● Independent Selective Training

The IHI Group put together full-fledged independent selective training as a framework for each employee to choose and learn various subjects anytime, anywhere according to their career plan.

Career Development Program (CDP)



Career Development Support Program

Voluntary/Independent Selective Training

Selective training (IHI-University)			
Technical skills (approx. 200 courses)	**Business skills (approx. 70 courses)**	**Communication skills (approx. 20 courses)**	**Mind (approx. 30 courses)**
Physics/Chemistry, Materials/Structures, Heat/Fluids/Combustion, Turbo Systems/Mechanical Elements/Vibrations, Production Processes, Control/Sensing, Project Management, Intellectual Property, Sales, Procurement	Management Policy, Sustainability/ESG, Quality/Compliance, DX, Design Thinking, Business Models, Marketing, Problem Solving/PDCA, Finance/Accounting, Engineering and Manufacturing Company Basics, Management	Business Communication, Team Building, Coaching	Philosophy, Leadership, Motivation, Diversity

Diversity and Inclusion

The IHI Group strives to promote diversity and inclusion as part of management strategy.
Diversity and inclusion aims to foster mutual respect and acceptance between people with diverse personalities and values regardless of individual attributes and cultivates an organizational climate in which everyone can fully utilize their skills. This type of corporate culture will link a wide range of approaches, inspire innovation toward solving social issues, and create new value.
More specifically, we are spearheading efforts to empower women as senior management candidates while leveraging the broad perspectives and ideas of young up-and-coming staff. We also help encourage opportunities both inside and outside of the company as a way to provide broader experiences and open minds.
The IHI Group has always promoted mid-career recruitment as well as the active participation of women, foreign nationals, people with disabilities, and employees past retirement age. We are further advocating diversity from supporting work–life balance for employees raising children or taking care of sick family to the active participation of LGBTQIA+ gender minorities.

Diversity and Inclusion Targets and Results

KPI	Targets	Target Year	2021 Results (2020 Results)
Ratio of female employees	University graduates: About 20%	2026	University graduates: 20.2% (16.5%)
Ratio of female managers	7%	2026	3.9% (3.4%)
Female officers	Participation in Keidanren's Challenge to 30% by 2030 (activities to increase the proportion of female directors to more than 30% by 2030)	2030	18% (18%)
Ratio of employees with disabilities	2.4%	2022	2.39% (2.35%)
Promotion of male employees to take childcare leave	Promote all applicable male employees to take childcare leave of at least a week, and promote 2 or more weeks	2022	70.8% (26.5%)

●Providing Opportunities to Gain Diverse Experience

The IHI Group continually enhances the workplace to ensure that human resources with diverse backgrounds, experience, and views have a means to fully leverage their skills. We offer programs to nurture broader experiences and open minds as well as a wide range of opportunities.

Recruitment

Recruitment of human resources based on business and technological strategies

- Strategic mix of new graduate and mid-career recruitment
- Promotion of year-round recruitment and global recruitment
- Multi-channels of recruitment

Transfer

Opportunities to acquire a variety of experiences and differing viewpoints

- Cross-section transfer
- Dispatching employees to external training programs as well as partner companies, government agencies, and start-ups
- Participation in joint development and other initiatives with universities, research institutes, and other companies
- In-house recruitment

Systems

Leveraging diverse viewpoints and ideas in management

- Support for secondary employment (second job system)
- System to support concurrent positions inside IHI
  This system allows employees to devote 5%–20% of their working hours to other departments or to performing tasks of their own initiative

Supporting Work–Life Balance for Active Participation

- Work–Life Balance Programs and Consultation Services
  Systems to support employees to actively participate in the company while raising children, taking care of sick family, or undergoing treatment for an illness of their own

Work-Style and Operational Process Reforms

The values that people have about work are diversifying. One requirement of a company chosen by outstanding human resources is an attractive workplace in line with diverse values. Another is a climate that helps foster greater creativity and productivity. At the same time, work is a part of life for every employee. IHI recognizes the necessity of providing an invigorating working environment at its core. The IHI Group established the Smart Work Empowerment Division in April 2021 in an effort to create new work styles (smart work) aiming to achieve Group growth alongside fulfilling employee lifestyles and growth.

●The IHI Stance on Communication

The IHI Group has designated the IHI Stance on Communication as an approach to ensure smooth communication in a variety of situations.
The IHI Stance on Communication guides and broadens the widespread use of communication tools and provides example applications for these tools. We also communicate initiatives on smart working in the IHI Group every month as news as well as introduce good practices in various departments on the portal site of the Smart Work Empowerment Division.

●Promotion of Diverse Work Styles

The IHI Group strives to realize work–life balance to achieve a work-friendly environment where every employee can find balance between their personal and professional lives.
We offer programs and systems for everyone working at IHI to take actions proactively. Some employees have side jobs and businesses while others enter into career challenge and selective training programs. This corporate climate is motivating and offers each person a way to find a work style matching their unique values. Various initiatives endeavor to enhance internal communications through engagement efforts, shift to online work formats and remote communications, and improve productivity to inspire ideas.

●Creating New Work Styles (Smart Work)

In fiscal 2021, the IHI Group focused on improving productivity through the following activities so that each organization and individual can concentrate on high-value work.

- Shift and standardize approval processes done on paper to a digital format
- Set and promote Five Basic Meeting Principles to heighten efficiency and creativity (Smart Meeting Declaration)
- Prepare and roll out the rules and manners to ensure smooth, stress-free remote meetings

In addition, IHI knows the importance of bringing together expertise across organizational boundaries inside and outside of the company to inspire sustainable new value and innovation. Therefore, we are ramping up efforts to build communities and vitalize interactions between human resources.
The future requires emphasis on the active participation of the diverse human resources essential to making ESG management a success. The IHI Group will continue to review and put in place measures for new work styles throughout the Group.

Ideal of New Work Styles (Smart Work)

IHI Group Growth	Affluent Lifestyles and Growth of Every Employee
Continued Evolution of Businesses and Operations	Continued Evolution of Actions and Awareness

Smart Work

- Employees concentrate on work bringing value to customers, society, personal growth, and motivation
- IHI automates low-value work to slim down the workforce as much as possible in those operations
- We capitalize on digital technologies to take on tasks more quickly and astutely

●Employees **concentrate on work bringing value** to customers, society, personal growth, and motivation.
●IHI automates low-value work to **slim down the workforce as much as possible** in those operations.
●Therefore, we **capitalize on digital technologies to take on tasks more quickly and astutely.**

Innovation and Creation Made Possible by Diversity

The IHI Group aims to cultivate an organizational climate that embodies broad views and brings about innovation and creation to build a workplace where people with diverse backgrounds and values can reach their full potential. This roundtable talk brings together employees who have a wide variety of backgrounds to discuss the type of diversity and inclusion necessary to realize a sustainable society as well as sustainable IHI growth.

(Date: July 15, 2022; Venue: IHI Club Hall [The 25th Floor of IHI's Head Office]; Facilitator: Takashi Hando from the Human Resources Division)

Left to right: Wataru Matsui, Masaru Shimazaki, Yumi Maeda, Takashi Hando, Mark Peers, Emi Ohno (Mai Shirakawa participated remotely)

Reforms to Diversity & Inclusion Promotion Policies to Energize the Workplace

Hando

I am in charge of diversity promotion and career development in the Human Resources Division. IHI believes that the promotion of diversity and inclusion fosters innovation. To tap into this potential, a company and its employees must contribute to one another's growth. This requires a "new type of relationship" between individuals and their company. We are working to revise and improve the way our human resource policies are run based on this belief. Could you please tell us about any changes or innovations that you have experienced in the workplaces where these IHI initiatives have been rolled out?

Ohno

Since I joined the company, I have built a career as an engineer in combustion technologies. In my current position as the deputy manager of the Carbon Solution Business Unit, I have been promoting advanced management of power generation equipment, co-firing of biomass/ammonia, pure ammonia combustion, and carbon recycling. I feel like the initiatives to empower women in the workplace that began around 2012 have had an instant impact on IHI. In workplaces leading the efforts to empower women in the workplace, I have seen a wonderful change as employees independently volunteer to participate in the training programs as it transitions from training by position to a voluntary/independent selective training system. For example, very few women participated in the typical management human resource training program,

Takashi Hando
Corporate Division
Human Resources Division

Mai Shirakawa
Corporate Division
Technology & Intelligence Integration

but many people show interest in joining now regardless of their gender. As a supervisor, this is extremely helpful because my work now is merely to encourage my team members.

Matsui

I am in charge of defense equipment sales. Several years ago, I was sent to work for IHI inside the Cabinet Office of Japan where I was involved in government space policy proposals. I also took parental leave over two months.

Many people participated in the voluntary Business Development Course, including myself, as an internal management human resource training program intended to cultivate junior leaders. Everyone taking the course seems to have a high level of motivation because they all want to be there.

Shimazaki

I started my career in IHI by gaining experience in cost management and procurement in the Industrial Systems & General-Purpose Machinery Business Area. As of 2021, I have been involved in creating human resource strategies together with the Human Resources Division, such as improving employee productivity and engagement with the Smart Work Empowerment Division. People tend to think about diversity as a group of people of different ages and nationalities, but I think it would be better to also define diversity as how people think and work. The different ways in which each person thinks sparks innovation and it is essential to respect completely new approaches. Ideas and work styles connect directly to diversity and inclusion. I hope to better ingrain these aspects of diversity and inclusion in our corporate culture.

Shirakawa

I am researching welding and joining technologies as IHI's core technologies in the Technology & Intelligence Integration Division. I joined the company three years ago as a mid-career hire. I think you need to have a little psychological leeway to shape inspiration into a new idea. From my first year at IHI, I participated in an internal side job building smartphone applications; that was something different from my main job. As I got busy with my main duties, I did not have much leeway. This left me feeling uninspired when pursuing any interesting or fun ideas. It is impossible to create innovation if your hands are full with day-to-day tasks. Innovation requires some leeway to happen.

Maeda

I support the promotion of a digital transformation with the digital transformation leader in each division as part of the Digital Transformation Group under the Social Infrastructure Business Area. After gaining experience as a system engineer, I joined IHI as a mid-career hire from a different industry in 2021.

I felt the gradation between the traditional and pioneering spirit at IHI once I began working here. IHI shows this pioneering spirit in its corporate messages and human resource policies. We do not use honorifics with people's names. I can clearly feel this sense of change.

Broader Career Options to Create Diverse Ideas

Peers

After I joined IHI Europe, I began to handle tasks related to procurement between the United Kingdom and Japan. I am currently working in a new job where I propose plans for technology development strategies in the Corporate Strategy Headquarters. IHI has four business areas with different business models and supply chains, which are all expanding ventures overseas. This allows me to gain a broad range of experience within the company. IHI provides the flexibility for employees to not only have regular transfers but also select the areas and workplaces where they would like to gain experience, which can enhance the diversity of ideas.

Shimazaki

Generally, it would be ideal to use the system to support concurrent positions inside IHI, which means an in-depth conversation with a supervisor to receive approval before systematically transferring to another department, but there is also the in-house recruitment option that employees can independently apply through.

Ohno

I think the in-house recruitment option is an excellent program for employees who want to change career paths or improve their skills or those who want to resign and start over. The only issue I have with this program is the way it leaves supervisors confused when they learn one of their employees has applied for a position without any discussion.

Accomplishing Major Goals with the Power of Diversity and Shared Values Between the Company and Employees

Maeda

In my previous position, there was a huge difference in the amount of work due to the impact of the COVID-19 pandemic. However, this lull in the work let us adopt policies encouraging flexible human resources. For example, IT departments brought in many people with no experience in information technology from various divisions in which work had stagnated. These people were able to see the practices utilized by the IT department firsthand. I saw the power of diversity during this time. I think a big reason for this was the intense awareness of the crisis about everyone combining their strengths to overcome it. I

Mark Peers
Corporate Division
Corporate Strategy Headquarters

would like to see IHI broadly share this idea that accepting diversity is necessary to accomplish big goals.

Peers

We are promoting open innovation as a means to accelerate technological development. When I discuss these things with people from startups in the United States, I see huge differences in the scope and purpose of companies, nationality, people's backgrounds, and other things. I can really sense the richness of diversity. Inclusion that accepts diverse opinions and ideas is necessary to shape a variety of ideas into a single form. There is no way to connect diversity and inclusion without fully sharing the essential values and purpose of a company.

Shimazaki

I would like to bolster our efforts now more than ever for activities interlinking business areas and business units. The hope is to accelerate initiatives that can more broadly share the passion of a unified trajectory for every employee as a north star guiding the IHI Group.

A Corporate Environment Enabling Everyone to Choose a Work Style Suitable to Various Life Stages

Hando

IHI is promoting diverse work styles. Are you seeing any changes?

Shirakawa

I have been able to make flexible decisions about when to come to and go from the office thanks to the telework program. It has really helped me as someone in a stage of life where I am raising children. Without this support, I may not have been able to continue working.

Emi Ohno
Carbon Solution Business Unit, Resources, Energy & Environment Business Area

Matsui

I am also very grateful to have a telework option as someone in that same generation of people raising children. After using the telework program for so long, I have this great sense of well-being because I am able to stay involved as I watch my child grow.

Ohno

I started working from home when my high schooler was taking exams for college. I was overjoyed I could make dinner for my family every night. On the flip side though, lighthearted discussions with colleagues when I am at the office offer important information and hints about what is going on. So, there is a lot of value to being in the office that telework does not provide. I do think it is important to recognize diverse work styles in order to build a workplace enabling the best work options for each life stage.

Realization of a Workplace Enhancing Employee Motivation and Engagement

Hando

IHI is progressing with reforms to its human resource polices and management alongside its promotion of diversity. Do you have any thoughts or proposals about these reforms?

Matsui

I think it would be great to have a system to cultivate the skills of junior employees where new graduates could gain three years of experience in multiple business areas at IHI. This would solidify a base of different business experiences to clarify the direction in which someone wants to take their career in the future. IHI currently has a tendency for people to get stuck in a specific business area or department. It is important for junior employees to have experience in multiple businesses in order to realize diversity and inclusion.

Shimazaki

Anyone involved with a single job for an extended amount of time tends to think and take action from only one standpoint. Working in different

Wataru Matsui
Aero Engine, Space & Defense Business Area
IHI AEROSPACE Co., Ltd.

departments stimulates people to consider things from new perspectives when trouble or concerns arise in their current department. It would be great if policies like the internal side job program would become more common so that employees could think independently about these options and apply after consulting with their supervisor.

Ohno

IHI already has succession plans to nurture human resources as future candidates for president, executive officer, and general manager. I think the plan needs to incorporate who will be candidates for important positions below general manager as policy for the entire Group. This would probably facilitate transfers between departments as a long-term human resource development program, even on a temporary basis if necessary. If put in place at a Group-wide level, this kind of system could provide a lot more freedom to human resources.

Shirakawa

IHI transitioned to a system this year that lets employees take promotional examinations at a desired time. I think this is a fantastic change to the policy. People need to invest a lot of time and energy into studying to pass these examinations. When I took mine, no one could choose when they took these exams. Many women felt hesitant about taking on this challenge when raising children or have been overwhelmed with other family obligations. The system at the time created an unequal playing field between those who could take the time out to prepare and those who could not.

Peers

Overseas companies have a clear set of responsibilities for each person. This creates an atmosphere where people do not want to do anything outside the

scope of their job because it is not included in evaluations. In the current dialogue between the President and employees, Mr. Ide spoke directly with local employees at the IHI London Office about his hope to push forward the initiatives outlined in the medium-term management plan "Project Change" in London as well. This resulted in smoother communication between employees. Employees outside of Japan have a strong desire for clear personal evaluations and incentives. I think IHI could increase motivation by giving local employees more management opportunities. Presently, we are seeing more local managers. An ongoing dialogue between the President and executives will also enhance engagement with managers of affiliated companies overseas if the "One IHI (= IHI as a whole)" spirit becomes more prevalent on a global basis.

The Company and Diverse Individuals Working Together to Solve Social Issues by Incorporating the "IHI Spirit"

Hando

Before we can address the social issues that are arising with our changing times and foster sustainable growth, we must obtain human resources with flexible ideas, and have an organization to convert those ideas into businesses. IHI shares messages with employees seeking the ideal relationships between the individual and the organization. How do you all see these messages?

Shimazaki

To foster sustainable growth, I think it is essential to align the organization and its employees while maintaining a relationship where we contribute to one another. The flexible ideas desired of employees will not come without enough time to finish the work already in front of them. The first step is to improve work productivity and give each person time for inspiration.

Masaru Shimazaki
Corporate Division
Smart Work Empowerment Division

Ohno

We could better communicate our message about how resolving social issues is a business opportunity for IHI. An unpersuasive message will blur the distinctions between charity and business. To refine and commercialize cutting-edge technological capabilities that help resolve social issues, I wonder if IHI could make employees aiming to become human resources with a high level of expertise and those who have completed doctoral courses feel more welcome. In addition to diversity and inclusion, this high level of expertise is indispensable. Human resources pursuing expert skills and certifications have a tendency to be seen as people on a specialist's career path, but management resources who have this high level of expertise are also necessary.

Peers

I feel the same way. Overseas companies offer special treatment to human resources with a high level of expertise, such as those with doctoral degrees. Technology that not only solves social issues but can be monetized will become even more important. That is why I strongly advocate giving human resources who can make these breakthroughs incentives.

Maeda

I would like to see IHI incorporate the IHI spirit into the new relationships it forges with individuals and its initiatives to tackle social issues. A clear foundation to pivot our initiatives to take on social issues founded in IHI uniqueness and originality will increase the sense of unity between employees as well as the pride felt by everyone working at IHI.

Hando

I hope IHI can promote these dramatic human resource policy reforms so that every single person working at IHI can shine by realizing their unique potential. The IHI Group will continue to strive to realize its vision and future ambitions while listening to the feedback from all of its employees.

Yumi Maeda
Digital Transformation Group
Social Infrastructure & Offshore Facilities Business Area

Securing and Maintaining Stakeholder Trust / Corporate Governance

Approach

IHI defines corporate governance as a system that assures sustainable growth and maximization of corporate value by enhancing management efficiency so that IHI can leverage its innate capabilities to the fullest extent possible. To achieve this, IHI targets efficient and appropriate internal decision-making by clearly separating management monitoring and supervisory functions from functions related to their execution of duties. Furthermore, by establishing the relevant internal rules and building a system to administer them, IHI ensures appropriate operations across the entire Group.

Basic Policy on Corporate Governance

1. Respect shareholders' rights and ensure equal treatment
2. Strive to cooperate appropriately with shareholders and other stakeholders
3. Fulfill our responsibility to be accountable to stakeholders and ensure transparency by appropriately and proactively disclosing information relating to the Company
4. Clarify the roles and responsibilities of the Board of Directors, the Audit & Supervisory Board Members, and the Audit & Supervisory Board to enable them to adequately fulfill their management monitoring and supervisory functions
5. Conduct constructive dialogue with shareholders who have investment policies according with the medium- to long-term interests of shareholders

Structure

IHI has an Audit & Supervisory Board, which comprises 5 Audit & Supervisory Board Members (3 from outside) who audit the duties executed by directors.
The Board of Directors, which consists of 12 Directors (4 from outside) and is led by the Chairman of the Board, makes decisions related to all important matters concerning the management of IHI and the Group, in addition to supervising Directors in their business execution.

●Remuneration Advisory Committee

IHI established the Remuneration Advisory Committee as an advisory body to the Board of Directors.
The Remuneration Advisory Committee ensures the suitability and objectivity of officer remuneration. This six-person committee is made up of three Outside Directors, one Outside Audit & Supervisory Board Member, the Director in charge of human resources, and the Director in charge of finance and accounting, with an Outside Director acting as chairperson.
The Committee convened three times with no absentees in fiscal 2021.

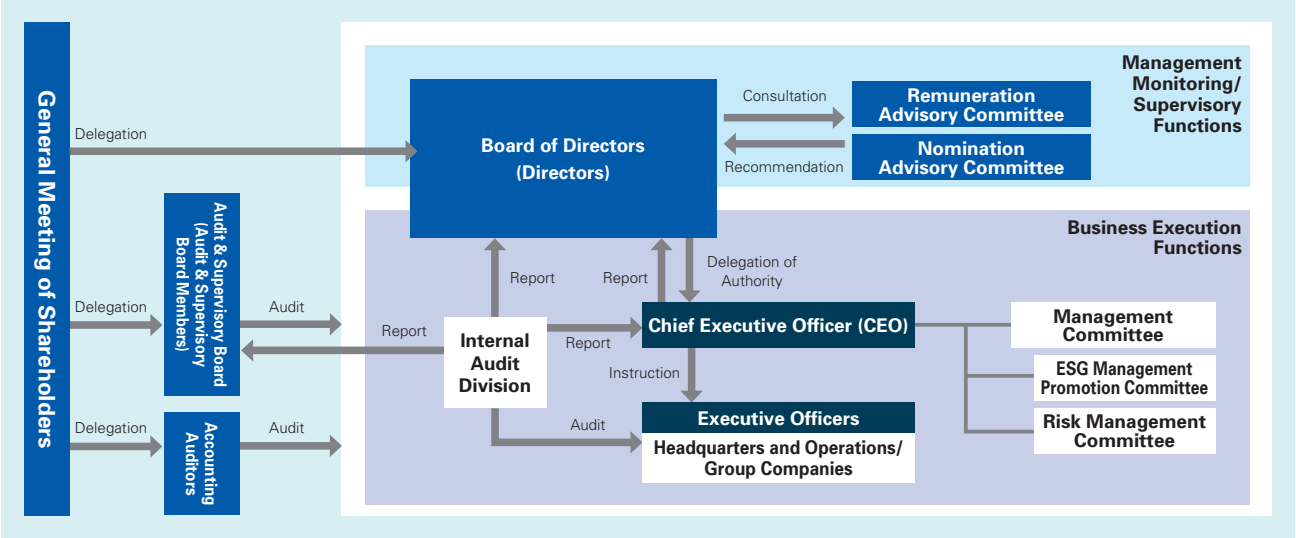
●Nomination Advisory Committee

IHI established the Nomination Advisory Committee as an advisory body to the Board of Directors.
This five-person committee is made up of the President and four Outside Directors, with the President acting as chairperson for the purpose of ensuring proper implementation of officer appointments.
The Committee convened six times, with one absentee (once) in fiscal 2021.

●Business Execution Structure

IHI has an Executive Officer system to strengthen the decision-making and supervisory functions of the Board of Directors, as well as to improve the efficiency of business operations.
Executive officers are appointed by a resolution of the Board of Directors (7 of 22 executive officers serve concurrently as Directors). The Chief Executive Officer manages the duties of the Executive Officers, giving directions and supervision. The Executive Officers follow the Chief Executive Officer's directions to execute their assigned duties.
The CEO also appoints members to the Management Committee to assist in decision-making and business execution. The Management Committee convened 37 times in fiscal 2021.
As a body chaired by the CEO, the ESG Management Promotion Committee (convened at least twice a year), which considers, manages progress, and improves basic policies and specific measures for ESG management; and the Risk Management Conference (convened four times per year), which oversees overall IHI Group risk management and discusses and approves important risk management matters, are established.

Corporate Governance Management Structure



Appointment of Officers

●Policies and Procedures

The Board of Directors has defined ideal officer attributes for the Board of Directors. We have also drafted Independence Criteria for Outside Officers in accordance with the Tokyo Stock Exchange independent officer requirements to ensure the independence of Outside Directors and Auditors.

IHI's Board of Directors sets the basic policy of appointing the most appropriate Officers according to the ideal attributes for Officers and the independence standards for Outside Directors and Outside Audit & Supervisory Board Members, with the aim of ensuring sustainable growth and increased corporate value for the IHI Group over the medium to long term.

IHI strengthens the independence, objectivity, and accountability of the Board of Directors through a process that goes beyond the legal requirements for corporate Officer appointments. We have established a Nomination Advisory Committee as a voluntary advisory body comprising the President and all independent Outside Officers to make sure Outside Directors actively oversee and advise on appointment procedures.

Should members of senior management or Executive Officers meet the dismissal criteria for Officers, a determination of such dismissal shall be resolved promptly by the Board of Directors.

●Ideal Officer Attributes

IHI appoints Officers who are healthy in mind and body and have all the following attributes:

- Deep understanding of, and sympathy with, the IHI Group's management philosophy and vision
- The ability to contribute to sustainable growth and medium- to long-term increase in corporate value at the IHI Group by addressing societal issues in accordance with the IHI Group's vision
- Outstanding foresight, penetrating discernment, and ability to make appropriate decisions with regard to the management of the IHI Group
- Good character with a strong sense of ethics
- Ample experience as a corporate manager, or a high degree of specialist knowledge, combined with a broad, global perspective and insight

●Independence Standards for Outside Officers

In addition to the requirements for independent Directors/Audit & Supervisory Board Members stipulated by the Tokyo Stock Exchange, IHI uses the standards below to determine independence.

①Major shareholders

The Director should not be a major shareholder with 10% or more of the voting rights in IHI or serve as a Director, Audit & Supervisory Board Member, Executive Officer at a Company with committees, Executive Officer, or employee of a corporation that is a major shareholder.

②Major clients, suppliers, etc.

The Director should not currently serve as a Director, Audit & Supervisory Board Member, Executive Officer at a Company with committees, Executive Officer, or employee of any of IHI's major clients, suppliers, etc. detailed below, nor should he/she have served as an Executive Director, Executive Officer at a Company with committees, or Executive Officer of such major clients, suppliers, etc. in the past.

- Major clients of the IHI Group (with transactions valued at 2% or more of IHI's consolidated revenue in the most recent fiscal year)
- Major suppliers to the IHI Group (with transactions valued at 2% or more of the supplier's consolidated revenue in the most recent fiscal year)
- A lender to the IHI Corporation listed as a major lender in the business report for the most recent fiscal year

③Providers of specialist services (attorneys at law, certified public accountants, consultants, etc.)

The Director should not be an attorney at law, certified public accountant, consultant, etc. who receives 10 million yen or more of monetary consideration or other property from IHI annually besides compensation as an officer.

④Accounting auditor

The Director should not be a representative partner or partner of IHI's accounting auditor.

⑤Mutual exchange of Officers, etc. with IHI

The Director should not be assigned to a corporation with which IHI has a relationship of mutually exchanging Directors or Audit & Supervisory Board Members.

⑥Close relatives

The Director should not be the spouse or first- to second-degree relative of a Director, Audit & Supervisory Board Member, Executive Officer, or equivalent executive-level employee of the IHI Group. In addition, the Director should not be the spouse or first- to second-degree relative of any person* referred to in 1 through 4 above.

* If a major shareholder or a major client, supplier, etc. is a corporation, this applies only to Directors, Audit & Supervisory Board Members, Executive Officers at Companies with committees, Executive Officers, or equivalent executive-level employees of the corporation in question.

●Approach to Outside Officer Nominations

IHI also considers age, concurrent positions, period in office, and related matters when nominating candidates as Outside Directors.

●Approach to Ensuring Diversity in Key Human Resource Roles

The IHI Group designates and actively promotes diversity and inclusion (D&I) as one important human resource strategy. The promotion of diversity and inclusion is all about employing people who have diverse backgrounds, experiences, and views. These efforts create new value and incite innovation. IHI actively recruits, develops, and promotes diverse human resources, especially women, to key corporate roles.

●Dismissal Criteria for Officers

- The case of circumstances meeting the grounds for disqualification as a director set forth in laws and regulations
- The case of illegal or improper conduct or conduct constituting a breach of trust, or when there are reasons such as incompetence
- The case of remarkable loss of corporate value caused by negligence of duties
- The case where an individual lacks a prerequisite listed in the ideal attributes for officers

Remuneration for Officers

●Policy on Determination of Remuneration for Officers

IHI approved revision of its policy for determining officer remuneration by a resolution of the Board of Directors on May 13, 2021. The content of the policy was referred for consultation to the Remuneration Advisory Committee, which accordingly deliberated on and reported findings thereof on a preliminary basis, prior to having been resolved by the Board of Directors.

●Directors (Excluding Outside Directors)

Remuneration for Directors shall be aimed at fully encouraging Directors of IHI to perform their duties in line with the management philosophy, Group vision, and Group management policy, and strongly motivating them toward the achievement of specific management goals to bring sustainable growth of IHI and the IHI Group, and to improve the medium- and long-term corporate value.
Remuneration shall be structured with the appropriate allocation of a fixed basic salary, an annual incentive (performance-based bonuses), which is linked to the operating performance of each fiscal year, and a medium- and long-term incentive (performance-based share remuneration), which is linked to medium- and long-term operating performance and corporate value aimed at broadly sharing a sense of value with stakeholders, and thereby shall contribute to performing with a sound entrepreneurial spirit.
Under the management philosophy, "Human resources are our single most valuable asset," appropriate treatment shall be provided to Officers of IHI with consideration of the IHI management environment, and social roles and accountabilities IHI undertakes.

●Remuneration for Outside Directors and Audit & Supervisory Board Members

Remuneration for Outside Directors shall consist only of a base amount in the light of their duties. Remuneration for Audit & Supervisory Board Members shall consist only of a base amount, as compensation for responsibilities for auditing the execution of business throughout the IHI Group.
The basic salary of Outside Directors and that of Audit & Supervisory Board Members are set at the appropriate level taking into account the role and responsibilities of each officer. Moreover, the company shall perform verification by regularly surveying objective market data on remuneration researched by an external specialized institution.

Targets and Results of the Performance Evaluation Indicators for Performance-based Remuneration

Type of remuneration	Targets	Performance evaluation indicator	Weight	Margin of performance evaluation payout rate	Targets	Results	Performance evaluation payout rates
Performance-based bonus	Representative Directors	Profit attributable to owners of parent	50%	0–200%	Maximum: 51.0 billion yen Target: 30.0 billion yen Minimum: 15.0 billion yen	7.9 billion yen	0%
		Consolidated operating cash flow	50%	0–200%	Maximum: 130.0 billion yen Target: 80.0 billion yen Minimum: 60.0 billion yen	9.1 billion yen	122.1%
	Directors (Excluding Representative and Outside Directors)	Profit attributable to owners of parent	40%	0–200%	Maximum: 51.0 billion yen Target: 30.0 billion yen Minimum: 15.0 billion yen	7.9 billion yen	0%
		Consolidated operating cash flow	40%	0–200%	Maximum: 130.0 billion yen Target: 80.0 billion yen Minimum: 60.0 billion yen	9.1 billion yen	122.1%
		Individual performance evaluation	20%	0–150%	Set on an individual basis, with evaluations drafted by the President and Representative Director and approved by the Board of Directors		Maximum: 100% Minimum: 0%
Performance-based share remuneration	Internal directors	Consolidated ROIC	–	0–150%	Maximum: 15% Target: 12% Maximum: 3.5%	1%	0%

* Performance-based bonuses paid with consideration to business execution during fiscal 2021.
* Performance-based share remuneration paid with consideration to the start of the performance evaluation period in fiscal 2019 to the end of the performance evaluation period in fiscal 2021.
* Results for profit attributable to owners of parent and consolidated operating cash flow performance indicators modified from the exchange rate presumed when drafting management plans.
* Some numerical results for speculative performance-based indicators related to performance-based share remuneration during the current period have been adjusted from the KPI and financial statements disclosed by IHI, such as excluding the impact of sales of investment properties.

Results for 2021 Remuneration

Details of Director and Audit & Supervisory Board Member Remuneration

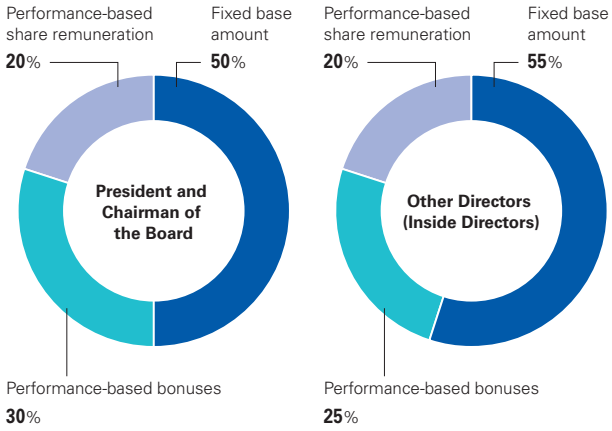
Officer Category (Persons)		Total remuneration	Total remuneration by type (Million yen)		
			Basic remuneration	Performance-based remuneration, etc.	
				Performance-based share remuneration	Performance-based bonus
Directors (15)	Internal Directors (10)	613	366	154	93
	Outside Directors (5)	48	48	–	–
Audit & Supervisory Board Members (7)	Internal Audit & Supervisory Board Members (3)	72	72	–	–
	Outside Audit & Supervisory Board Members (4)	36	36	–	–
Total (22)		769	522	154	93

* The total amount of performance-based share remuneration is the amount of the provision for share acquisition costs related to the granted points recorded in the fiscal year under review, which is different from the actual total payment amount.

Remuneration Paid, etc. for Directors and Audit & Supervisory Board Members, whose Total Amount Paid to Each Position of Director and Audit & Supervisory Board Member, Equaled or Exceeded ¥100 Million

Name		Total remuneration	Total remuneration by type (Million yen)		
			Basic remuneration	Performance-based share remuneration	Performance-based bonus
Tsugio Mitsuoka	Director	115	66	29	19
Hiroshi Ide	Director	126	72	32	21

Composition of Remuneration



Board of Directors Evaluation

IHI has been evaluating the performance of the Board of Directors annually, in principle, since fiscal 2015 to further its effectiveness. The next evaluation of the Board of Directors is scheduled to be conducted during fiscal 2022.

Basic Effectiveness Evaluation Process

Questionnaire for all Directors and Audit & Supervisory Board Members
- ●Composition and operation of the Board of Directors
- ●Risk management
- ●Culture of the Board of Directors, etc.

→ **Aggregate and analyze questionnaire results** → **Interview all relevant Directors** → **Compose as self-evaluation by the Board of Directors** → **Identify points for improvement**

Initiatives that Underwent Effectiveness Evaluation and Their Results

	Items	Results	Evaluated Initiatives
FY2020 Evaluation	**Self-evaluation** ● Questionnaire analysis ● Interview with all officers	●Effectiveness is secured thoroughly <Identified issues> ●Deliberations on ESG initiatives, the business portfolio, and other such matters need to be deeper	**Management of the Board of Directors in 2021** ● Setting some priority subjects of the Board of Directors as a central topic for the fiscal year (formulation of IHI Group ESG management, progress in creation of growth businesses, and succession plans) ● Innovating management to invigorate debate in Board of Directors meetings, such as providing more comprehensive briefings to Outside Directors beforehand through online meetings
FY2021 Evaluation	**Third-party assessment** ● Questionnaire analysis ● Interview with all officers ● Review of the amount of time spent on deliberations and remarks made in the meeting minutes ● Comprehensive evaluation based on the above items	●Decision-making and auditing functions of important management matters are effectively carried out <Identified issues> ●There is room to find ways to grow and improve even more ●High-priority challenges ● More comprehensive debate on medium- to long-term strategies, monitoring, and risk management ● Further improve management of the Board of Directors	**Management of the Board of Directors in 2022** ● Setting some priority subjects for the fiscal year with consideration to previous fiscal initiatives and new challenges (drive forward IHI Group ESG management, revise the Group vision, formulate the next mid-term management policy, and debate future business risks and opportunities) ● Start providing regular feedback to the Board of Directors about matters pointed out in Board of Directors meetings ● Enhance opportunities to foster communication between officers outside of Board of Directors meetings

Cross-Shareholdings

●Purpose of cross-shareholdings

IHI has established the following policy on cross-shareholdings.
As a general rule, IHI looks to reduce cross-shareholdings after engaging in a suitable dialogue with the issuing company. However, IHI may hold shares in strategic partners for business alliances, joint research and development, or other forms of collaboration for the purpose of pursuing medium- to long-term growth and increased corporate value for IHI.

●Management of cross-shareholdings

IHI verifies the propriety of individual shareholdings, including unlisted stocks, and reports this the Board of Directors by confirming the mid- and long-term significance based on the holding policy and examining the economic rationality on whether the advantages and risks brought by the shareholdings are appropriate for the capital costs.

●Criteria for exercising voting rights

The policy for exercising voting rights for cross-shareholdings requires IHI to determine whether each proposal will help improve the medium- to long-term corporate value of the company without harming its own corporate value. If any concerns arise about a particular matter, IHI decides how to exercise its voting rights through a dialogue with said company.

Outside Director Roundtable

“Project Change” and Subsequent Growth

In November 2020, the IHI Group formulated and began implementing the Medium-Term Management Plan “Project Change.” This plan is positioned as a preparation and transition phase for business reform in response to environmental changes. Three IHI Outside Directors sat down with Hiroki Sampei, Principal of Astonering Advisor LLC, for a roundtable discussion about “Project Change” and subsequent growth strategies.

(Date: July 25, 2022; Venue: IHI Club Hall [25F, IHI Head Office])

Appointment as an Outside Director

Sampei

Could you first please tell us about how you were asked and why you accepted your appointment as an Outside Director of IHI?

Usui

Mr. Ide asked me directly if I would be interested in acting as an outside director for IHI. I was initially hesitant because of how busy I was, but I decided to accept his offer on his third request due to his enthusiasm about it. There is another reason too though. I majored in marine engineering at the university hoping to work in the shipbuilding industry, which is where IHI started. But nobody was hiring new graduates in the shipbuilding industry at the time due to the 1970s energy crisis. That's why I forged my path in the electronics industry. So I thought it was somewhat of a fate as well.

Matsuda

Ms. Mizumoto, a female IHI Director who I’ve known for quite a while, offered me an opportunity to speak about IHI's internal reforms as an outside lecturer. This seminar provided the chance to start exchanging ideas with the IHI management executives, and I was offered the position during such exchange. I empathized with Mr. Mitsuoka, who was the President at the time, and accepted his request. I was involved in project finance during my time in the banking and understood the work IHI was doing, which was another deciding factor.

Nakanishi

I attended social events gathering various executives together and had a relationship with many of the past executives of IHI. Mr. Saito, who was Chairman of the Board at the time, asked me to consider an appointment as outside director. IHI is different from the chemical manufacturer where I'd been working as an executive. Although I was hesitant about the offer because IHI is involved in numerous business areas and has a complex business structure, I accepted his request to help IHI grow using my knowledge in corporate management.

Sampei

It sounds like each of you had built a trusting relationship with IHI

before your appointments as outside directors and were all asked directly by top executives. I feel this really illustrates how the high expectations of IHI align with your experience and desire to contribute to the company. The Medium-Term Management Plan "Project Change" positioned as IHI's long-term initiative currently underway as a phase of preparation to execute significant transformations. As expressed by the name of this plan, the amazing strategies of the project will transform the direction of the company while inspiring every employee. Would you mind telling us how "Project Change" came to be?

Background Leading to the Formulation of "Project Change" and IHI Group ESG Management

Nakanishi

I believe the original proposal for "Project Change" had been drafted while Mr. Mitsuoka was President, before my appointment as an outside director. IHI announced "Project Change" in November 2020, five months after Mr. Ide was appointed as President in June 2020. In November 2021, IHI Group ESG Management was announced as a means to execute this medium-term management plan.

Matsuda

I was appointed as an outside director at the same time Mr. Ide was appointed President. I don't know the details of deliberations by the Board of Directors before that, but I could sense the passion Mr. Mitsuoka had for change when I met him before my appointment. I believe that Mr. Ide was appointed as President because of the passion he had and he would be best suited to make decisive actions toward this change. Corporate officers on both the business execution and supervision sides actively debated matters when formulating IHI Group ESG Management.

Hiroki Sampei
Principal, Astonering Advisor LLC

Sampei

"Project Change" revolves around three axes intended to foster future growth: carbon solutions, air transportation systems, and maintenance and disaster prevention and mitigation. Why were these three axes identified?

Usui

These three axes had already been approved by the time I was appointed as an outside director, but each is very appropriate considering the nature of IHI businesses. However, IHI does face some challenges. Each of these axes do not necessary align with some business areas at the moment, and the index to use for monitoring progress is still unclear. In the future, I believe IHI will debate how to reorganize its business portfolio around these three axes. I do think IHI is moving in the right direction by expanding the life cycle business established for aircraft engines into other business domains. It will be important for IHI to further accelerate these efforts.

Nakanishi

In the next medium-term management plan set to begin in 2023, I don't think there is any way to avoid revising the business portfolios in light of the current business structure and future vision. The expansion of the life cycle business around services creates these horizontal ties between each business area. Even in regard to carbon solutions, IHI must decide where to focus on its many budding businesses.

Sampei

I see how a horizontal expansion of the life cycle business cultivated in aircraft engines to other segments establishes connections between IHI businesses. It is a grounded strategy because IHI is capitalizing on the experience and knowledge forged in one business area in other divisions. IHI can use this strategy as an instrument to accumulate a wide range of other knowledge around an axis of ESG management, which will create a foundation for next-generation businesses. It's quite a challenging task, I would think.

Matsuda

To achieve the goals outlined by "Project Change" and IHI Group ESG Management, IHI has to earnestly work to strengthen its head office capabilities because it is the head office that takes the lead of robust business divisions. IHI must pursue bold efforts to connect its business divisions in its expansion of the life cycle business, drive forward initiatives across business areas, and properly allocate management resources by making considerations on how to optimize the Group as a whole.

Yoshiyuki Nakanishi
Outside Director

Chieko Matsuda
Outside Director

Minoru Usui
Outside Director

Challenges of Restructuring Business Portfolios

Sampei

Head office leadership is pursuing reforms to the business portfolio, but what is necessary to bolster the effectiveness of robust business divisions?

Usui

For IHI to be succcessful, the management executives and people at the head office need to really understand the actual business, including the people involved, and the divisions need to feel that the head offices care about them and that they are trustworthy and reliable. Once a relationship founded in trust has been cultivated between the head office and the business divisions, it's important for IHI to move the process to an execution phase founded in clear and logical scenarios. IHI has excellent business models, such as the life cycle business in the Aero Engine Division. By incorporating these models into the industrial division, the Group can improve its profitability. Carbon solutions have a high potential. IHI is leading in these efforts, but the challenge is that it is linked to various other relevant businesses and has a long and complex supply chain. IHI needs to figure out where to generate revenue, where to outsource to supplier, and conceptualize strategies by thoroughly visualizing not only business divisions but also the entire value chain. I feel creativity will be essential in the discussion about how to restructure its business portfolios.

Nakanishi

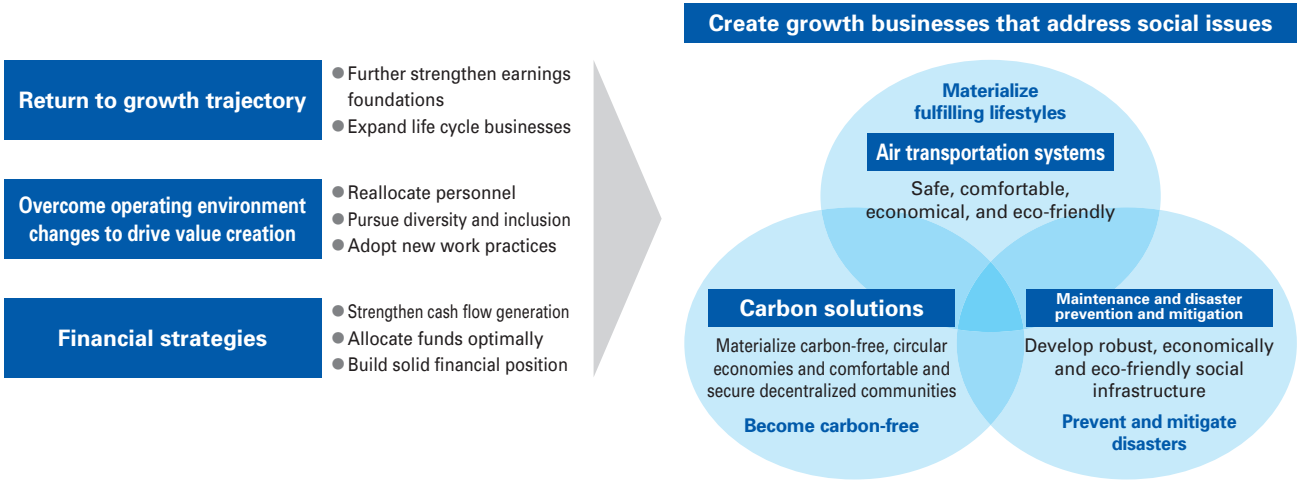
The DIC Corporation traditionally had strong business divisions too and used an accounting system in which each division was financially independent from one another. At one point, we discovered the side effects of overwhelming strong business divisions. While I was serving as President, DIC revised its business structure into a matrix organization with functional ties between the business divisions. This did not prove as effective as I'd hoped it would be. Currently, DIC gives a certain amount of authority to each business division while strict profit management factors in the Return on Invested Capital (ROIC) by business division. I learned overly powerful business divisions do damage to the head office in a way that prevents the development of human resources who are able to cross organizational boundaries. It even makes it hard for people to conceive of such a thing. IHI also needs to evaluate profitability in each business division

Overview of "Project Change"

●Positioning

Retain basic concepts from the Group Management Policy 2019

●"Project Change" emphases: Management that embraces ESG values



based on invested capital and prioritize the allocation of this capital to businesses expected to show a return on that investment. These decisions cannot be made by the business divisions themselves and must be entrusted to the head office.

Usui

Even when I was serving as the President of Seiko Epson Corporation, we withdrew from the liquid crystal and optics businesses while dramatically reducing the scale of the semiconductor businesses as a way to adapt to changes in the business environment. In addition, Epson restructured its business portfolios while transferring numerous human capitals between its business domains. I think the problem with business divisions that have too much power is that co-creation within the company becomes undermined, and I worked on changing that way of thinking. Each business division has a tendency to increase external orders rather than internal orders. At the time, business divisions at Epson had been ordering semiconductors from external sources even though it had its own semiconductor business. A company can expand its invaluable intellectual assets if each of these business divisions helps one another. Epson didn't fully withdraw from the semiconductor business because it saw that this segment had a synergistic effect with its core businesses. Epson has been transforming its business portfolios by constantly placing emphasis on company-wide optimizations. IHI is engaged in a diverse range of businesses. That's why I think it is essential to clearly understand and have a vision for each business and to organize these businesses through creative ideas, whether those that can be revitalized by collaboration or others that can better capitalize on technologies and human resources if outsourced. I think building trust is vital in finding a correct path that is not only based on the thoughts of the management team, but also considers how people in the business divisions feel.

Sampei

The business climate today is different from that 10 to 15 years ago due to an extremely tight labor market in Japan. Even if IHI is able to shift its business portfolios, the Group needs to transfer human capital to priority business areas rather than reduce the headcount in order to take full advantage of their skills. In this way, it seems IHI Group ESG Management advocates everything from diversity and inclusion to new relationships between people and organizations in preparation for any changes that may occur in the future. Ms. Matsuda, you have emphasized the importance of creating a balance sheet for each business division when restructuring business portfolios. How is IHI progressing with this?

Matsuda

To objectively evaluate the business divisions, IHI needs to create a balance sheet for each division to have a clear view of the return on capital. I hope to steadily make progress regarding this. The problem is that IHI divisions interweave multiple layers of businesses and technologies, which makes it risky to move forward with discussions about the business portfolio while only looking at superficial data. Some of these businesses are not very profitable currently but have technology with the potential for future growth. So, an unbiased look on the capital market and reevaluation of the technologies they have are important. IHI needs to take an inventory of its technologies and determine which technologies are required for future growth. Determining such a thing is not easy, but I understand that the newly established Corporate Strategy Headquarters are working on this. I hope that the best solution can be found based on a clear understanding of each business division.

Nakanishi

A balance sheet analysis is important to assess capital efficiency, but a decision to withdraw from a business venture is not decided on that information alone. Each IHI business is linked to a wide range of technologies. It's vital to fully manage its technology platforms. IHI has already organized scattered businesses and technologies. The way to look at these business portfolios as well as the front- and back-end technology platforms is a very important.

Alignment of Intellectual Property and Business Strategies

Sampei

I have the impression that many Japanese companies struggle with strategic intellectual property management. How is IHI regarding this?

Nakanishi

In the management of technology platforms, IHI needs to compare and assess its intellectual property alongside its business strategies. An objective analysis and evaluation are indispensable for learning what kinds of technologies are necessary to commercialize businesses that offer a competitive edge in addition to which technologies are lacking and how to supplement those shortcomings.

IHI is a technology company. That's why I think this technological point of view is vital in deepening discussions about the business portfolios.

Matsuda

Even if a business is not generating enough profit, the technology linked to that business may be essential to IHI's future business expansion. A decision about these kinds of businesses skewed only toward profitability and growth would mean letting go of excellent technologies and in turn damaging future corporate value. At the same time, the reality is that a business that cannot secure a certain level of returns on capital for an extended time will not survive very long. IHI must be creative about retaining important technologies even when withdrawing from a business or communicating the need for specific technologies for enhancing corporate value to capital markets.

Usui

IHI cannot establish profit models based on technology alone. Success as a business requires an evaluation of both the technology and business foundation. IHI's aero-engine and space operations business has a technological edge and strong business foundation, but the carbon solutions business seems to have a technological edge but have issues in business

foundation. IHI needs to have a sense of urgency in efforts to strengthen its presence in power generation, enhance its ammonia supply chain management, and reinforce other business infrastructure.

Monitoring Challenges

Sampei

The extreme volatility of returns is seen when measuring the ROIC of IHI's four business areas over the past 10 years. Because the fluctuation in the rate on equity is so large, evaluations of each business division will vary depending on when a decision is made. I know that the consolidated ROIC is one important management indicator, but is the ROIC of each business division shared at Board of Directors meetings?

Nakanishi

I've heard that the ROIC has been quantified on the business execution side, but it hasn't been shared yet with outside directors due to issues in the accuracy of that data. I'd love to at least see some rough numbers, as this is one way to assess their performance.

Matsuda

Each business division is responsible for presenting business reports at the Board of Directors meetings, but these tend to focus on changes in net sales and other information emphasizing a profit–loss approach. The head office needs to take the lead rather than the business divisions in determining how to view profit versus invested capital. I would like to see IHI begin to analyze capital efficiency by business division as the company is working to dig deeper into discussions about operating cash flows, the cash conversion cycle, and other such financial matters.

Usui

I'm assuming it would be difficult to extract highly accurate data because a wide variety of operations exist within a plant. However, more in-depth discussions are not possible without visualizing the current state of things. I hope to see some type of numerical data, even if it is nothing more than rough figures. To take this a step further, IHI needs indicators that illustrate the progress of its reforms to the business structure, such as the transformation of its life cycle business, because these changes are driven by "Project Change."

Integrity of the Incentive System

Sampei

As the Group prioritizes the transformation of its business portfolio, too much emphasis on short-term financial results would inevitably stagnate IHI reforms. Therefore, it seems necessary for IHI to establish a remuneration policy that takes into account an assessment of progress toward these transformations. Mr. Nakanishi, as the Chairperson of the Remuneration Advisory Committee, would you mind telling us a bit about promoting this transformation and the remuneration policy?

Nakanishi

I feel that the fluctuations in performance-based remuneration will be minimal in the short term as well as over the medium to long term. I think the maximum amount should be raised when business results are good. Share remuneration is a medium- and long-term incentive, which is designed to evaluate change during three fiscal years. However, there is room to improve this evaluation method, especially in terms of quantitative evaluations, because these assessments tend to centralize around a median value.

Sampei

IHI could decide to assign a certain number of restricted stock (RS) and other such options to encourage transformation. After three to five years, the results of initiatives to spearhead the transformation would be reflected in the stock price when the restrictions are lifted on the shares. There is a concern that if a large proportion of annual incentives are based on operating profit and cash flows, sentiments toward transformations that may negatively impact their performance become passive. It may not be a suitable remuneration policy during a period of change.

Usui

The current performance-based remuneration evaluates both the short-term business performance as well as an officer's contributions toward transformation. I think this also offers an opportunity to clearly separate this single assessment into two different evaluations. I believe evaluations to tending toward a median value can be avoided if quantitative criteria are used for the progress of the transformations and the level of contribution.

Sampei

IHI is engaged in IHI Group ESG Management to accelerate its corporate transformations, so I think it would be beneficial to incorporate non-financial performance indicators related to its ESG targets into performance-based remuneration as well.

Nakanishi

The Remuneration Advisory Committee is positioned as a body to provide advice on matters brought by the Board of Directors. This means it's difficult for us to radically revise any of the matters that the Committee is advising on. I have requested that the Committee become involved at the initial stage when formulating polices so that IHI can better reflect the opinions of outside committee members.

Usui

Currently, these evaluations are limited to internal directors. I think IHI should introduce 360-degree evaluations that include assessments by outside directors.

Tenure of Top Management

Sampei
Looking at the tenure of past presidents, IHI has a pattern of appointing a president who has served for four years as the Chairman of the Board for four years. I wonder if a president can achieve such transformations over only a four-year term, or does this person lead the transformations for eight years, including the tenure as the Chairman of the Board. How does this actually work?

Matsuda
In typical IHI fashion, the terms of past presidents and chairmen have been strictly managed. Although, I do think future discussions at the Nomination Advisory Committee and other meetings needs to be more flexible.

Nakanishi
It has been pointed out that a four-year term seems relatively short compared to other companies. Commonly, companies that had a president with a long tenure tend to try to strictly designate the length as a reaction.

Usui
As the Chairman of the Board, Mr. Mitsuoka had an opinion about this as an executive officer. I think that may be why he is working with Mr. Ide to lead IHI's transformations. However, this may be difficult to see from the outside.

Sampei
Yes, it is. As an investor, you want to know exactly who is fulfilling the actual role of the chief executive officer. In the case of IHI, Mr. Ide was appointed as President four years after his appointment as an executive officer, which gives the impression that IHI did not follow it customary process.

Matsuda
Mr. Ide was selected not because of his seniority, but he was a human resource who had the ability to drive forward IHI's transformation, and a lot has changed under his leadership. Outside directors also have a duty to encourage these types of transformation.

Dialogue with Investors

Sampei
In addition to messages to investors, I focus on what the top management says in the internal message at the start of the year or during entrance ceremony for employees. Mr. Ide has continued to embody Mr. Mitsuoka's message about the importance of change and important values, which he discussed with the employees. I feel this consistency really shows the level of momentum put behind "Project Change."
I would now like to ask about your thoughts on the dialogue between outside directors and investors. As far as I can tell from reading the approach to these dialogues in the IHI's Corporate Governance Report, IHI doesn't seem to be passive in communicating with investors. What do you think?

Usui
Epson has regular opportunities for outside directors to talk directly with multiple investors. There were some worries before making the final decision, but I think the dialogue built a lot of trust with the investors. It would be great if IHI actively engaged with investors.

Nakanishi
I had the opportunity to speak with investors for the first time as an outside director of IHI the other day. I not only answered questions that I'd received in advance but also asked if they had any questions about IHI. It proved to be quite an invaluable discussion. I hope to participate again if another change arises.

Matsuda
The secretariat was concerned about the burden this would put on outside directors, but at other companies, more and more outside directors are attending investor days and other events to engage with investors. I think more active dialogues with investors would be great.

In Closing

Sampei
This roundtable has really helped me understand how IHI positions "Project Change" and the future direction. I would like to ask one last question. How can a company with such a broad and deep scale of business unify all of its employees as it shifts its trajectory?

Matsuda
Mr. Ide has a wide variety of opportunities to directly share his passion and desire to transform the company with the employees. He has already begun to reform the human resource policies that support its transformation. I feel he has been taking the right steps in its initiatives. Recently, I feel things are changing through seeing how much the content of the internal newsletters has changed. I hope that the employees who directly heard and felt Mr. Ide's will and passion about the transformation become advocates and spread them to every corner of the workplace throughout the world.

Sampei
Investors were looking forward to the tremendous growth that will follow "Project Change." I hope IHI will aim to achieve two-digit profit growth and more than double its price-to-book ratio as a growth company. I am also expecting lively discussions at Board of Directors meetings.

Corporate Officers

Directors

Name Position at the Company	Attendance at Board of Directors meetings in 2021	Term of office as Director	Appointments to advisory committees	
			Remuneration Advisory Committee	Nomination Advisory Committee
 Tsugio Mitsuoka Representative Director, Chairman of the Board	17 of 17 (100%)	8 years	—	—
 Hiroshi Ide Representative Director, President	17 of 17 (100%)	2 years	—	Chairperson
 Takeshi Yamada Representative Director	17 of 17 (100%)	5 years	Committee Member	—
 Masataka Ikeyama Representative Director	—	—	—	—
 Takeshi Kawakami Board Director	17 of 17 (100%)	2 years	—	—
 Yasuhiro Shigegaki Board Director	17 of 17 (100%)	2 years	—	—

Directors

Name Position at the Company	Attendance at Board of Directors meetings in 2021	Term of office as Director	Appointments to advisory committees	
			Remuneration Advisory Committee	Nomination Advisory Committee
 Hideo Morita Board Director	14 of 14 (100%)	1 year	—	—
 Akihiro Seo Board Director	—	—	Committee Member	—
 Yoshiyuki Nakanishi Outside Director	17 of 17 (100%)	2 years	Chairperson	Committee Member
 Chieko Matsuda Outside Director	17 of 17 (100%)	2 years	—	Committee Member
 Minoru Usui Outside Director	14 of 14 (100%)	1 year	Committee Member	Committee Member
 Toshihiro Uchiyama Outside Director	—	—	Committee Member	Committee Member

Audit & Supervisory Board Members

Name Position at the Company	Attendance at Board of Directors meetings in 2021	Attendance at Audit & Supervisory Board meetings in 2021	Term of office as Audit & Supervisory Board Members	Appointments to advisory committees	
				Remuneration Advisory Committee	Nomination Advisory Committee
 Takashi Niimura Standing Audit & Supervisory Board Member	17 of 17 (100%)	13 of 13 (100%)	2 years	—	—
 Seiji Maruyama Standing Audit & Supervisory Board Member	14 of 14 (100%)	10 of 10 (100%)	1 year	—	—
 Toshio Iwamoto Outside Audit & Supervisory Board Member	17 of 17 (100%)	13 of 13 (100%)	3 years	Committee Member	—
 Aiko Sekine Outside Audit & Supervisory Board Member	16 of 17 (94%)	13 of 13 (100%)	2 years	—	—
 Yumiko Waseda Outside Audit & Supervisory Board Member	14 of 14 (100%)	10 of 10 (100%)	1 year	—	—

Please refer to the Notice of Convocation of the Ordinary General Meeting of Shareholders for the reasons for appointing the Directors and Audit & Supervisory Board Members.
https://www.ihi.co.jp/en/ir/pdf/Notice_of_Convocation_of_the_205th_Ordinary_General_Meeting_of_Shareholders.pdf

Knowledge and Experience of Directors and Audit & Supervisory Board Members (Skills Matrix)

	Name	Corporate Management	Technology Research and Development	Global Business	Sales Marketing	ICT DX	Personnel Affairs Human Resource Development	Finance and Accounting	Legal Compliance Risk Management
Director	Tsugio Mitsuoka	○	○						○
	Hiroshi Ide	○		○	○				
	Takeshi Yamada	○						○	
	Masataka Ikeyama	○				○			○
	Takeshi Kawakami		○						
	Yasuhiro Shigegaki		○						
	Hideo Morita		○						
	Akihiro Seo						○		○
Outside Director	Yoshiyuki Nakanishi	○		○	○				
	Chieko Matsuda						○	○	○
	Minoru Usui	○	○	○					
	Toshihiro Uchiyama	○		○	○				
Audit & Supervisory Board Member	Takashi Niimura				○				○
	Seiji Maruyama							○	
Outside Audit & Supervisory Board Member	Toshio Iwamoto	○		○		○			
	Aiko Sekine							○	
	Yumiko Waseda								○

The Company has sorted out expertise and experience necessary for the Board of Directors to sufficiently fulfill its function and realize the IHI Group's management philosophy and future ideal vision. The above list shows up to three fields that are particularly expected of each Director and Audit & Supervisory Board Member (including candidates), and does not cover all expertise and experience of each person.

Executive Officers

Director	Position and Role	Name	Main Responsibilities
○	Chief Executive Officer	Hiroshi Ide	In Charge of Business Relating to Internal Audit, In Charge of Risk Management, General Manager of Corporate Strategy Headquarters
○	Senior Executive Officer	Takeshi Yamada	Assistant to the President, In Charge of Group Finance & Accounting, In Charge of Business Relating to Corporate Planning, and Corporate Communication
○	Senior Executive Officer	Masataka Ikeyama	Assistant to the President, In Charge of Economic Security, In Charge of Group Quality Assurance, In Charge of Business Relating to Procurement, and Information Management
○	Managing Executive Officer	Takeshi Kawakami	In Charge of Monozukuri System Strategy, President of Social Infrastructure & Offshore Facilities Business Area
–	Managing Executive Officer	Yoshinori Komiya	General Manager of Intelligent Information Management Headquarters
○	Managing Executive Officer	Yasuhiro Shigegaki	In Charge of Production Base Strategy, President of Industrial Systems & General-Purpose Machinery Business Area
○	Managing Executive Officer	Hideo Morita	President of Aero Engine, Space & Defense Business Area
–	Managing Executive Officer	Kouji Takeda	President of Resources, Energy & Environment Business Area
○	Managing Executive Officer	Akihiro Seo	General Manager of Human Resources Division, In Charge of Human Resources and Labor, Safety and Health, ESG
–	Managing Executive Officer	Nobuhiko Kubota	General Manager of Technology & Intelligence Integration, In Charge of Group Engineering
–	Managing Executive Officer	Tsuyoshi Tsuchida	General Manager of Corporate Planning Division
–	Executive Officer	Tetsuji Fujimura	Vice President of Aero Engine, Space & Defense Business Area
–	Executive Officer	Kiyoshi Nihei	General Manager of Global Marketing & Sales Headquarters, In Charge of Group Operations
–	Executive Officer	Noriko Morioka	Deputy General Manager of Corporate Strategy Headquarters, In Charge of New Corporate Businesses Headquarters
–	Executive Officer	Jun Kobayashi	General Manager of Solution & Business Development Headquarters
–	Executive Officer	Kazuhiro Onitsuka	Vice President of Industrial Systems & General-Purpose Machinery Business Area
–	Executive Officer	Yukihisa Ozawa	Vice President of Resources, Energy and Environment Business Area
–	Executive Officer	Go Maeda	General Manager of Project Risk Management Division
–	Executive Officer	Shotaro Tabata	Vice President of Industrial Systems & General-Purpose Machinery Business Area
–	Executive Officer	Yoshikazu Hamada	General Manager of Legal Division, In Charge of Business Relating to Administration and Legal, Group Compliance
–	Executive Officer	Yasuaki Fukumoto	General Manager of Finance & Accounting Division
–	Executive Officer	Chie Fukuoka	General Manager of Corporate Communication Division

Securing and Maintaining Stakeholder Trust / Risk Management

Overview of Risk Management

●Policies

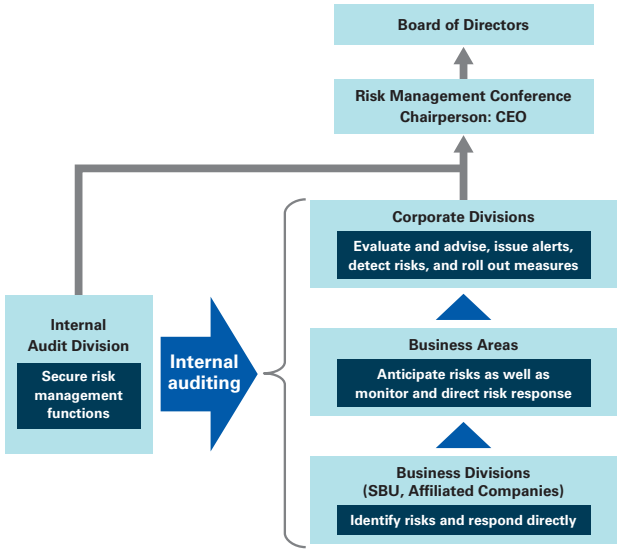
The IHI Group considers and engages in risk management as the top material issue of management.
The basic objectives of risk management are ensuring business continuity and the safety of officers, employees, and their families, securing managerial resources, and maintaining public trust. We manage risk in accordance with the following action guidelines based on the "Basic Code of Conduct for the IHI Group."

1. Ensure the continuity of the IHI Group's business operations.
2. Improve the public reputation of the IHI Group.
3. Protect the IHI Group's managerial resources.
4. Avoid jeopardizing stakeholders' interests.
5. Achieve recovery from damage as soon as possible.
6. Take responsible action when an issue arises.
7. Meet public requirements regarding risks.

●Structure

The IHI Group established the Risk Management Conference chaired by the CEO as a body to review policy initiatives, annual plans, corrective measures, and other matters vital to overall risk management. The Compliance Committee is positioned as the subcommittee of the Risk Management Conference.
IHI has clarified the roles and responsibilities of business divisions, including affiliated companies, the business area, corporate divisions, and the Internal Audit Division, and has built a multi-layered risk management framework.

Risk Management System



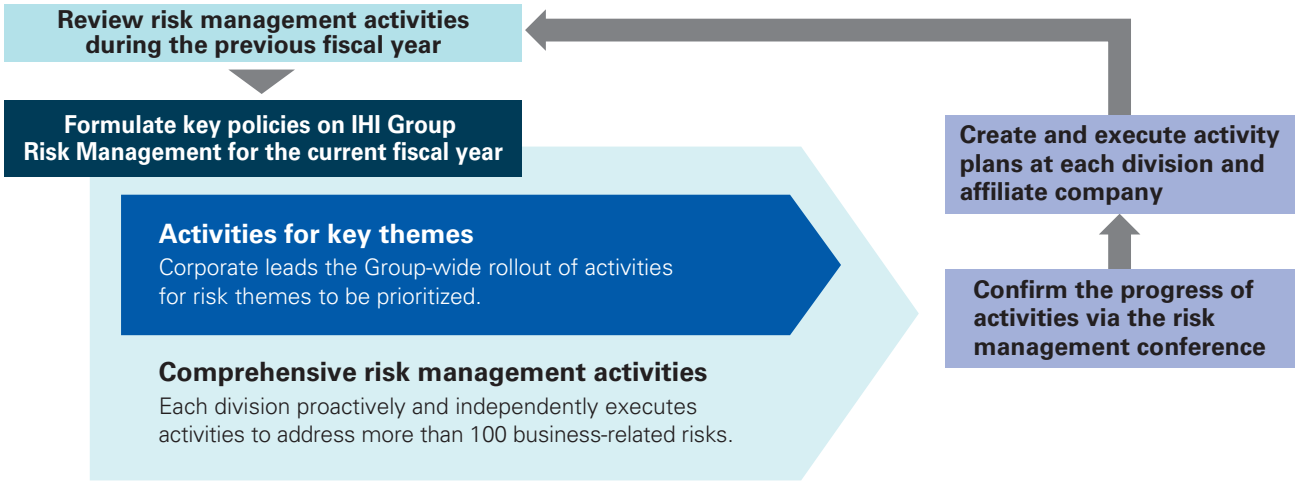
●Risk Management Framework

We formulate Key Policies on IHI Group Risk Management each fiscal year to prioritize risks that need to be addressed. Each IHI division and Group company worldwide moves forward with independent risk management in accordance with these policies.
Comprehensive risk management activities work to tackle over 100 common Group-wide risks. We also designate particularly important risks as the key risk management themes.
Group Risk Management Units made up primarily of corporate divisions provide information and training capitalizing on their expertise, monitor the progress of risk management activities, and offer support to each department.

●Key Policies for Risk Management

In fiscal 2021, initiatives were conducted to strengthen risk management through key themes. Progress of these initiatives is verified on a quarterly basis at the Risk Management Conference, furthermore accelerating risk management through a PDCA cycle.

Risk Management Activity Flow



In fiscal 2022, by anticipating changes in the market and taking measures to address multiple scenarios, we aim to steadily expand existing businesses and create new value that solves social issues. To ensure a robust business management platform supporting these measures, we strive forward uncompromising in our respect for economic security, human rights, and information security, which is more important than ever before, starting with compliance and quality.

The Key Risk Management Themes for FY2022

The IHI Group will strive to foster sustainable growth and improve corporate value through focused efforts on each of the themes described below.

1. Responding to risks that hinder the securing of a solid business operating foundation
   - Quality assurance
   - Economic security
   - Human rights
   - Information security
2. Risks that hinder the execution of business scenarios

Review of Risk Management Activities by Board of Directors

The Risk Management Conference provides comprehensive reports on its investigation and review activities to the Board of Directors each quarter.
The Board of Directors evaluates the risk management activities reported by the Risk Management Conference and reflects the results in the risk management activities for the current fiscal year. These reports also play a role in drafting key policies for risk management for the next fiscal year.

Crisis Management

●Approach

We have defined a crisis management structure, response procedures, and Business Continuity Plans (BCPs) for the entire IHI Group to respond to emergency situations as part of the Basic Rules on Crisis Management for the IHI Group. The IHI Group formed the Crisis Management Headquarters to take the necessary steps to minimize damage from an emergency situation with the potential to gravely impact corporate management and business activities.

●Preventing the Spread of the Novel Coronavirus (COVID-19)

The IHI Group prioritizes the health and safety of employees, their families, and every other stakeholder above all and engages in measures to prevent the spread of COVID-19 infection and any potential cluster infections.
Given this fundamental principle, guidelines are formulated individually for each department (offices, plants, and construction sites) to prevent the spread of the virus throughout the Group, considering national and local government policies and guidelines. The IHI Group implements the following measures to reduce the number of employees at the office and ensure safety as part of its efforts.

- Provide a work system to prevent infection

Telework (work done from home) is formulated as a general rule. Furthermore, any work that requires an employee to come to the office combines various countermeasures, such as a combination of telework and flextime, to shorten their time in office as much as possible.
At plants and construction departments where working from home is less of an option, we have prepared measures that ensure a work environment avoiding the "three Cs": closed spaces, crowded places, and close-contact settings. This includes measures adapting to the circumstances on each site, such as working in shifts, commuting to and from work more by car, while increasing the number of buses and other vehicles for commuting.

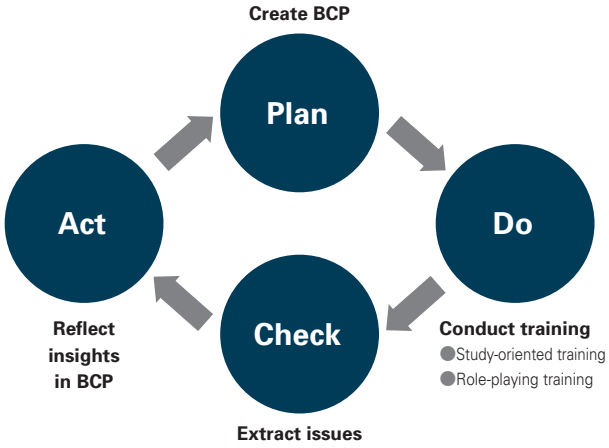
- Initiatives to promote telework

The IHI Group is revising its operational processes with telework as a core component to prevent the spread of infection and to ensure business continuity. Our efforts shift internal approval, meetings, and education to online formats.

●Disaster Prevention Initiatives

To prepare for severe disasters, the IHI Group has built a system to ensure both employee safety and business continuity. In addition, we have clarified the organizational structure and necessary actions in our internal rules, during both normal times and during times of disaster.
IHI has also established a Business Continuity Plan (BCP) for each representative office, division, and affiliated company, which are continually revised through regular training and classroom work to verify the effectiveness.
Every March, we conduct Group-wide response training, which the President and other management executives take part in to prepare for severe disasters. The training varies the day, time, and estimated damage of a disaster each year to test the effectiveness of the BCP from various angles.

Continual Revisions to the Business Continuity Plan (BCP)



Project Risk Management

●Project Risk Management Initiatives

The success or failure or large-scale projects and investments is greatly impacted by their initial plan. The impact of the initial plan becomes even larger for projects that are new or those that have not been handled for an extended time.

As a pre-order and pre-investment review, we check the validity and risks in the initial plan, first produced machine, and areas in which experience is lacking, conduct review by internal and external experts, as well as multilateral and comprehensive review by the review department.

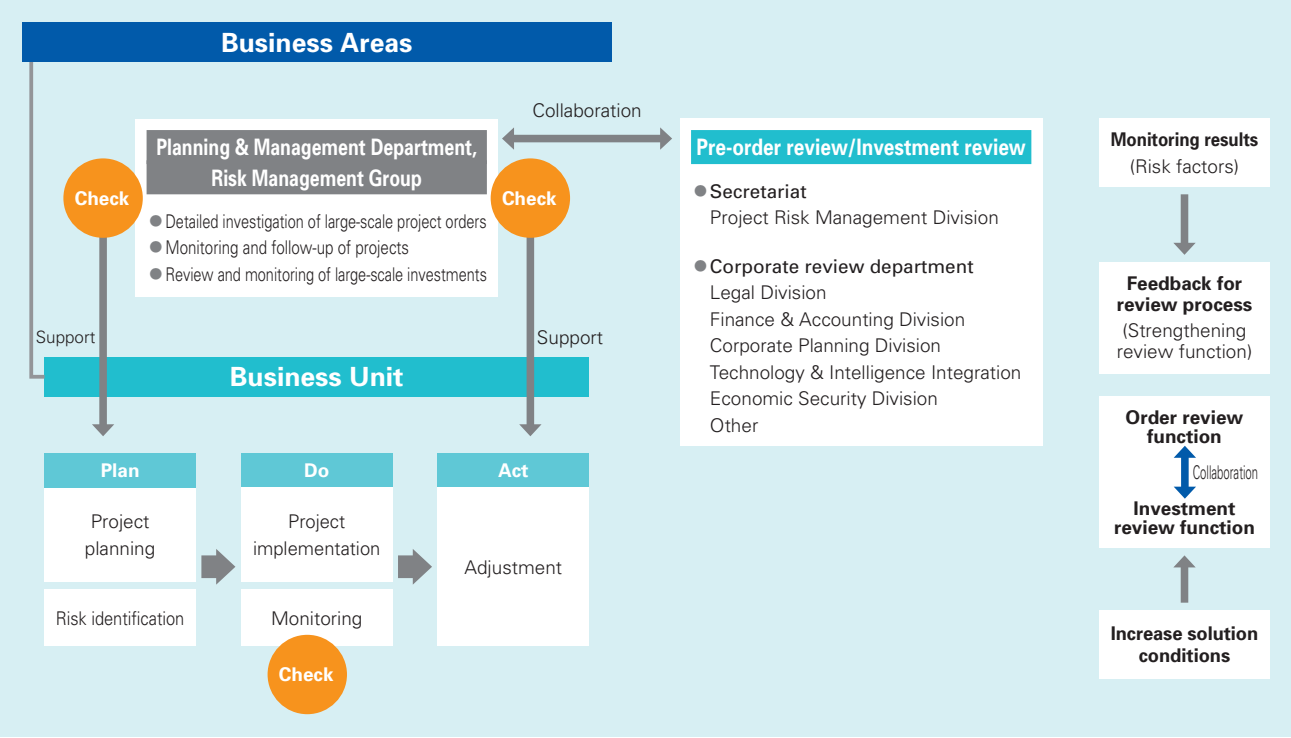
After ordering and investment is underway, we monitor the progress to ensure things are going according to the initial plan, if there are any new incidents, or that risks are handled appropriately in cooperation with the corporate review department and the department in charge of risk management of each business area.

●Achievements and Future Initiatives

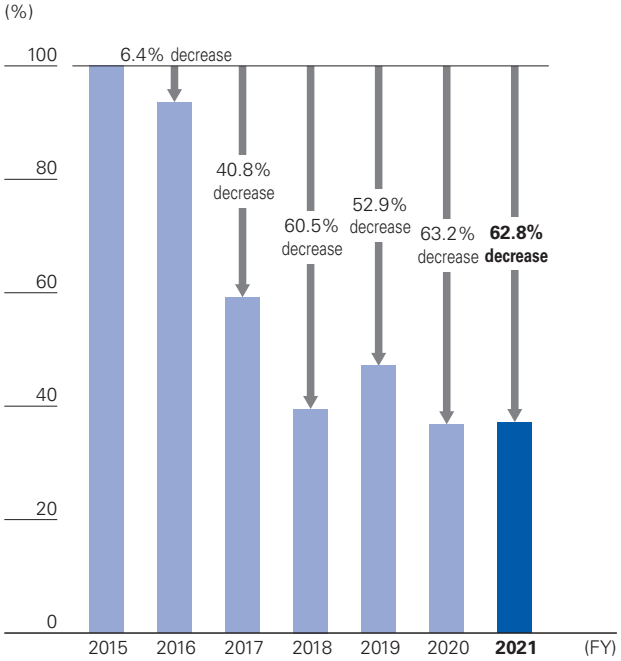
The number of downward revisions for large-scale projects is decreasing, indicating a certain degree of success in project risk management. We believe that the effects of improving the accuracy of our estimates by strengthening our estimate system as well as enhancing the resource management of key members involved in project execution and other initiatives have become apparent.

Since we expect projects in new fields to increase as we progress in "Project Change," we need to measures to prevent downward revisions while also identifying risks at an early stage by gathering information from the project origination stage. In addition, we will continue our efforts to improve risk sensitivity by enriching the project screening items and conducting further detailed and multifaceted checks and evaluations.

Project Risk Management System



Number of Downward Revisions for Large-Scale Projects



Note: Graph shows the number of downward revisions that resulted in a significant discrepancy between estimated and actual costs for large-scale projects subject to monitoring.

General Compliance

●Policies

The IHI Group implements its compliance program in accordance with the "Basic Rules of Compliance for the IHI Group" and other internal policies. These activities are conducted not only to address legal compliance but also to respond to the needs of society based on a full proper grasp of society's ever-changing values and expectations.

●Quality

To prevent a recurrence of the Civil Aero Engine Maintenance Business quality issue that we experienced in fiscal 2019, we have been focusing on and reinforcing our compliance and quality assurance systems as part of our risk management activities.

● Code of Action and Quality Declaration

We have formulated the IHI Group Code of Action as guidelines to be followed in daily work by all IHI Group officers and employees. We have also made quality a top priority in the IHI Group Quality Declaration.

● Compliance Day

IHI also designated a Compliance Day (May 10) as an annual event starting in fiscal 2021. A variety of actions are taken to raise awareness about compliance on that day, such as the release of a message from management and workplace dialogues. Compliance Day creates an opportunity to make the Civil Aero Engine Maintenance Business and other past issues personal for each and every person, with the goal of continually raising awareness about compliance.

●Structure

The IHI Group established the Compliance Committee as a Group-wide committee on compliance under the Risk Management Conference. Made up of compliance officers from each division, with the Chief Compliance Officer as chairperson, the Compliance Committee deliberates and drafts important policies on compliance as well as promotes compliance activities.

●Compliance Hotline

The IHI Group runs the Compliance Hotline as an internal reporting system to quickly identify actions that violate or potentially violate laws, internal regulations, or internal and external rules by IHI officers and employees to allow IHI to take corrective action as soon as possible.
IHI officers and employees can directly report to or consult with third-party experts outside of their chain of command via this hotline. The hotline is available inside and outside Japan, always in the appropriate local language.

IHI Group Code of Action

1. We truly understand and will comply with any and all applicable rules.
2. We do not engage in any wrongdoing.
3. We respect human rights.
4. We make safety and quality for our customers a top priority.
5. We enter into fair and legitimate transactions.
6. We never impair the safety of ourselves or our colleagues.
7. We strictly manage and control information.
8. If we discover an issue, we report it immediately.

IHI Group Quality Declaration

We, the IHI Group, shall:

1. Always put quality first.
2. Continue improving quality via Sangen Shugi and communication.
3. Listen sincerely to issues, swiftly take action, and share accurate information.
4. Provide quality assurance through compliance with rules and working appropriately.
5. All strive for the satisfaction of our customers.

Compliance Structure

Securing and Maintaining Stakeholder Trust / Supply Chain Management

Procurement Policy

The IHI Group Procurement Policy guides procurement activities around three main pillars: practicing fair and impartial procurement, establishing mutually beneficial partnerships, and responding to legal compliance and societal needs.
We promote CSR procurement that thoroughly considers human rights, labor conditions, occupational safety and health, the environment, and information management in addition to quality, price, delivery periods, and other basic procurement requirements for the materials and equipment necessary for our corporate activities. This requires suppliers to adhere to legal, regulatory, and social codes, consider human rights, labor conditions, occupational safety and health, the environment, and information disclosure, as well as ensure quality and delivery periods, strengthen competitiveness, engage in conflict mineral* initiatives, and promote CSR procurement throughout the entire supply chain. We also ask our suppliers to provide information regarding the progress of their CSR procurement initiatives to fulfill our corporate social responsibilities.
The IHI Group utilizes the IHI Group Procurement Policy as a reference to define the Basic Rules of Procurement for the IHI Group. These rules define our basic procurement philosophy, fundamental knowledge, and business criteria for all our procurement departments.

* Conflict minerals refer to minerals mined in contexts of armed conflicts that may inadvertently fund armed insurgents and fuel regional disputes.

Education

The IHI Group prioritizes training and internal audits related to relevant procurement laws to continually strengthen compliance.
We conduct a variety of professional procurement and other training programs not only in IHI Group procurement departments but also all other departments with a need to understand procurement-related laws.

Participants in Procurement Training

(Unit: People, Scope: IHI and affiliated companies in Japan)

Item	2019	2020	2021
Lecture on Subcontract Act*1	126	38	143
Lecture on Construction Business Act*1	48	40	98
Lecture on Overseas Procurement*1	81	78	82
Professional Procurement Training*2	643	233	642

*1 These three lectures are part of the professional procurement training and the numbers of participants are included in the numbers of participants for the professional procurement training.
*2 Professional procurement training was held only for the second half of 2020 due to COVID-19.

Initiatives

●Strengthen Supply Chains

The IHI Group is promoting activities to strengthen the supply chain globally to prevent production and business activities from delaying due to natural disasters, infectious diseases, conflicts, and other incidents that are increasing in recent years.
We confirm the scope of impact of the prolonged delivery time due to a lack of semiconductors and implement preventative measures Group-wide, such as securing multiple suppliers, changing to specifications that have higher interchangeability, and securing appropriate stock in response to the increased time for delivery.

●Recognition of Outstanding Suppliers

To further strengthen partnerships with outstanding suppliers, the IHI Group commends suppliers who have shown remarkable excellence.
Fiscal 2021 saw the same endless lockdowns in cities as fiscal 2020 due to the COVID-19 pandemic. In this business environment, 10 suppliers in Vietnam showed broad ingenuity to sustain engineering and manufacturing continuity. IHI sent these companies letters of gratitude to recognize them for these outstanding efforts.

●CSR Procurement Monitoring

The IHI Group promotes CSR procurement that thoroughly considers human rights, labor conditions, occupational safety and health, and environmental management in cooperation with suppliers in accordance with the IHI Group Procurement Policy. In 2020, Japan formulated the National Action Plan on Business and Human Rights according to the United Nations Guiding Principles on Business and Human Rights. In line with this, the IHI Group conducted CSR procurement monitoring for 173 of its suppliers in Japan and overseas in fiscal 2021. The results of these auditing activities played a role in furthering discussions with suppliers on a wide range of topics, including how to improve CSR procurement initiatives in the future.

●Responding to Anti-social Forces and Anticorruption

The IHI Group contractually requires business partners to prohibit all relationships with anti-social forces and commit no acts of bribery toward foreign government officials as prohibited by the Penal Code and the Unfair Competition Prevention Act or against the laws enacted in the particular country. If any business partner is found guilty of such acts, they are required to cooperate in the reporting and investigation process.

Overseas Procurement Network

Tokyo, Japan
London, England
New York, United States
Shanghai and Dalian, China
Seoul, Korea
New Delhi, India
Bangkok, Thailand
Singapore, Singapore
Kuala Lumpur, Malaysia
Ho Chi Minh City and Hanoi, Vietnam

Securing and Maintaining Stakeholder Trust

/ Stakeholder Engagement

Initiatives

●Dialogue with Stakeholders

The IHI Group deems our primary stakeholders with a significant influence over ongoing corporate activities as customers, business partners, shareholders, investors, government agencies, local communities, and employees. As such, we value and engage in broad dialogue with these stakeholders. The Integrated Report and Sustainability Data Book are published as tools for this dialogue. We also released the IHI ESG STORYBOOK in fiscal 2021 to provide details about the ESG management philosophy.
Topics with stakeholders that are considered particularly vital are reported to the Management Committee and Board of Directors, and are thus reflected in our corporate strategy.

●Approach to Communications with Shareholders and Investors

The IHI Group builds stronger relationships based on trust with all shareholders and other investors by recognizing accurate, timely disclosure of corporate information as a core principle of a sound financial instruments market, which is why we actively engage in communication efforts.
Our basic policy is to promote highly transparent management throughout the entire Group. We always disclose accurate and fair information on important management and business matters in a timely manner from the perspective of investors in capital markets. The IHI Group also sees honest Group accountability as a basic policy to define its management direction and main businesses.

●Timely and Proper Disclosure

The IHI Group enhances the scope of various materials disclosed both online and offline for active and fair informational disclosure.
We are deeply involved in active communication efforts with our domestic and overseas investors to gain greater understanding about IHI Group business activities.
As in-person meetings (hosted annually worldwide) could not be held due to the COVID-19 pandemic once again in fiscal 2021, we created opportunities for dialogue through phone and video conferences with our management team and all investors in North America, Europe, and Asia.

●Third-Party Evaluation

The IHI Group's sustainability initiatives have been evaluated by various organizations in Japan and overseas.

Main Results of Dialogue with Stakeholders

Stakeholders	Main Purpose of Dialogue	Example of Dialogues in 2021	Frequency
Customers	●Contribute to solving social issues and customer challenges ●Ensure product safety	●Conduct customer satisfaction surveys	As necessary
		●Television commercials, newspaper advertisements, and IHI websites	As necessary
		●Provide product safety information	As necessary
Business partners	●Engage in fair and impartial business dealings ●Cultivate mutually beneficial partnerships with our business partners	●Make requests of business partners based on the IHI Group Procurement Policy	Regularly
		●Commend outstanding suppliers	Annually
Shareholders & investors	●Disclose accurate information in a timely manner ●Strengthen relationships based on trust ●Enhance corporate value	●Convene the General Meeting of Shareholders	Annually
		●Hold financial results briefings and telephone conferences	Four times per year
		●Attend one-on-one meetings	As necessary
Government organizations	●Form partnerships with government organizations	●Participate in policy boards	As necessary
		●Participate in joint development and projects with government organizations	As necessary
Local communities	●Recognize ourselves as a member of society ●Contribute to solving social issues	●Hold community events ●Hold school visits	As necessary
Employees	●Recruit and develop human resources as the most vital management asset	●Conduct employee training	As necessary
		●Conduct employee-awareness surveys	Annually
		●Operate a compliance hotline	Regularly

FTSE Blossom Japan Sector Relative Index

DX銘柄2022 Digital Transformation

S&P/JPX Carbon Efficient Index

CDP DISCLOSURE INSIGHT ACTION
FY2021 Results
B- (Management Level)

2020年認定 くるみん 子育てサポートしています

女性が活躍しています！

2022 健康経営優良法人 Health and productivity ホワイト500

work with Pride Gold 2021

レジリエンス認証 事業継続および社会貢献

NIKKEI Smart Work Company 2023

Comprehensive Evaluation	Human Resource Utilization	Innovation	Market Cultivation
4.5 Stars	S	S++	S

We participated in the 6th Nikkei Smart Work Management Survey, a survey that selects companies that strive to bring innovation to productivity through work-style reforms, and received a comprehensive score of 4.5 stars.

Climate Change

Approach

Climate change has an enormous social and economic impact and is a vital social issue for companies to address in order to realize sustainability. The IHI Group sees climate change as one important management issue and is doing everything possible to combat it.

●IHI Carbon Neutrality by 2050

The IHI Group has pledged to make its entire value chain carbon neutral by 2050. We aim to be carbon neutral in our processes overall by reducing the direct and indirect (Scope 1 and 2) GHG emissions from our business activities as well as Scope 3 emissions from the upstream and downstream processes in our value chain.

●Participation in Third-Party Initiatives

In May 2019, the IHI Group became a signatory to the Task Force on Climate-related Financial Disclosures (TCFD) by resolution of the Board of Directors. This framework plays a role as a tool to formulate strategies able to strengthen risk management and cultivate business opportunities.

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

IHI Carbon-Neutral 2050

Our 2050 goal to achieve carbon neutrality throughout the entire value chain

Initiatives to Become Carbon Neutral

Business operations	**Procurement**	●Partner with eco-friendly businesses
	Production	●Pioneer the adoption of new technologies, including for in-house products and systems ●Fuel conversion ●Use of renewable energy
Products and services	**Transition** (Improve current technologies)	●Enhance efficiency of current power plants ●Lighten and electrify products ●Utilize renewable energy
	Transformation (Introduce new technologies)	●Use hydrogen and ammonia ●Recycle carbon

Structure

The IHI Group engages in environmental initiatives that include measures to combat climate change centered on the Environment Committee.
The IHI Group put in place a task force under the ESG Management Promotion Committee in fiscal 2021 to advocate carbon-neutral initiatives throughout the entire value chain. The officer in charge of CSR led this task force made up of members selected from the business areas and corporate divisions in fiscal 2021 before the General Manager of the Corporate Planning Division took the helm in fiscal 2022. The Administration and Corporate Planning Divisions act as the secretariat. The Committee reports on its activities to the ESG Management Promotion Committee and other management team meetings to receive guidance and accelerate initiatives.

Initiatives

●Reducing CO_2 Emissions from Business Activities

The IHI Group aims to reduce CO_2 emissions from plants, offices, and other business establishments in line with the Japanese government's policy target of a 46% reduction by 2030 (compared to fiscal 2013 levels) and carbon neutrality by 2050.
The IHI Group makes every effort to reduce CO_2 emissions from plants, offices, and other business establishments by both actively pursuing energy-efficient business practices and promoting the use of low-carbon energy.

CO_2 Emission and Energy Consumption Targets and Results

Action Plans	Targets	KPI	2018 Results (Base Year)	2020 Results	2021 Results
Reduce the environmental impact in plants, offices, etc.	Reduce CO_2 emissions intensity at least 3% by 2021 compared to 2018	CO_2 emissions intensity (t-CO_2/100 million yen)	22.2	20.2	18.8
	Reduce energy intensity at least 3% by 2021 compared to 2018	Energy consumption intensity (TJ/10 billion yen)	39.3	20.5	20.0

Our energy-efficient initiatives not only enhance operations but also make all the necessary capital investments. We have put in place energy management standards to drive these operational improvements.
These standards aim to provide ideal operation conditions and criteria to review operational management. These standards also become a knowledge base to conduct training on energy efficiency through outside experts in an effort to heighten the management quality of officers.
Our capital investments systematically renew aged equipment with energy-efficient equipment and adopt renewable energy sources. Another aspect important to reducing CO_2 emissions is shipping and transport. The IHI Group strives to promote modal shifts through greater load efficiency and active use of marine vessels.

●Risk and Opportunity due to Climate Change (TCFD Initiatives)

The IHI Group conducted simple scenario analyses of four business domains with a significantly large impact on climate change: the energy business, bridge and water gate business, vehicle turbocharger business, and civil aero engine business.
The first step set (1) a carbon-neutral world as the highest transition risk and (2) a world greatly impacted by climate change as the highest physical risk in our own independent scenarios drafted with reference to external scenarios created by the International Energy Agency (IEA) and Intergovernmental Panel on Climate Change (CC). The second step identified risks and opportunities for all four business domains. The third step assessed the impact each business has. The fourth and last step drafted countermeasures according to our findings.
In the future, the IHI Group will enhance its ability to leverage scenario analyses in business strategy through efforts such as assessing the financial impact of climate change.
The IHI Group will proactively incorporate the concepts pursued by TCFD signatories in management policies and business strategies. These policies and strategies will contribute to the development of a sustainable corporate group and society at large.

Scenario Analysis Process

Step 1 Set independent scenarios.

IHI Corporation referred to external scenarios* to set independent Group scenarios in anticipation of the world in 2050.
(1) High-transition risk scenario
(2) High-physical risk scenario

Step 2 Identify risks and opportunities.

IHI Corporation identifies risk and opportunities for the two scenarios created in Step 1.

Step 3 Evaluate the business impact.

IHI Corporation assigns point values for the potential of occurrence and scale of impact for each risk and opportunity identified in Step 2. The intersection between both defines the impact and allows for estimation of the influence that the risks and opportunities have on our businesses.

Step 4 Formulate countermeasures.

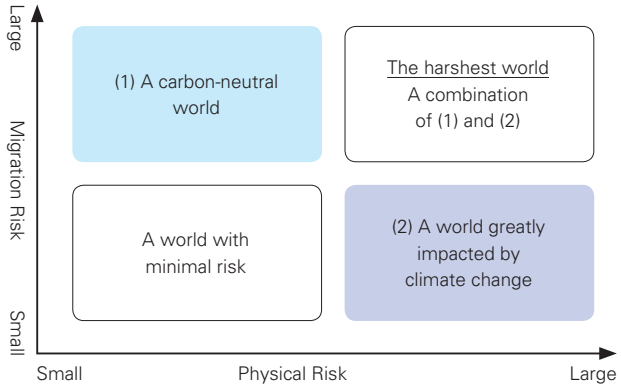
IHI Corporation formulates measures to respond to these risks and opportunities to foster resilient businesses.

* External reference scenarios:
- A carbon-neutral world
  IPCC RCP 2.6, IEA 2DS Scenario, etc.
- A world greatly impacted by climate change
  IPCC RCP 8.5, etc.

IHI Group scenarios:

(1) High-transition risk scenario
This scenario presents (1) a carbon-neutral world where society at large shifts to mitigate climate change and stop all greenhouse gas emissions.

(2) High-physical risk scenario
This scenario presents (2) a world greatly impacted by climate change that needs to adapt to the physical impact and directly confront drastic devastation by natural disasters.



Countermeasures set to address the two extreme worlds anticipated by these IHI scenarios enhance the resilience of IHI Group businesses against future risks.
The IHI Group can also reduce risks against the harshest world facing both these scenarios at the same time by integrating the countermeasures for each.

Climate change

IHI Corporation divides the risks and opportunities identified for each of the four business domains and the countermeasures into two categories: **1. risks, opportunities, and countermeasures specific to each business** and **2. risks, opportunities, and countermeasures shared across all businesses.**
Risks, opportunities, and countermeasures in 1. are shown in the table below while those in 2. are shown in the table on the next page.

1. Main risks, opportunities, and countermeasures specific to each business (four main business domains)

	Energy business	Bridge and water gate business	Vehicle supercharger business	Civil aero engine business
(1) Risks, opportunities, and main countermeasures in a carbon-neutral world				
Risks	● Declining demand for large fossil fuel power generation equipment	● Increasing procurement costs (carbon tax, etc.) for materials with high CO_2 emissions (concrete, steel, etc.)	● Declining demand for combustion engine vehicles unable to address carbon-neutral requirements and falling demand for existing turbochargers	● Declining demand for aircrafts due to carbon-neutral requirements and standardization of alternative high-speed means of transportation
Opportunities	● Increasing demand for fuel conversion, carbon capture and storage (CCUS), and other decarbonization technologies ● Increasing demand for regulated power supplies, storage energy, and Power-to-X to provide a stable energy supply as renewable energy becomes the standard	● Increasing demand for roads (bridges and tunnels) to provide a more efficient transportation network ● Increasing demand for railway construction due to expansion of railway systems overseas	● Potential to secure market competitiveness and leverage an increase in demand for turbochargers by being first to market with new turbocharger products (electric products in addition to existing models) for carbon-neutral electric vehicles (PHEV, HEV, FCV, etc.)	● Increasing demand for the development of aircraft engines supporting carbon-neutral requirements and a rise in opportunities due to electrification of engines and utilization of advanced material technologies
Main Countermeasures	● Rapidly deploy carbon-neutral technologies to society ● Promote technological development to stabilize the energy supply ● Expand the life cycle business through remote monitoring and other Internet of Things (IoT) technologies	● Reduce construction schedules and labor costs by labor-saving, remotization, and improving construction methods through promoting digital transformation (DX)	● Rapid development and commercialization of turbochargers for electric vehicles that comply with carbon-neutral requirement trends	● Early commercialization of electric engines and advanced technologies such as advanced composites
(2) Risks, opportunities, and main countermeasures in a world greatly impacted by climate change				
Risks	● Extreme delays due to on-site construction stoppages or disasters caused by frequent severe weather	● Extreme delays due to on-site construction stoppages or disasters caused by frequent severe weather	● Suspension of production due to disrupted supply chains caused by frequent severe weather	● Suspension of production due to disrupted supply chains caused by frequent severe weather
Opportunities	● Contributing in early recovery of equipment damaged in severe weather ● Increasing demand for digital technologies to promote labor saving and remote operation	● Increasing demand to build robust national infrastructure ● Contributing to early recovery of infrastructure damaged in severe weather	● No opportunities unique to our business	● No opportunities unique to our business
Main Countermeasures	● Expand the life cycle business through remote monitoring and other Internet of Things (IoT) technologies	● Expand business beyond life cycle business with wider perspective to include disaster prevention business ● Create technologies and systems that contribute to maintenance, disaster prevention, disaster mitigation, and quick recovery of infrastructure	● Strengthen supply chains	● Strengthen supply chains

2. Main risks and countermeasures shared across all businesses

(1) Transition Risks and Countermeasures for a Carbon-Neutral World		
Category	**Main Topics**	**Main Countermeasures and Transitioning to Opportunities**
Policy and Legal	● Introduction of carbon taxes, stronger industrial waste regulations, rising costs due to the adoption of renewable energy and energy-efficient equipment, etc.	● Reduce costs in business activities through efficient production and distribution as well as the proper management of energy consumption
Technology	● Rising costs due to research to realize carbon-neutral products and services, failed technological development, etc.	● Concentrate investments in technological development while staying acutely aware of policies, technologies, markets, and other social trends
Market	● Declining demand for products and services with high CO_2 emissions, etc.	● Actively draft and promote business plans that always anticipate multiple business scenarios to adapt to dramatic changes in market structures
Reputation	● Lost opportunities due to poor evaluations of our response to climate change, declining social credibility, etc.	● Disseminate easy-to-understand information about products and services that can help both mitigate and adapt to climate change

(2) Physical Risks and Countermeasures in a World Greatly Impacted by Climate Change		
Category	**Main Topics**	**Main Countermeasures**
Acute/Chronic	● Ceased business activities due to damaged offices and bases caused by typhoons, floods, other natural disasters, etc.	● Incorporate the response to climate change into the business continuity plans of plants and offices to ensure the safety of officers and employees and strengthen the supply chain ● Draft, execute, and manage advanced measures in anticipation of foreseeable flood damage

Financial Summary

IHI Corporation and consolidated subsidiaries / For respective fiscal years ended March 31

Note: The Company adopted the International Financial Reporting Standards (IFRS) in fiscal 2020.

FY		2011	2012	2013	2014	2015	2016	2017	2018	2019		2020	**2021**
Standard		Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	IFRS	IFRS	IFRS
Key financial highlights													**(Billions of yen)**
Orders received		1,269.6	1,225.6	1,458.9	1,664.3	1,605.3	1,389.8	1,505.0	1,399.2	1,373.9	1,280.0	1,097.0	**1,261.2**
Net sales/Revenue		1,221.8	1,256.0	1,304.0	1,455.8	1,539.3	1,486.3	1,590.3	1,483.4	1,386.5	1,263.1	1,112.9	**1,172.9**
Operating Profit		43.3	42.1	53.2	63.2	22.0	47.3	72.2	82.4	607.0	47.8	279.0	**814.0**
Share of profit (loss) of entities accounted for using equity method/Share of profit (loss) of investments accounted for using equity method		0.6	4.3	5.3	(1.7)	1.1	(3.5)	(33.0)	4.1	(12.9)	(12.3)	(1.9)	**1.1**
Total non-operating income		(1.6)	(5.9)	0.0	(6.7)	(12.3)	(25.3)	(50.8)	(16.7)	(28.5)	—	—	—
Ordinary profit/Profit before tax		41.7	36.2	53.2	56.5	9.7	22.0	21.4	65.7	32.2	29.1	27.6	**87.6**
Profit attributable to owners of parent		23.8	33.3	33.1	9.0	1.5	5.2	8.2	39.8	12.8	8.2	13.0	**66.0**
R&D expenses		30.0	30.2	33.5	37.0	41.6	35.5	38.6	36.5	38.1	40.0	26.8	**29.8**
Capital expenditure		53.5	55.0	54.5	63.9	50.8	52.7	59.2	67.3	80.6	89.9	48.3	**43.3**
Depreciation		41.1	41.7	40.4	43.2	46.7	46.6	44.8	42.9	53.8	66.3	69.8	**67.5**
Interest-bearing liabilities		345.2	353.8	357.8	410.6	374.5	371.9	322.2	355.0	488.1	612.7	605.9	**505.5**
Net assets/Total equity		258.4	299.2	362.5	359.5	333.3	337.6	350.2	381.6	353.7	306.0	327.7	**407.0**
Employees (People)		26,915	26,618	27,562	28,533	29,494	29,659	29,706	29,286	28,964	29,328	29,149	**28,801**
Per share data													**(Yen)**
Basic earnings per share*1		162.58	228.14	225.13	58.84	9.90	33.98	53.71	258.53	84.21	53.93	88.13	**439.77**
Book value per share/Equity attributable to owners of parent per share*2		1,708.36	1,970.77	2,236.81	2,240.31	2,061.63	2,060.33	2,103.22	2,263.12	2,195.96	1,885.13	2,025.18	**2,526.33**
Annual dividends per share		40.00	50.00	60.00	60.00	30.00	0.00	60.00	70.00	50.00	50.00	0.00	**70.00**
Business area information													**(Billions of yen)**
Resources, Energy & Environment	Orders received	312.8	290.1	494.6	582.7	532.7	352.8	378.0	285.5	316.9	316.9	274.7	**373.8**
	Order backlog	368.4	340.1	535.2	760.4	843.4	752.3	648.5	523.1	521.2	517.0	482.3	**527.5**
	Revenue	312.3	321.5	344.0	415.3	452.4	427.3	490.4	377.0	327.7	324.8	317.6	**344.4**
	Operating profit	10.9	16.2	11.6	24.0	(2.2)	(10.6)	(14.8)	3.3	3.7	3.9	19.1	**22.9**
Social Infrastructure & Offshore Facilities	Orders received	199.5	97.0	175.5	178.7	128.5	150.1	163.9	124.4	196.9	196.9	166.1	**181.0**
	Order backlog	190.1	185.2	235.2	231.9	194.3	196.1	206.1	191.6	229.6	229.3	226.4	**250.0**
	Revenue	114.7	117.8	150.3	188.6	168.1	157.7	154.5	143.1	152.8	148.7	157.9	**167.3**
	Operating profit	8.2	1.5	2.3	(3.2)	(48.9)	(12.0)	13.9	14.2	13.4	13.0	17.1	**15.3**
Industrial Systems & General-Purpose Machinery	Orders received	327.0	343.6	370.6	415.0	421.8	420.5	474.0	458.9	420.1	420.1	365.2	**384.5**
	Order backlog	176.2	162.3	108.7	121.0	138.0	148.4	161.0	180.3	190.8	189.8	175.3	**180.7**
	Revenue	318.7	382.5	397.8	411.7	404.7	411.6	459.0	441.0	406.4	404.5	374.2	**376.9**
	Operating profit	16.0	13.6	15.1	10.2	12.6	17.5	18.9	23.1	11.4	12.9	11.4	**12.8**
Aero Engine, Space & Defense	Orders received	331.1	344.8	406.9	468.0	515.6	451.5	463.8	494.3	420.1	321.5	268.9	**304.7**
	Order backlog	368.8	393.5	440.3	510.7	541.0	511.0	533.0	562.6	493.6	491.7	248.5	**283.8**
	Revenue	299.4	338.4	406.0	434.8	500.2	471.9	463.7	492.2	480.8	369.7	244.6	**265.2**
	Operating profit	6.0	15.4	36.7	39.5	58.4	53.0	60.1	46.4	40.3	20.8	(40.4)	**(9.3)**

FY	2011	2012	2013	2014	2015	2016	2017	2018	2019		2020	2021
Standard	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	IFRS	IFRS	IFRS
Financial indices												**(%)**
Percentage of overseas sales/revenue	42.6	38.7	47.4	52.1	51.8	50.9	50.8	48.1	47.8	43.6	37.2	**42.2**
Operating profit margin	3.5	3.4	4.1	4.3	1.4	3.2	4.5	5.6	4.4	3.8	2.5	**6.9**
ROIC (return on invested capital)*3	4.6	4.5	5.3	5.8	2.3	5.0	7.7	8.7	5.7	4.1	2.2	**6.4**
ROA (return on assets)*4	1.8	2.5	2.3	0.6	0.1	0.3	0.5	2.4	0.8	0.4	0.7	**3.5**
ROE (return on equity)*5	9.8	12.4	10.5	2.6	0.5	1.6	2.6	11.8	3.8	2.8	4.5	**19.3**
Debt-to-equity ratio (times)*6	1.34	1.18	0.99	1.14	1.12	1.10	0.92	0.93	1.38	2.00	1.85	**1.24**
Equity to total assets	18.7	21.1	23.1	20.5	18.6	18.8	19.9	21.0	18.7	15.0	16.4	**20.3**
CCC (days)	—	—	—	—	—	87	83	97	120	92	124	**112**
Balance sheet information												**(Billions of yen)**
Current assets	844.3	814.7	901.2	1,053.7	1,100.5	1,073.8	993.4	987.8	1,076.0	957.6	946.6	**1,023.9**
Non-current assets	493.7	549.4	595.1	637.1	614.5	618.9	640.0	676.6	664.7	911.3	886.2	**855.6**
Total assets	1,338.1	1,364.2	1,496.3	1,690.8	1,715.0	1,692.8	1,633.4	1,664.5	1,740.7	1,869.0	1,832.8	**1,879.6**
Current liabilities	689.6	665.4	726.2	795.9	882.7	876.2	811.6	823.1	909.0	916.5	764.7	**773.6**
Provision for construction warranties, Provision for loss on construction contracts	44.7	40.4	43.8	65.3	97.5	85.2	80.9	69.1	62.6	31.9	26.4	**22.3**
Non-current liabilities	389.9	399.5	407.5	535.3	498.9	478.9	471.6	459.7	478.0	646.4	740.3	**698.9**
Total liabilities	1,079.6	1,064.9	1,133.8	1,331.2	1,381.6	1,355.2	1,283.2	1,282.8	1,387.0	1,562.9	1,505.1	**1,472.6**
Shareholders' equity/Total equity attributable to owners of parent	254.3	282.7	332.2	313.5	305.8	309.9	313.2	343.4	329.2	280.1	300.7	**382.1**
Total net assets/Total equity	258.4	299.2	362.5	359.5	333.3	337.6	350.2	381.6	353.7	306.0	327.7	**407.0**
Total liabilities and net assets/Total liabilities and equity	1,338.1	1,364.2	1,496.3	1,690.8	1,715.0	1,692.8	1,633.4	1,664.5	1,740.7	1,869.0	1,832.8	**1,879.6**
Cash flow statement information												**(Billions of yen)**
Cash flows from operating activities	24.7	74.3	39.2	63.5	95.3	65.3	99.0	46.4	14.5	42.4	36.3	**114.1**
Cash flows from investing activities	(37.7)	(61.0)	(62.2)	(74.6)	(35.5)	(28.9)	(47.9)	(79.2)	(75.8)	(85.5)	(40.4)	**27.9**
Cash flows from financing activities	(38.5)	(3.1)	11.3	33.4	(47.5)	(21.9)	(57.3)	16.4	115.2	96.8	(23.7)	**(121.4)**
Change in interest-bearing liabilities	(28.1)	8.6	4.0	52.8	(36.1)	(2.6)	(49.7)	32.8	133.0	(119.0)	(6.7)	**(100.3)**
Free cash flow*7	(12.9)	13.3	(23.0)	(11.0)	59.8	36.4	51.0	(32.8)	(61.3)	(43.0)	(4.1)	**142.0**

*1 Japanese GAAP/IFRS: Profit attributable to owners of parent / Average number of shares outstanding during the period
*2 Japanese GAAP: Net assets / Total number of shares outstanding IFRS: Equity / Total number of shares outstanding
*3 Japanese GAAP/IFRS: (Operating profit + Interest and dividend income) after tax / (Equity attributable to owners of parent + Interest-bearing liabilities)
*4 Japanese GAAP/IFRS: Profit attributable to owners of parent / (Average of total assets at end of previous fiscal year and end of current fiscal year)
*5 Japanese GAAP/IFRS: Profit attributable to owners of parent / (Average of equity attributable to owners of parent at end of previous fiscal year and end of current fiscal year)
*6 Japanese GAAP: Net interest-bearing liabilities / Net assets IFRS: Interest-bearing liabilities / Equity
*7 Cash flows from operating activities + Cash flows from investing activities

Non-financial Summary

Material issues	Theme	Index		Scope of Data	Results			
					2018	2019	2020	2021
Governance – Principled Corporate Management –								
Corporate governance	Corporate governance	Average attendance rate of Outside Directors	Board of Directors meetings (%)	IHI	98.6	98.1	96.8	**100.0**
		Average attendance rate of outside Audit & Supervisory Board Members	Board of Directors meetings (%)	IHI	92.6	100.0	100.0	**97.9**
			Audit & Supervisory Board meetings (%)	IHI	100.0	100.0	100.0	**100.0**
Compliance	Legal compliance	Number of law violations	Competition laws	IHI and consolidated subsidiaries	0	0	0	**0**
			Anticorruption laws	IHI and consolidated subsidiaries	0	0	0	**0**
			Laws/regulations relating to PR activities	IHI and consolidated subsidiaries	0	0	0	**0**
		Expenditure to organizations	Political organizations (Millions of yen)	IHI	10	10	10	**10**
			Economic organizations (Millions of yen)	IHI	48	56	57	**52**
			Other major industry organizations (Millions of yen)	IHI	101	120	122	**119**
		Number of Compliance Hotline reports		IHI and affiliated companies	238	239	202	**263**
		Number of compliance training participants	Officer training	IHI and subsidiary companies in Japan	47	–	–	**–**
			Line Manager Training	IHI and subsidiary companies in Japan	75	72	–	**–**
			Quality & Compliance Training (Japan)	IHI and subsidiary companies in Japan	–	27,866	24,085	**26,243**
			Quality & Compliance Training (Overseas)	Subsidiary companies overseas	–	1,774	3,261	**4,938**
			e-Learning*1 (Japan)	IHI and subsidiary companies in Japan	18,234	18,164	20,169	**21,659**
			e-Learning (Overseas)	Subsidiary companies overseas	1,126	1,214	–	**–**
Innovation management	Intellectual property protection	Patents held by region	Patents in Japan	IHI	4,120	4,150	3,867*2	**3,866**
			Patents overseas	IHI	3,047	3,502	3,808	**3,936**
Information security	Information security measures	Information security measures level evaluation (out of five) (score)		IHI and consolidated subsidiaries	2.9	3.2	3.4	**3.7**

*1 Conducted as Quality & Compliance Training since 2020.

*2 Corrections have been made to the number of patents held in Japan for 2020.

Material issues	Theme	Index		Scope of Data	Results			
					2018	2019	2020	2021
Society – Materialize an Affluent Society –								
Diversity and inclusion	Number of employees	Consolidated number of employees		IHI and consolidated subsidiaries	29,286	28,964	29,149	**28,801**
		Number of employees (IHI)		IHI	8,011	7,741	7,796	**7,779**
			Male	IHI	6,994	6,730	6,766	**6,727**
			Female	IHI	1,017	1,011	1,030	**1,052**
			Ratio of female employees (%)	IHI	12.7	13.1	13.2	**13.5**
	Average years of service	All employees		IHI	14.9	15.8	15.1	**16.3**
			Male	IHI	15.1	16.0	15.3	**16.5**
			Female	IHI	13.2	14.5	14.2	**15.5**
	Turnover rate	Total turnover rate		IHI	4.3	3.5	2.9	**3.1**
			Rate of retirement due to personal reasons (%)	IHI	2.0	2.0	1.1	**1.6**
			Turnover rate within 3 years of joining the company (%)	IHI	7.4	6.8	4.3	**3.4**
	Employee-awareness surveys	Ratio of answered employee-awareness surveys (%)		IHI and affiliated companies	91.7	91.4	88.0	**88.0**
	Employment	Number of new graduate recruitments		IHI, University graduates	158	153	194	**109**
			Male	IHI, University graduates	138	123	162	**87**
			Female	IHI, University graduates	20	30	32	**22**
			Female recruitment rate (%)	IHI, University graduates	12.7	19.6	16.5	**20.2**
		Number of mid-career hires		IHI	66	77	55	**85**
		Recruitment ratio of people with disabilities (%)		IHI	2.21	2.39	2.35	**2.39**
		Re-employment rate of employees at retirement age (%)		IHI	84	81	81	**78**
		Number of employees from abroad		IHI	89	81	82	**74**
		Local managers at overseas sites		China, Singapore, and United States	22	23	22	**25**
	Gender diversity	Number of female officers		IHI	4	3	3	**3**
			Ratio of female officers (%)	IHI	24	19	18	**18**
		Number of female managers		IHI	74	83	92	**107**
			Ratio of female managers (%)	IHI	2.8	3.0	3.4	**3.9**
			Ratio of female general managers (%)	IHI	0.8	0.8	0.8	**1.1**
			Ratio of female section managers (%)	IHI	2.0	2.2	2.5	**2.7**

Non-financial Summary

Material issues	Theme	Index		Scope of Data	Results			
					2018	2019	2020	2021
Diversity and inclusion	Work–life balance	Employees with reduced work hours		IHI	158	161	139	**158**
		Employees who have taken childcare leave		IHI	689	779	768	**935**
		Employees who have taken parental leave		IHI	118	131	137	**128**
		Percentage of employees who return to work after parental leave (%)		IHI	100	99.2	100	**100**
		Employees who have taken nursing care leave		IHI	6	7	2	**6**
		Average annual paid vacation days taken		IHI	18.36	19.40	18.73	**17.37**
		Monthly average overtime (hours)		IHI	22.50	21.10	13.00	**18.90**
	Human resource development	Positional training*3	Participants	IHI and affiliated companies in Japan	3,300	3,276	1,882	**672**
			Training hours	IHI and affiliated companies in Japan	112,000	106,208	34,672	**24,028**
		Selective training courses*3	Participants	IHI and affiliated companies in Japan	6,200	3,343	1,948	**17,430**
			Training hours	IHI and affiliated companies in Japan	47,000	25,073	16,358	**49,648**
		Average annual training hours per employee		IHI and affiliated companies in Japan	16.7	19.8	13.3	**12.1**
		Employees certified as master artisans		IHI	37	41	39	**41**
	Labor-management partnership	Employee union membership rate (%)		IHI and 7 labor unions of consolidated subsidiaries	73	73	72	**71**
		Number of labor complaints received		IHI	0	0	0	**0**
Occupational health and safety	Occupational health and safety	Participation rate of medical checkups (%)		IHI and 35 affiliated companies	70	71	72	**71**
		Participation rate of stress checks (%)		IHI and 35 affiliated companies	96	94	95	**95**
		Absenteeism (Employees who take three or more months of leave) (%)		IHI and 35 affiliated companies	0.9	1.0	0.8	**0.7**
		Presenteeism (Employees with restricted hours) (%)		IHI and 35 affiliated companies	1.7	1.6	2.1	**1.8**
		Smoking rate (%)		IHI and 35 affiliated companies	28	27	27	**28**
		Lost time injuries frequency rate		IHI and 31 affiliated companies	0.26	0.40	0.28	**0.38**
		Total injuries frequency rate		IHI and 31 affiliated companies	1.11	1.49	0.87	**1.23**
		Rate of occupational diseases		IHI and 31 affiliated companies	0.165	0.165	0.15	**0.118**
		Occupational accidents*4		IHI and 31 affiliated companies	55 (0)	71 (0)	38 (0)	**52 (1)**
			Employees	IHI and 31 affiliated companies	28 (0)	42 (0)	18 (0)	**31 (1)**
			Temporary employees	IHI and 31 affiliated companies	4 (0)	4 (0)	1 (0)	**3 (0)**
			Partners	IHI and 31 affiliated companies	23 (0)	25 (0)	19 (0)	**18 (0)**
Corporate citizenship	Social contribution activities	Social contribution expenses (Millions of yen)		IHI and 31 affiliated companies	635	519	215	**260**

*3 In 2020, the number of participants and length of training hours have declined relative to the previous year, as group training was changed to online training from the second half of 2020.
In 2021, the number of participants and length of training hours in each training have changed compared to other years due to revision of the Group's human resource development program.
*4 Fatalities caused by occupational accidents. Figure inside parentheses indicates fatal incidents.

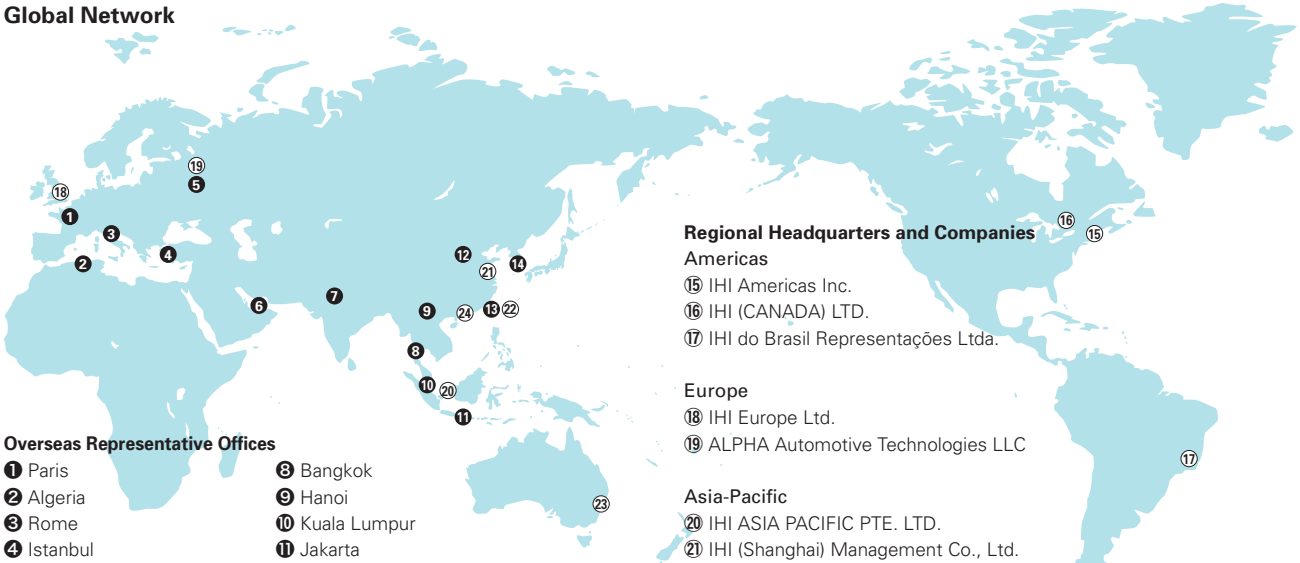
Material issues	Theme	Index		Scope of Data	Results			
					2018	2019	2020	2021
Environment – Reduce Environmental Impact –								
Climate change	CO_2	CO_2 emissions (Scope 1 + Scope 2)*5 (t-CO_2)		IHI and consolidated subsidiaries	329,602	254,227	225,066	**220,138**
			Scope 1 (t-CO_2)	IHI and consolidated subsidiaries	80,032	64,724	58,517	**64,270**
			Scope 2 (market-based) (t-CO_2)	IHI and consolidated subsidiaries	249,570	189,503	166,549	**155,868**
		CO_2 emissions intensity*6 (t-CO_2/100 million yen)		IHI and consolidated subsidiaries	22.2	18.3	20.2	**18.8**
	Energy	Energy consumption*5, 7 (TJ)		IHI and consolidated subsidiaries	5,828	2,468	2,283	**2,348**
			Fuel consumption (TJ)	IHI and consolidated subsidiaries	–	1,044	974	**1,084**
			Electricity consumption (TJ)	IHI and consolidated subsidiaries	–	1,398	1,276	**1,229**
			Heat consumption (TJ)	IHI and consolidated subsidiaries	–	–	7	**5**
			Steam consumption (TJ)	IHI and consolidated subsidiaries	–	0	0	**0**
			Renewable energy used (TJ)	IHI and consolidated subsidiaries	–	26	26	**31**
		Energy consumption intensity*6 (TJ/10 billion yen)		IHI and consolidated subsidiaries	39.3	17.8	20.5	**20.0**
	External evaluation	Evaluation of CDP climate change		IHI and consolidated subsidiaries	B (Management)	B (Management)	B- (Management)	**B- (Management)**
Circular economy	Waste	Waste generated (tons)		IHI and consolidated subsidiaries	29,010	27,564	20,912	**23,633**
		Toxic waste generated*8 (tons)		IHI and consolidated subsidiaries	–	164	182	**255**
		Amount recycled (valuable resources) (tons)		IHI and consolidated subsidiaries	–	61,799	15,067	**16,164**
	Water	Water withdrawal*5, 9 (1,000 m^3)		IHI and consolidated subsidiaries	4,182	4,251	4,008	**4,195**
			Public water (1,000 m^3)	IHI and consolidated subsidiaries	–	750	651	**664**
			Industrial water (1,000 m^3)	IHI and consolidated subsidiaries	–	868	799	**792**
			Groundwater (1,000 m^3)	IHI and consolidated subsidiaries	–	1,948	1,731	**1,691**
			Rainwater, rivers, lakes, etc. (1,000 m^3)	IHI and consolidated subsidiaries	–	685	827	**1,047**
		Waste water (1,000 m^3)		IHI and consolidated subsidiaries	–	–	3,373	**3,265**
Environmental protection	Compliance with environmental laws and regulations	Significant environmental accidents		IHI and consolidated subsidiaries	0	0	0	**0**
		Major violation of environmental laws/regulations		IHI and consolidated subsidiaries	0	0	0	**0**
		Number of cases IHI paid fines, penalties, etc.		IHI and consolidated subsidiaries	0	0	0	**0**
	Costs to reduce the IHI environmental impact	Investments (Millions of yen)		IHI	696	652	334	**357**
		Expenditures (Millions of yen)		IHI	143	78	23	**92**

*5 The total value for each item is rounded off and may not match the figures in the breakdown.
*6 Net sales as the denominator.
*7 The method for calculating energy consumption changed in 2019.
*8 The total of infectious wastes among the specified wastes and the specified controlled wastes.
*9 Changed from amount of water consumption to amount of water withdrawal since 2019.

Corporate Data / Share Information (As of March 31, 2022)

Company Name	IHI Corporation
Head Office	Toyosu IHI Building, 1-1, Toyosu 3-chome, Koto-ku, Tokyo 135-8710, Japan Tel: +81-3-6204-7800
President	Hiroshi Ide, President and Chief Executive Officer
Founded	December 5, 1853
Incorporated	January 17, 1889
Capital	¥107.1 billion
Employees (Consolidated)	28,801
Works	7
Branches in Japan	8
Overseas Representative Offices	14
Group Companies	59 subsidiary companies in Japan (43 subsidiaries and 16 associated companies) 142 affiliated companies overseas (120 subsidiaries and 22 associated companies)
Securities Code	7013
Stock Exchange Listings	Tokyo, Nagoya, Sapporo, Fukuoka
Share Unit	100
Total Number of Authorized Shares	300,000,000
Outstanding Shares	151,852,623 (not including 2,827,331 treasury shares)
Shareholders	82,664
Fiscal Year	April 1 to March 31 of following year
General Shareholders' Meeting	June of each year
Record Date for Year-end Dividend	March 31 of each year
Record Date for Interim Dividend	September 30 of each year
Shareholder Registry Administrator/Special Account Managing Institution	1-4-1 Marunouchi, Chiyoda-ku, Tokyo 100-8233, Japan Sumitomo Mitsui Trust Bank, Limited (Contact for mail or telephone correspondence) 2-8-4 Izumi, Suginami-ku, Tokyo 168-0063, Japan Sumitomo Mitsui Trust Bank, Limited 0120-782-031 (toll-free in Japan)

Global Network



Overseas Representative Offices

❶ Paris
❷ Algeria
❸ Rome
❹ Istanbul
❺ Moscow
❻ Dubai
❼ New Delhi
❽ Bangkok
❾ Hanoi
❿ Kuala Lumpur
⓫ Jakarta
⓬ Beijing
⓭ Taipei
⓮ Seoul

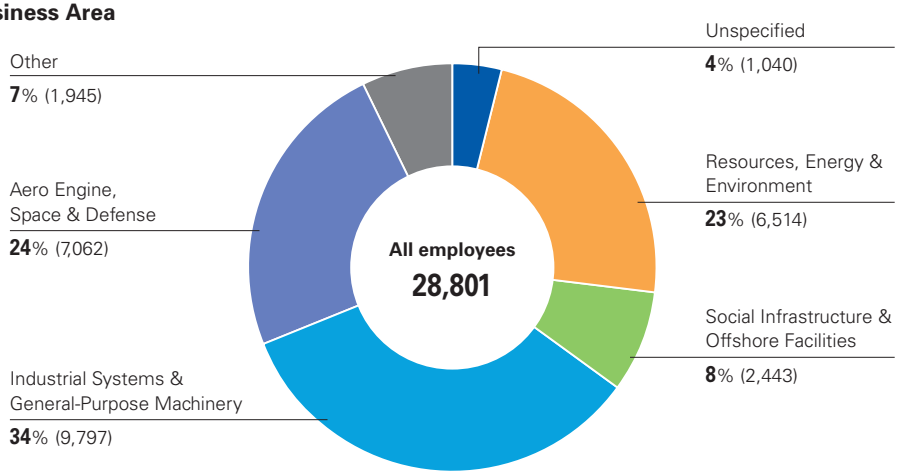
Regional Headquarters and Companies

Americas
⓯ IHI Americas Inc.
⓰ IHI (CANADA) LTD.
⓱ IHI do Brasil Representações Ltda.

Europe
⓲ IHI Europe Ltd.
⓳ ALPHA Automotive Technologies LLC

Asia-Pacific
⓴ IHI ASIA PACIFIC PTE. LTD.
㉑ IHI (Shanghai) Management Co., Ltd.
㉒ IHI Taiwan Corporation
㉓ IHI ENGINEERING AUSTRALIA PTY. LTD.
㉔ IHI (HK) Ltd.

Employees by Business Area



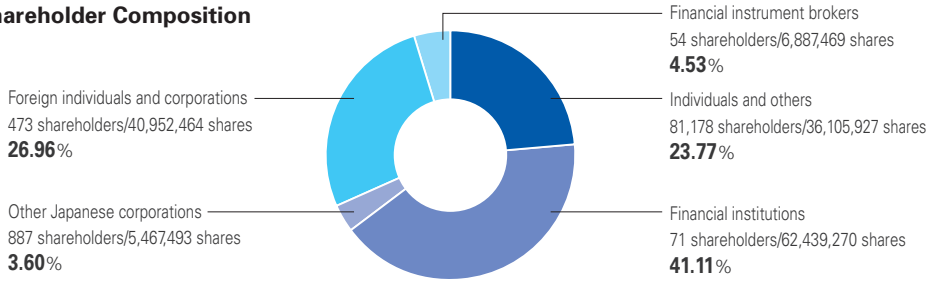
Note: The number of employees is the number of officially employed individuals, including those seconded to the IHI Group from other companies and excluding Group employees seconded to other companies. Temporary workers are not included.

Major Shareholders

Name	Number of shares held (thousand shares)	Shareholding ratio (%)
The Master Trust Bank of Japan (Holder in Trust)	23,902	15.74
Custody Bank of Japan, Ltd. (Holder in Trust)	14,336	9.44
The Dai-ichi Life Insurance Company, Limited	5,406	3.56
Custody Bank of Japan, Ltd. as trustee for Mizuho Bank Retirement Benefit Trust Account re-entrusted by Mizuho Trust and Banking Co., Ltd.	4,597	3.02
JPMorgan Securities Japan Co., Ltd.	2,937	1.93
IHI Suppliers Stock Ownership Association	2,759	1.81
IHI Employee Stock Ownership Association	2,571	1.69
Sumitomo Life Insurance Company	2,284	1.50
MLI FOR CLIENT GENERAL OMNI NON COLLATERAL NON TREATY-PB	1,665	1.09
STATE STREET BANK AND TRUST COMPANY 505103	1,658	1.09

Note: Voting rights for 4,597,000 shares held by "Custody Bank of Japan, Ltd. as trustee for Mizuho Bank Retirement Benefit Trust Account re-entrusted by Mizuho Trust and Banking Co., Ltd." are exercised in accordance with the instructions of Mizuho Bank because Mizuho Bank is the consigner of the shares. Shareholding ratios are calculated excluding treasury shares (2,827,331 shares). In addition, shares of the Company held by Custody Bank of Japan, Ltd. (Holder in Trust E) for a performance-based share remuneration plan "Board Benefit Trust" (592,300 shares) are not included in treasury shares. The Company holds 2,827,331 treasury shares, but is excluded from major shareholders listed above.

Shareholder Composition



Note: Due to rounding, the total percentage may not add up to 100%.

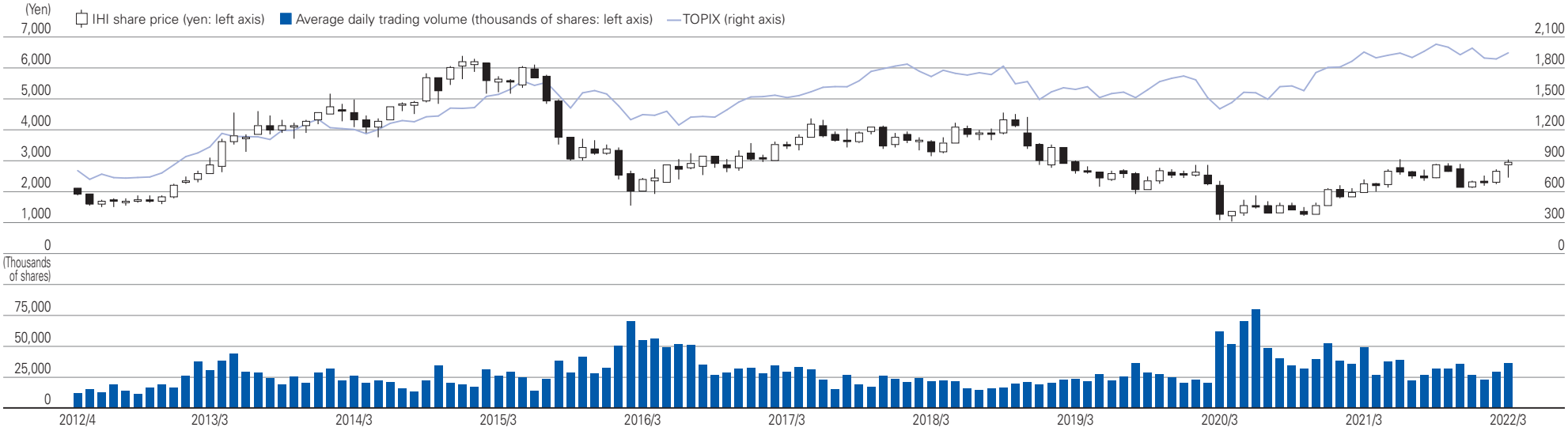
Stock Price Performance Comparison (TSR: Total Shareholder Return)

(%)

Investment period	One year	Three years	Five years	Ten years
	March 2021 to March 31, 2022	March 2019 to March 31, 2022	March 2017 to March 31, 2022	March 2012 to March 31, 2022
IHI	34.5	15.5	–8.8	62.7
TOPIX	2.0	31.2	44.3	183.3
Machinery index	–3.8	36.7	40.8	183.7

Note: The above table shows the cumulative return if invested one, five, or 10 years ago based on the total return index as of March 31, 2022.

IHI Stock Performance and Average Daily Trading Volume



Note: The Company conducted a consolidation of common stock on a 10 for 1 basis on October 1, 2017.
Data regarding share price and average daily trading volume prior to the consolidation of common stock is calculated on the basis of the consolidation having been implemented.

IHI

Realize your dreams

IHI Corporation

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Company Website: https://www.ihi.co.jp/en/

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