

# **Management Philosophy**

Contribute to the development of society through technology

Human resources are our single most valuable asset

**Standards for Taking Action** 

# **Basic Code of Conduct for the IHI Group**

We at the IHI Group are committed to implementing what is necessary to meet the expectations and gain the trust of not only our customers, business partners, shareholders and colleagues, but also the local and international communities, while keeping an awareness of global issues. By doing so, we aim to enhance our existential value as we move forward into the future and realize our Group's management philosophies of "Contribute to the development of society through technology" and "Human resources are our single most valuable asset."

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## **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 2021

#### Scope

IHI Corporation and its major Group companies

#### Period

This report covers fiscal 2020 (FY2020), which began on April 1, 2020 and ended on March 31, 2021. However, information prior to and after this period may also be included.

#### Guidelines

- International Integrated Reporting Framework, International Integrated Reporting Council
- GRI Sustainability Reporting Standards, 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.

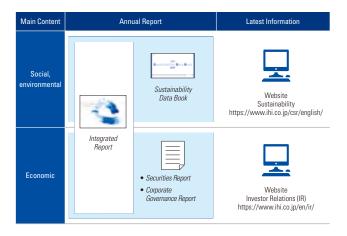
#### Inquiries

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 multiple media.



#### On the Cover

The cover features a work posted in the Online Art Gallery "Art no Wa" operated by the Borderless Art Organization. The motif evokes the letter "C" in "Project Change," which the IHI Group is implementing.

This cover design expresses the IHI Group's intention to promote change and diversity, address social issues, and create new value.



# **Historical Highlights**

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. Our products underscore our Management Philosophy tenet to "Contribute to the development of society through technology."



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1853 Established Ishikawajima Manufacturing Shipyard

Following the arrival of a fleet under U.S. Commodore Matthew Perry, the Mito clan constructed a shipyard on instructions from Japan's feudal government to enhance Japan's defensive capabilities.



1866 Completed the Chivodamaru, Japan's first steam-powered warship

This vessel employed the first naval steam engine manufactured in Japan.



Shibusawa (Shibusawa Museum of History)



#### Established Ishikawajima Hirano Shipyard

Tomiji Hirano set up the nation's first private sector shipyard. Eiichi Shibusawa was heavily involved in funding the company when it was starting up, helping to organize its operations.



Established Harima Dock Co., Ltd.

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



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

The company broke away from the convention of erecting a scaffold, winning accolades among architects by using two movable cranes instead.



#### Produced the Ne20, Japan's first jet engine

The engine powered the successfully maiden flight of Japan's first jet.

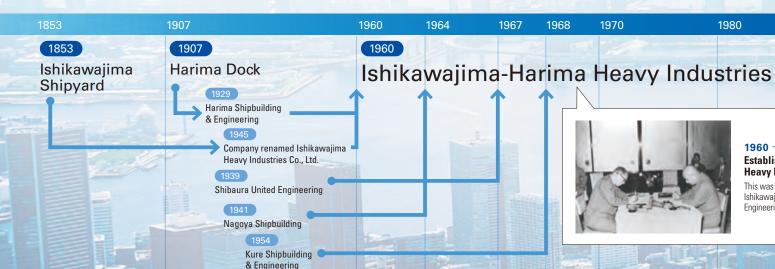


1980

#### 1959

#### Established Ishikawajima do Brasil Estaleiros in Brazil

This was the first Japanese-owned shipyard overseas and heralded the overseas expansion of Japanese companies.



1970

#### 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.

1990



#### Participating in a project for an advanced **GEnx** jet engine

We have a roughly 15% share in the international program for this jet engine, which offers significantly improved fuel economy.



#### Built the world's first barge-mounted pulp manufacturing plant specifically for Brazil

IHI built this 230-meter facility, mounted it on a barge, and towed it



#### Constructed large shield tunneling machine for Tokyo Bay Aqualine

With a diameter exceeding 14 meters, this machine dug a 2,853-meter tunnel under Tokyo Bay.



#### Delivered Japan's first tower boiler

Delivered Japan's first tower-type boiler to The Isogo Thermal Power Station. Second unit, delivered in 2009, recorded world's highest steam condition. (Photo is provided by J-POWER (EPDC))



#### 2013

#### **Epsilon Launch Vehicle**

This solid, next generation propellant launch vehicle delivers high performance and low cost. (Photo courtesy of JAXA)



#### Reached total production of 50 million turbochargers for vehicles

The IHI Group's total production of turbochargers reached 50 million units. We will expand production and sales activities worldwide while meeting various needs based on our highly reliable development and production technologies.



Osman Gazi Bridge, Turkey's longest suspension bridge, opens to provide a crossing over Izmit Bay

Crossing western Turkey's Izmit Bay from south to north, the 1,550-meter structure is the world's fourth-longest suspension bridge.



# **Our Businesses**











# Resources, Energy & Environment

Contribute to carbon-free and recycling societies by providing optimal integrated solutions for each region and customer



# Social Infrastructure & Offshore Facilities

Contribute globally and across lifecycles to materialize safe and secure social infrastructure, centered on bridges and tunnels



# Industrial Systems & General-Purpose Machinery

Contribute to industrial infrastructure progress by thoroughly optimizing operational lifecycles with customers



# Aero Engine, Space & Defense

Leverage advanced technology to open new vistas for air transportation, defense systems, and space utilization, and help materialize social affluence and safety

#### **Power Systems**

Power Systems Plants for Land Use Power Systems for Ships

#### **Carbon Solutions**

Boilers Storage Facilities Chemical Plants

#### **Nuclear Energy**

Components for Nuclear Power Plants Bridges/Water Gates
Transport Systems
Shield Systems
Concrete Construction Materials
Urban Development
Real Estate Sales and Rental

# Vehicular Turbochargers Parking

#### **Rotating Machineries**

Compressors, Separation Systems Turbochargers for Ships

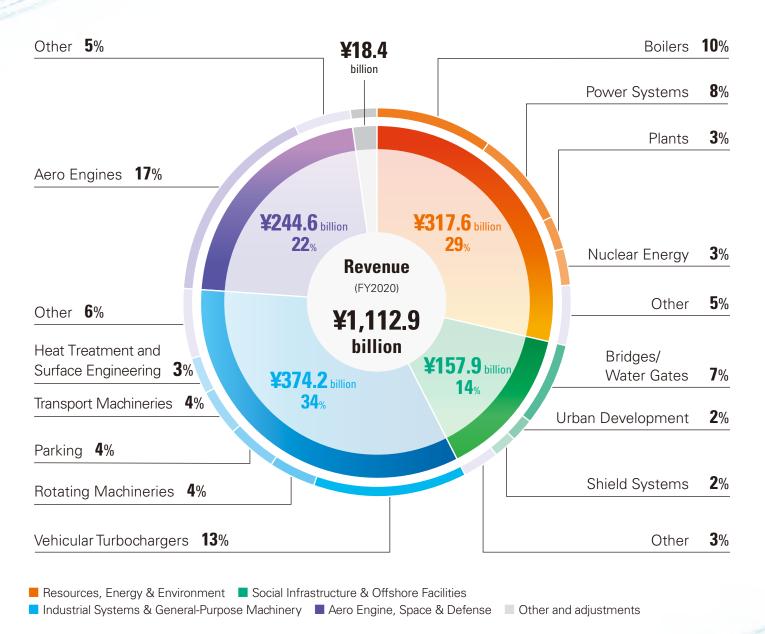
Heat Treatment and Surface Engineering

**Transport Machineries** 

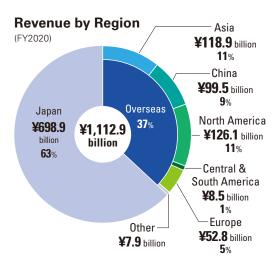
#### **Logistics and Industrial Systems**

Logistics Systems, Industrial Machineries

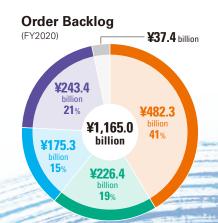
Aero Engines
Rocket Systems and
Space Utilization Systems
Defense Systems



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







# **Business Overview**



#### Resources, Energy & Environment

#### **Business Environment**

The Paris Agreement sets out long-term goals to limit the increase in the global average temperature and reduce greenhouse gas emissions. Japan, like other countries, is quickly shifting toward a carbon-free society, as evidenced by a Cabinet decision to revise the law with the aim of making the country carbon neutral by 2050. Consequently, as issues relating to reducing environmental impact become more diverse across regions and customers, ways to enable a future shift toward a carbon-free society will be an increasing area of focus.

#### **Direction of Initiatives**

We will promote highly efficient operation of existing energy infrastructure and use of carbon-neutral and carbon-free fuel. Furthermore, we will engage in efforts to achieve carbon neutrality by 2050 through the building of an ammonia value chain and accelerated development of technology relating to carbon recycling.

#### **FY2020 Results**

#### Revenue

Decreased in the Plants Business, while increased in the Boilers Business.

#### Operating Profit

Increased due to increased revenue of lifecycle businesses in the Boilers Business, in addition to convergence deterioration of profitability in the Power Systems Business and the Plants Business in the previous fiscal year.

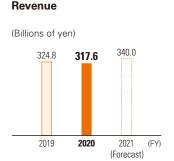
#### **Orders Received**

Decreased due to the reverse effect of the large-scale project received in the Boilers Business in the previous fiscal year.

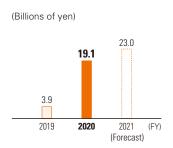
#### FY2021 Forecast

- Revenue is expected to increase mainly in lifecycle businesses in the Nuclear Energy Business and the Power Systems Business.
- Overall operating profit is expected to increase due to the improvement of profitability including in the Power Systems Business, in addition to the effect of the above-mentioned increase in revenue.

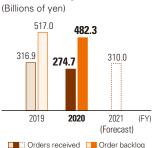
#### IFRS Basis



#### **Operating Profit**

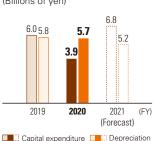


#### Orders Received and Order Backlog



#### **Capital Expenditure and** Depreciation







#### Social Infrastructure & Offshore Facilities

#### **Business Environment**

In Japan, the number of new large-scale projects is decreasing while maintenance work is proportionately increasing in response to aging infrastructure and intensifying disasters. In overseas markets, whereas developed economies have been experiencing strong demand for conservation work resulting from deterioration of infrastructure, developing countries have been experiencing robust demand for new construction. There has been an increase in the number of project schemes where private companies participate in operation and maintenance of social infrastructure, in addition to projects organized through ODA.

#### **Direction of Initiatives**

We are working on initiatives to roll out and expand lifecycle businesses, which include not only infrastructure construction work but also planning, operation, maintenance and conservation, primarily of bridges and tunnels, both domestically and internationally to offer robust and sustainable social infrastructure systems.

#### **FY2020 Results**

#### Revenue

Increased in the Urban Development Business owing to sales of real estate for sale and in the Shield Systems Business, while decreased in the Bridges/Water Gates Business due to the reverse effect of delivery of large-scale projects in the previous fiscal year.

#### Operating Profit

Increased due to the increased revenue in the Urban Development Business and the Shield Systems Business and the improvement of profitability in the Bridges/Water Gates Business

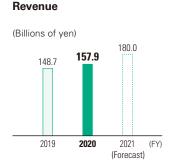
#### **Orders Received**

Decreased due to the reverse effect of the overseas large-scale project in the Bridges/Water Gates Business received in the previous fiscal year.

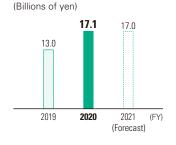
#### FY2021 Forecast

- · Revenue is expected to increase due to the progress in the overseas large-scale project of the Bridges/ Water Gates Business and the growth of lifecycle businesses.
- Overall operating profit is expected to be same level as the previous fiscal year mainly due to the improvement of profitability in the Transport Systems Business, in addition to the effect of the above-mentioned increase in revenue, while operating profit in the Urban Development Business is expected to decrease due to the reverse effect of sales of real estate for sale in the previous fiscal year.

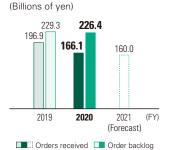
#### IFRS Basis



#### **Operating Profit**



#### **Orders Received and Order Backlog**



#### **Capital Expenditure and** Depreciation







# Industrial Systems & General-Purpose Machinery

#### **Business Environment**

The market conditions in the automobile industry have entered a recovery phase, starting in China. Capital investment in industrial systems, however, has been cut back as the COVID-19 pandemic casts a shadow of uncertainty over the future. As society changes at an ever-increasing pace due to increasing demand for products and services with less of an environmental impact, a shrinking working population, more diverse consumer needs, and ongoing digitalization. The needs of our customers are also diversifying in step with these changes.

#### **Direction of Initiatives**

We will minimize the impact of the COVID-19 pandemic on our business activities, while also contributing to the development of industrial infrastructure by responding to various needs of customers throughout the lifecycle in part by proposing solutions and shifting to more sophisticated services using digital technology.

#### **FY2020 Results**

#### Revenue

Decreased in the Vehicular Turbochargers Business and the Heat Treatment and Surface Engineering Business, despite increased revenue in the Transport Machineries Business.

#### **Operating Profit**

Decreased due to recording the restructuring cost in the Agricultural Machineries Business, while increased owing to increased revenue in the Transport Machineries Business and reduction of fixed costs including in the Vehicular Turbochargers Business.

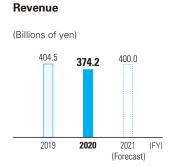
#### **Orders Received**

Decreased in the Vehicular Turbochargers Business and the Rotating Machineries Business, in addition to the Transport Machineries Business which had received large-scale projects in the previous fiscal year.

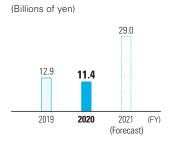
#### FY2021 Forecast

- Automotive parts related businesses such as the Vehicular Turbochargers Business and the Heat Treatment and Surface Engineering Business are expected to increase orders received and revenue according to the recovery of demand.
- Operating profit is expected to largely increase due to the reinforcement of cost structure such as reduction of procurement costs and improvement of profitability centered on the Vehicular Turbochargers Business, in addition to the effect of the abovementioned increase in revenue.

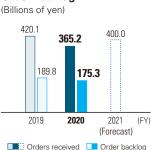
#### IFRS Basis



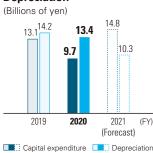
#### **Operating Profit**



#### Orders Received and Order Backlog



#### Capital Expenditure and Depreciation





# Aero Engine, Space & Defense

#### **Business Environment**

It is expected to take some more time before passenger demand recovers, and this will surely continue to affect our business. However, our aero engines are mounted on relatively new models of aircraft, and due to their superiority in operating costs such as fuel efficiency, it is expected that operation will be resumed preferentially and revenue in the aftermarket will recover rapidly.

#### **Direction of Initiatives**

In the Civil Aero Engines Business, we will set our sights on establishing a business structure capable of overcoming changes in the business environment, and will accordingly strengthen the cost structure through measures that include ensuring more stable quality, and redouble efforts in the aftermarket realm. Moreover, we will help enable safe, comfortable, economical, and eco-friendly air transportation through the development of new engines capable of greater efficiency and improved fuel economy, electrification and the introduction of sustainable aviation fuels, and the advancement of proprietary technologies and manufacturing capabilities.

#### **FY2020 Results**

#### Revenue

Significantly decreased in the Civil Aero Engines Business due to the downturns in demand for aero transportation from the impact of the COVID-19 pandemic.

#### **Operating Profit**

Recorded operating loss due to the downturns in the delivery of highly profitable spare parts in the Civil Aero Engines Business despite the effect of reduction of fixed costs beginning to be visible.

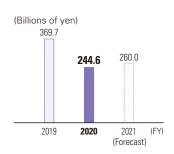
#### **Orders Received**

Decreased in the Civil Aero Engines Business.

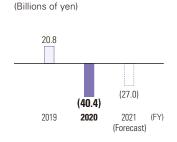
#### FY2021 Forecast

- In the Civil Aero Engines Business, recovery of demand is not expected to contribute to operating profit, since an increase in revenue of newly made engines with heavy burden in early stage is expected despite a positive factor of increasing sales of spare parts.
- Operating loss is expected to be lessened from the previous fiscal year by reinforcement of cost structure mainly in the improvement of profitability of newly made engines.

# IFRS Basis Revenue

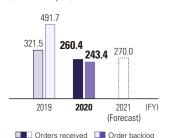


#### **Operating Profit**

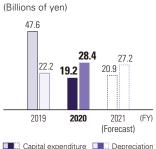


#### Orders Received and Order Backlog

(Billions of yen)



# Capital Expenditure and Depreciation



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# Message from the President and CEO

# "Create a World Where Nature and Technology Work in Unity"

# **Pursuing Sustainability, the IHI Way**

Since the Industrial Revolution, technology has driven humanity's progress. Yet along the way, there is something important that has often been overlooked—nature. We have provided society with the products needed in each era, however in doing so, economic rationality was prioritized, with too little attention given to the natural environment.

Today, in response to this fast-changing world, we have pondered over what value we provide to society through technology, and what form our contribution to society should take. The answer that emerged was to "create a world where nature and technology work in unity."

We coexist with nature and help protect people's lives from natural threats. To that end, in providing various forms of infrastructure, the IHI Group's duty is to take on the challenge of issues connected with nature and create prosperity in everyday life through technology.

# Hiroshi Ide

President and Chief Executive Officer IHI Corporation

# Our employees have been sharing their concerns about the future through dialogue here is how I feel about the subject, along with my commitment as President

In this time of uncertainty and rapid change, predicting how events in the future will pan out is very difficult. We, therefore, need to engage in dialogue with various stakeholders regarding what kind of future we want to create. Applying our initiative in working toward that ideal future through a process of trial-and-error is also necessary. I believe dialogue is of utmost importance in realizing our Sustainability Vision.

Employees are vital stakeholders. Since I became President in April 2020, I have engaged in an ongoing dialogue with employees in Japan and overseas, listening directly to their feedback.

—As I open the conference room door, I am immediately met with a mixture of expressions, some showing anxiety and others expectation, with an indescribable tension filling the room. While acknowledging everyone in the room, I take my place in the circle of chairs, sitting on the edge of my seat.

We are at IHI's Kure Aero-Engine & Turbo Machinery Works—a core factory in our Aero Engine, Space & Defense Business Area primarily manufacturing large components for aircraft engines. Plummeting air passenger demand due to the COVID-19 pandemic, and a steep decline in production form the backdrop for this day's dialogue with employees.

"When I watch the news about conditions in the global airline industry, I feel a sense of crisis about the Company."

"Demand for civil aero engine parts has fallen because of the pandemic. When do you think it might recover?"

"Right now, we've lowered our headcount to the bare minimum, but I don't know if we'll be able to immediately restore operations when demand picks back up."

As I listened to the employees, I was filled with a renewed determination not to allow this sense of crisis to become merely a point of anxiety, but to turn it into a force for transforming our business and our corporate culture.



# "Project Change" for adaptation to external change and sustainable growth

The prolonged COVID-19 pandemic is taking its toll on the IHI Group's businesses. None have been impacted more than the Civil Aero Engines Business. In fiscal 2020, air passenger demand fell sharply as there was no relaxation of entry restrictions in most countries. Since the start of fiscal 2021, vaccinations have progressed and constraints on economic activity are gradually being lifted. Nevertheless, partly because of the spread of new virus variants, recovery of passenger demand is expected to take some time.

Another trend significantly impacting our business is the growing demand for decarbonization, including the Japanese government's 2050 Carbon-Neutral Declaration. New construction of large coal-fired power plants has been frozen in various parts of the world, and we are facing headwinds that include a rapid deterioration in the operating environment of the Boilers Business.

In response to major changes in the market environment caused by the COVID-19 pandemic, the move toward decarbonization and other factors, we formulated "Project Change." "Project Change" focuses on reforming our businesses to adapt to changes in the operating environment and is currently being put into action. Its main objective is to further strengthen our earnings foundations and expand lifecycle businesses to generate cash. This will be utilized to create new technologies and business models in three growth businesses.



# Changing mindsets—creating opportunities to understand the importance of lifecycle businesses

In lifecycle businesses, we support the optimal operation of products after delivery. We assess the operating condition of these products in real time

and identify signs of failure in order to optimize our maintenance services. Lifecycle businesses are key to raising our business profitability; however, because the perception that "maintenance and after-sales service merely play a supporting role" was firmly rooted in every division, changing that mindset was not easy. When I was working in the Resources, Energy & Environment Business Area, I thought, in order to shift this particular

mindset, opportunities need to be created for people to better understand the genuine importance of lifecycle businesses. Thus, I decided to send the key person for boiler design to the site of a customer in Australia.

Renewable energy is already becoming mainstream in Australia, where environmental awareness is high. Even so, coal-fired power generation plays a role as a regulating power source that compensates for the unstable output of renewable energy, thus a low-load operation of around 15% to

20% will still be required. For that reason, it is vital to extend the lives of facilities so that they can remain in service into the future. Seeing this reality with his own eyes caused a shift in his mindset. When he returned to Japan, I assigned him to the maintenance unit, and by shifting other personnel there, the emphasis on new construction was replaced with a focus on lifecycle businesses.

ALLEN BISTAL TO

# **Businesses to resolve social issues** and drive sustainable growth

The IHI Group's management strategy, which is to develop technologies to create growth businesses, requires a top-down approach. Accordingly, in April 2021 we established the Corporate Strategy Headquarters, under the direct control of the President. This organization is aimed at carrying out technological development as a Group-wide effort that goes beyond existing businesses. The Headquarters will formulate a growth vision and development plan to be executed by Technology & Intelligence Integration, business areas and business units, thereby concentrating management resources and boosting development speed to create growth businesses.

In "Project Change," we considered the infrastructure necessary for "a world where nature and technology work in unity" and redefined our growth businesses with a focus on resolving social issues. The three growth businesses we identified are air transportation systems that are safe, comfortable, economical and eco-friendly; carbon solutions that

enable carbon-free, circular economies and comfortable and secure decentralized communities; and maintenance and disaster prevention and mitigation through development of robust, economic and eco-friendly social infrastructure.

To achieve sustainable, mutual growth for the IHI Group and society, each of our businesses must aim to become carbon-neutral. In addition to thinking of measures by working backwards from the end goal of Japan's 2050 Carbon-Neutral Declaration, we need to steadily carry out initiatives for the transition to carbon neutrality. Even if there is an abrupt change in society's demands, its mechanisms do not change so quickly. It goes without saying that technology is the only path to achieving high efficiency, improving operation, and reducing CO<sub>2</sub> emissions while utilizing existing infrastructure.

The IHI Group is focusing on the use of ammonia as a fuel. In this field, we will gradually reduce CO<sub>2</sub> emissions while demonstrating ammonia co-firing in existing thermal power plants. Our goal is to "pursue thermal power that does not emit CO<sub>2</sub> during power generation," using ammoniaexclusive firing.

# **Creating workplace environments** where every employee can thrive

To become a change-resilient company, we need agile employees who are highly responsive and adaptable to change. In the past, we have tended to keep our employees in the same division and rarely sent them to other units. This practice was suitable for cultivating specialists in a particular field, but at the same time deprived them of growth opportunities. In this era of change, we need to broaden the definition of diversity to include not only attributes such as gender and nationality, but also diversity of skills and tasks. That does not mean we can move people around haphazardly; it will be key to base moves on the career plans of each individual in a way that aligns their requests with the Company's direction.

We often hear the phrase, "work-life balance." However, in my view, work is nothing other than a part of life. Other aspects of a person's life might include volunteer activities and self-improvement, as well as nursing care and childcare. Can people really concentrate on work if they cannot fully participate in any of those other areas? By thinking of work as just one part of life, we can change work practices to fit an individual's circumstances. This may not be easy, but it is an area that I want to give extra attention to.

The dramatically changing work practices brought about by the COVID-19 pandemic will be made even more flexible through reforms spearheaded by the newly launched Smart Work Empowerment Division. In addition to establishment of remote work that is dependent on neither proximity nor location, and expanded use of electronic approval, various measures, such as the introduction of a common Group platform to automate business processes and work, are being taken.

# Integrity in corporate governance leads to better performance

Governance is the foundation for business activities—a company that ignores governance, in any way, cannot grow.

At the IHI Group, to make sure we do not forget the lessons from inadequate inspection practices that came to light in the past, we established "Compliance Day" on May 10, the date we submitted a corrective action report regarding the Civil Aero Engine Maintenance Business to the Ministry of Land, Infrastructure, Transport and Tourism. On this day, I sent out a message to all employees, and each workplace

conducted dialogue activities regarding the topic of compliance. I believe that fostering workplaces where employees can speak up if they feel uncomfortable about something will lead to the creation of a corporate climate that precludes compliance issues.

For risks involved in project execution, we were able to dramatically reduce major downside risk by strengthening our cost estimation system. Since we expect projects in new fields to increase with "Project Change," striking the right balance between risk and reward will be crucial. We will conduct multifaceted assessments from the project evaluation stage and implement measures to deal with risks. This will ultimately lead to the creation of growth businesses.

# Ongoing dialogue with employees, its significance, and our vision

—On hearing comments from employees feeling anxiety about their own jobs and the future of the company, I honestly share my own thoughts on the IHI Group's vision of the future. As we share our thoughts and opinions, facial expressions gradually relax, and the general outlook becomes more positive.



"I want to conduct a review of manufacturing processes that I couldn't do before because I was so busy," says a junior staff member, turning the negative into positive with a shift in thinking.

"In times like this, it makes me want to talk about growth and the future," expresses a veteran foreman, bashfully opening up about his dreams.

Over the course of this dialogue, I am filled with confidence that our company has what it takes to tackle and overcome changes.

No single company can possibly change the world to achieve social sustainability alone. Doing so requires partnerships on a global scale. It is my job to maintain dialogue with all our stakeholders and follow through to the end to meet their expectations. This is the path to achieving social sustainability. This is our "Sustainability Vision."

I hope to receive your candid comments about any issues or problems you are facing, along with expectations for our future.

# **Value Creation Process**

We continue to grow as a Group while contributing to social sustainability by addressing the social issues of each era.

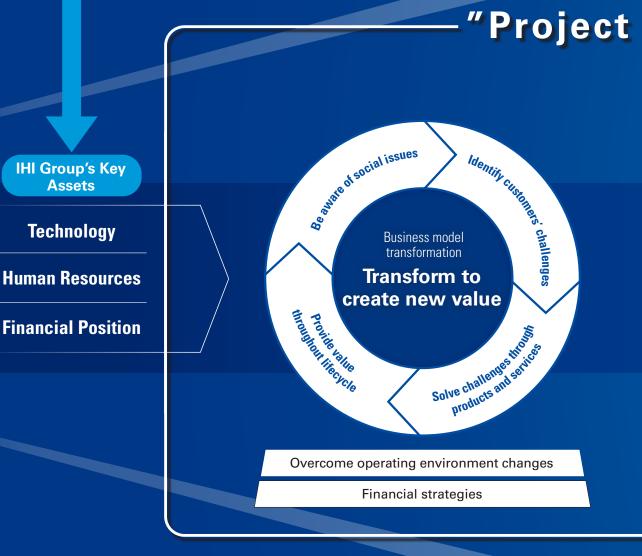
> **Operating Environment Changes** Transition away from CO<sub>2</sub> and fossil fuels Rapid spread of digital technology **Management** Increasingly frequent and severe natural disasters **Philosophy** COVID-19

**IHI Group's Key** 

**Assets** 

**Technology** 

To realize its future aspiration of creating a world where nature and technology work in unity, the IHI Group is implementing various reforms under "Project Change," which will conclude in fiscal 2022.



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# Change"

Businesses Supporting Infrastructure



Resources, Energy & Environment



Social Infrastructure & Offshore Facilities



Industrial Systems & General-Purpose Machinery



Aero Engine, Space & Defense

# Growth Businesses Addressing Social Issues

Carbon solutions that lead to carbon-free, circular economies and secure and decentralized communities

Maintenance and disaster prevention and mitigation through development of robust, economic and eco-friendly social infrastructure

Air transportation systems that are safe, comfortable, economical and eco-friendly



# Medium-Term Management Plan "Project Change"

In November 2020, the IHI Group formulated and began implementing "Project Change." The three years of this new initiative (until fiscal 2022) are positioned as a preparation and transition phase for business reform in response to environmental changes. The plan will also retain the basic concept of our previous medium-term management plan, Group Management Policies 2019. Under "Project Change," we aim to swiftly return to a growth trajectory by pursuing business structure reforms that will enable us to overcome operating environment changes, implementing financial strategies that will strengthen our earnings foundations, and steadily expanding lifecycle businesses. Furthermore, we are accelerating initiatives that will lead to the creation of growth businesses capable of contributing to social sustainability, and moving forward with transforming our business portfolio.

#### FY2022 Management Targets (IFRS Basis)

Capital investment efficiency	ROIC (after tax) <sup>1</sup>	10% or more
Profitability	Operating profit margin	8% or more
Cash generation capabilities	Cash conversion cycle <sup>2</sup>	80 days

- 1. ROIC (after tax) = (Operating profit + Interest and dividend income) after tax ÷ (Equity attributable to owners of parent + Interest-bearing liabilities
- 2. Cash conversion cycle = Working capital ÷ Revenue x 365 days

#### "Project Change" Positioning

Group Management Policies 2019 FY2019—2021

Accelerate our transformation into a company that creates new value

Transform
Retain basic concept

"Project Change"

FY2020-2022

Preparation and transition period for business reform in response to environmental changes

Next medium-term management plan > FY2023-2025

Complete business portfolio optimization, becoming a company with multiple core businesses

Sustainable growth

Relentlessly explore new opportunities for businesses that can resolve social issues

# **Management That Embraces ESG Values**

#### "Project Change" Emphases

Return to growth trajectory

- Further strengthen earnings foundations
- Expand lifecycle businesses

Overcome operating environment changes to drive value creation

- Reallocate personnel
- Pursue diversity and inclusion
- Adopt new work practices

**Financial strategies** 

- Reinforce cash generation capabilities
- Allocate funds optimally
- Build solid financial position

Create growth businesses that address social issues

Materialize fulfilling lifestyles

Air transportation systems

Safe, comfortable, economical, and eco-friendly

**Carbon solutions** 

Materialize carbon-free, circular economies and comfortable and secure decentralized communities

Become carbon-free

Maintenance and disaster prevention and mitigation

Develop robust, economic and eco-friendly social infrastructure

Prevent and mitigate disasters

# **Progress with "Project Change"**

#### Summary

In the first year of "Project Change," the COVID-19 pandemic had a significant impact on results.

Revenue declined 11.9% year on year to ¥1,112.9 billion due to a significant decrease in sales of civil aero engines.

Operating profit was ¥27.9 billion, a year-on-year decrease of ¥19.8 billion. Lifecycle businesses expanded and the decline in profitability seen in the Resources, Energy & Environment Business Area up until fiscal 2019 generally ended, while reduction of fixed costs and other expenses and sales of real estate contributed to profit. However, these factors did not fully offset the impact of the decline in sales of civil aero engines and other factors.

#### FY2020 Results

Revenue	¥1,112.9 billion
Operating profit	¥27.9 billion
Operating profit margin	2.5%

#### **Situation Evaluation**

#### Recognition

- Civil aviation demand recovery delayed, decarbonization and electrification accelerated
- Rapidly changing business environment and ongoing uncertainty about future

#### Results

- Except in Aero Engine, Space & Defense, lifecycle business revenues and earnings up on higher operating profit
- Established structure and framework to create growth businesses

#### Issues

- Focus on reinforcing cash generation capabilities
- Swiftly create growth businesses
- Tackle risks and further business climate changes linked to business reforms

#### Initiatives

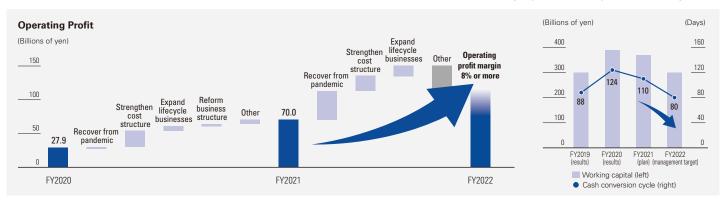
#### **Management Targets**

#### Profitability: FY2022 management target: Operating profit margin: 8%

Strengthen cost structure, expand lifecycle businesses, and accelerate business structure reforms

#### Cash generation: FY2022 management target: Cash conversion cycle: 80 days

- Cut surplus inventories and more strictly manage payments and receipts as part of intensive efforts to cut working capital
- Undertake reforms extending to processes and production management



#### **Return to Growth Trajectory**

#### **Structural Reforms**

#### Expand lifecycle businesses

Results Lifecycle business revenue up 13% year on year (excluding Aero Engine, Space & Defense Business Area)	
Challenges	Expand across Group and deploy globally

#### Shift resources

Results	Made steady progress with companywide and domain-wide resource shifts in response to business structure changes (reallocated around 800 employees)
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#### Strengthen cost structure

Results	Made steady progress, including to improve productivity and streamline business processes
Challenges	Roll out successful approaches to entire Group and establish more efficient structure

#### **Overcome Operating Environment Changes**

#### Business structure reforms

Ducinioco da dotar o rorormo			
Results	Created inclusive workplaces for diverse people		

#### **Creation of Growth Businesses**

#### Progress in Deploying Growth Businesses

#### Carbon solutions

Accelerated business development in energy field to eliminate carbon emissions Progressed in considering businesses to expand use of fuel ammonia Fully engaged in industry-academia-government partnerships

#### Air transportation systems

Made steady progress in developing technologies for aero engines and rocket systems Expanded into aircraft systems

#### Maintenance and disaster prevention and mitigation

Globally provided systems to optimally run social infrastructure (rivers and transportation) and minimize damage from increasing number and variety of disasters stemming from climate change

#### **Structure for Creating Growth Businesses**

Established new organization under the direct control of the CEO for Group-wide optimization beyond the existing business framework

Strategic Technology Management Headquarters (established in April 2021)

#### **Investment Stance**

Policy is to allocate at least 30% of investments (of around ¥380 billion total over three years) to creating growth businesses

Generate cash from assets in a timely manner and divest underutilized assets

# **Feature: Creation of Growth Businesses**

# Our Approach to Creating Growth Businesses

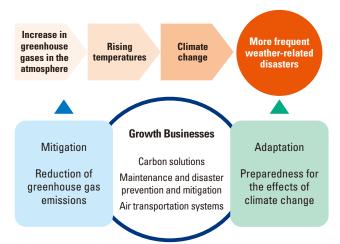
#### **Defining Growth Businesses**

To support achievement of the U.N. Sustainable Development Goals (SDGs), the IHI Group seeks to help create a world where nature and technology work in unity.

One important aspect of achieving social sustainability is action on climate change, which has a large impact on society. The social issues the IHI Group continues to address are reducing greenhouse gas emissions (decarbonization), preparing for increasingly frequent and severe weatherrelated disasters (disaster prevention and mitigation), and creating prosperity in daily life.

We have identified business opportunities that go hand-inhand with addressing these social issues, and defined the businesses that will drive the IHI Group's growth as carbon solutions; maintenance and disaster prevention and mitigation; and air transportation systems.

We will mobilize the collective strengths of the IHI Group to accelerate the creation of these growth businesses, and thereby contribute to social sustainability.



#### **Framework for Creating Growth Businesses**

Under "Project Change," IHI has been examining scenarios for growth businesses from a long-term perspective. Going forward, we need to quickly establish concrete visions and targets for growth businesses, as well as roadmaps and measures for successfully establishing those growth businesses, and swiftly implement those measures.

With that in mind, in April 2021 we established the Corporate Strategy Headquarters under the direct supervision of the CEO, to oversee strategic technologies for the Group overall and play a central role in the creation of growth businesses.

#### **Overseas** Japan 2050 Carbon Neutral Declaration Green Growth Strategy National strategies industrial policy **Green Innovation Fund** Climate change measures development support Low-carbon and decarbonization Comprehensive policy on disaster Green growth prevention and mitigation

#### **Corporate Strategy Headquarters**

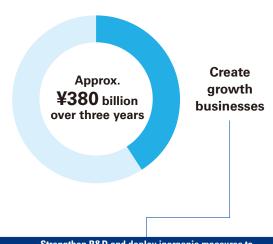
#### Role

Under the IHI Group's vision for a carbon-neutral economy by 2050 and a society with fewer disasters and greater prosperity in daily life, formulate a long-term growth strategy and roadmap, and collaborate internationally toward their implementation.

- Consolidate internal technological development resources based
- Swiftly materialize strategy by collaborating with partners worldwide

#### Investment in Growth Businesses

We expect total investment over three years to be around ¥380 billion, and plan to allocate more than 30% of that to the creation of growth businesses. In addition, in order to transform our business portfolio, we will flexibly transfer fixed assets according to funding needs, among other measures.



#### Strengthen R&D and deploy inorganic measures to create growth businesses

- Develop hydrogen- and ammonia-related technologies
- Develop electrification technologies, including for aero engines
- Develop new materials and advanced manufacturing technologies, notably for carbon fiber reinforced plastics and ceramic matrix composites
- Develop technologies related to digital transformation and artificial intelligence
- Invest strategically, including through acquisitions

#### Concentrating the Group's Resources

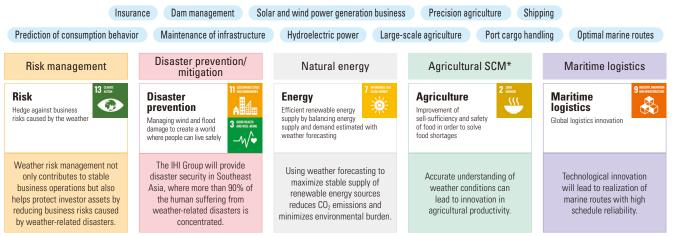
Our first step in creating growth businesses was to make subsidiary Meisei Electric Co., Ltd. a wholly owned subsidiary in August 2021.

Among growth businesses, in maintenance and disaster prevention and mitigation in particular, we will be able to better prepare for disasters by integrating our operations with those of Meisei's Meteorology and Disaster Prevention Business. We can also expect synergistic effects including from Meisei's employees with expertise in sensing, electrical and control technologies, as well as its technologies for observing natural phenomena—an area of strength. Moreover, we plan to create new businesses in fields such as space exploration.

By eliminating the boundaries between businesses and concentrating the Group's resources as a whole, we intend to speed up our initiatives for the creation of new growth businesses.

#### ▶ Solutions We Aim to Create

Currently, we are conducting demonstration tests to determine the applicability of weather forecasting technology in multiple business fields. By building a track record through such activities, we believe we will be able to effectively utilize mid- and long-range weather forecasts in business fields including risk management, disaster management, energy, agriculture and marine transportation.



**Space-Based Approach** to Disaster Prevention

We are working to combine

the forest management

technology of Sumitomo

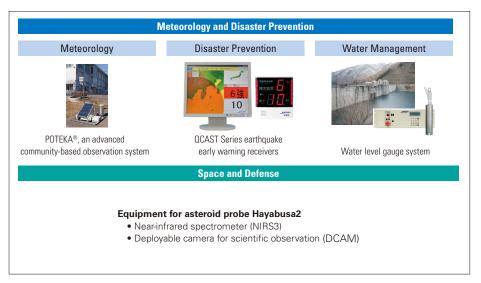
Forestry Co., Ltd. and IHI's sensing and meteorological big data technology to help

and Mitigation

prevent peat fires.

\* SCM: Supply Chain Management

#### ▶ Meisei's Main Businesses



# HIGHLIGHT

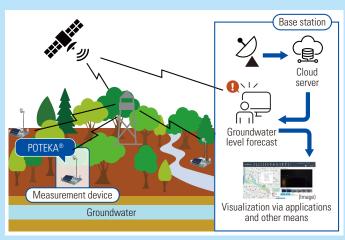


Illustration of groundwater level forecasting system

## Feature: Creation of Growth Businesses Carbon Solutions

# **Aiming for Carbon Neutrality by 2050**





#### **Energy & Carbon Neutrality**

#### The Society of the Future

It is widely assumed that achieving carbon neutrality by 2050 will involve transitioning to a society that primarily uses hydrogen, ammonia and renewable energy.

#### Solutions

#### **Use of Ammonia**

Ammonia does not emit CO<sub>2</sub> when combusted. It is suitable for use in existing power generation facilities and its adoption would lead to an immediate reduction in CO<sub>2</sub> emissions. Moreover, since there are already commercial systems for its manufacture and distribution, we will be able to contribute to carbon neutrality through the establishment of an ammonia value chain at an early stage.

#### ▶ Undertake Joint Development with Domestic and Overseas Companies to Swiftly Establish Ammonia Value Chain and Help Formulate Standards

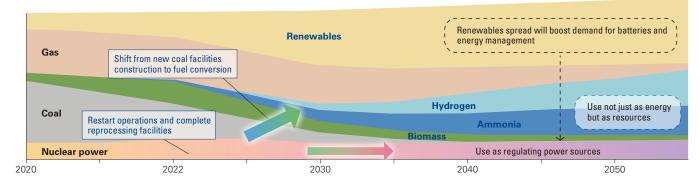


Coal and ammonia co-firing



2,000 kW-class ammonia co-firing gas turbine

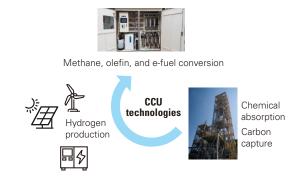
#### ▶ Anticipated Energy Source Balance by Around 2050



#### Carbon Recycling

We are working on carbon dioxide capture and storage (CCS) and carbon dioxide capture and utilization (CCU).

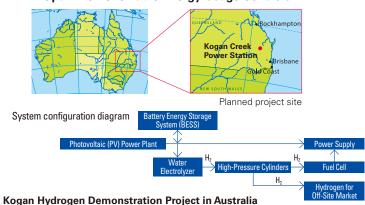
#### ▶ Explore High Value-Added Carbon-Derived Materials to follow Methane, Olefins, and E-fuel



#### Optimal Use of Renewable Energy (Energy Management)

We are developing and operating energy management systems (EMS) based on local production for local consumption. These systems enable surplus power from renewable energy to be stored or converted for later use when there is increased demand, so that renewable energy-sourced electric power produced in a particular region can be fully utilized within that region.

#### ▶ Optimize Renewable Energy Usage Controls



▼ See the press release about the Kogan Hydrogen Demonstration Project in Australia: https://www.ihi.co.jp/en/all\_news/2020/resources\_energy\_ environment/1197001\_2032.html



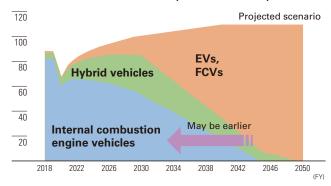


#### **Mobility & Carbon Neutrality**

#### The Society of the Future

Countries around the world are taking up the challenge of achieving carbon neutrality, and in line with this, the automotive industry is transitioning to electric vehicles (EVs) and fuel cell vehicles (FCVs). In fact, the electrification of vehicles may happen sooner than expected.

#### ▶ Vehicle Production Volume (Million vehicles)



#### Solutions

#### **Making Mobility More Efficient**

As society transitions to electric vehicles, we will secure market share by applying our existing turbochargers in hybrid vehicles. We will move to commercialize technologies such as the electrically assisted turbocharger for premium cars and the electric turbocharger for fuel cell commercial vehicles, while keeping in mind that electrification may proceed faster than anticipated.

#### **Electrically Assisted Turbocharger (EAT)**

The EAT utilizes a motor positioned between the compressor and the turbine. Equipped with an exhaust gas driven turbine and an electric motor, it can supplement power from exhaust gas with electric power, thus enabling air compression under a wide range of conditions. In addition, it enables electric-

powered acceleration at all speeds ranging from low to high as a single turbocharger, as well as electricity regeneration. These characteristics will contribute to the enhanced performance of future engine systems.

#### **▶ EAT for Premium Cars**



#### **Electric Turbocharger (ETC) for Fuel Cell Vehicles**

IHI's ETC has two main advantages. First, its use of air bearings realizes an oil-free design that eliminates the issue of fuel cell catalyst poisoning resulting from lubricating oil mist. Second, energy recovery from fuel cell exhaust gas by the turbine leads to substantial system efficiency improvement, which can help in the creation of a system that is more compact and lighter in weight.

We are also developing fuel cell systems for use in nonautomotive applications such as aircraft. Through the development of these electrical products, we will contribute to carbon neutrality.

#### **HIGHLIGHT**

# **IHI Signs Technical Collaboration Agreement** with AVL List GmbH for ETCs for Fuel **Cell Systems**

IHI and Austrian company AVL List GmbH, the world's largest independent company involved in the development, simulation and testing of powertrain systems, have signed a technical collaboration agreement for ETCs for fuel cell systems.

IHI's ETC supplies oxygen (compressed air), a key element in fuel cell systems used in fuel cell vehicles.

AVL plans to equip its HyTruck\* fuel cell system for commercial vehicles, which is currently under development, with the ETC that IHI is developing. IHI has already supplied prototypes. AVL and IHI also plan to cooperate on other projects.

\* The name of AVL's development project, which is receiving support from the Austrian government



**▶ ETC for Fuel Cell Systems** 

#### **Supplying Carbon-Neutral Electric Power**

# **Ammonia Project**

In the energy field, the use of hydrogen, which does not release CO<sub>2</sub> when used to generate power, is expected to expand in line with efforts to achieve carbon neutrality by 2050. Among hydrogen sources, ammonia (NH<sub>3</sub>) has gained attention as a promising new energy source given its high hydrogen content, ease of transport and storage, and existing infrastructure.

#### **World's First: 70% Liquid Ammonia Co-Firing Ratio** Achieved Using a 2,000 kW-Class Gas Turbine

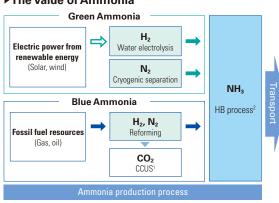
IHI has developed technology for a 2,000 kW-class gas turbine in which liquid ammonia is sprayed directly into the combustor and co-fired with natural gas. The turbine has achieved stable combustion with a 70% liquid ammonia co-firing ratio, a world first. We also succeeded in operating the gas turbine with 100% liquid ammonia on a limited basis.

Note: This development was the result of a project commissioned by the New Energy and Industrial Technology Development Organization (NEDO) to conduct research and development of a gas turbine system with liquid ammonia sprayed directly into the combustor.

▶ 2.000 kW-Class Gas Turbine Capable of Co-firing Liquid **Ammonia and Natural Gas** at IHI's Yokohama Works



#### ▶The Value of Ammonia



CCUS: Carbon dioxide Power generation capture, utilization BTG.3 GT.4 SOFC5 and storage

2. HB process: Haber-Bosch

process; a method of

synthesizing ammonia

B. BTG: Boiler, turbine and generator

5 SOFC: Solid oxide fuel cell

4. GT: Gas turbine

Heating Industrial furnaces, chemicals, iron manufacturing

Cooling Air conditioning of rehouses, buildings and other facilities

Water Beverages, agriculture

#### **Demonstration Project for Ammonia Co-Firing in** a Large-Scale Commercial Coal-Fired Power Plant

IHI and JERA Co., Inc. jointly applied for and were accepted for participation in NEDO's Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation program. In this program, IHI and JERA seek to generate electricity through co-firing of coal and ammonia in a large-scale commercial coal-fired power plant, and to establish ammonia co-firing technology, with the aim of demonstrating an ammonia co-firing rate of 20% in fiscal 2024.

#### Establishment of a Carbon-Free Ammonia Value Chain

To be able to use ammonia as a fuel, a supply of clean ammonia in large volumes and at low cost will be needed. IHI is actively involved in creating a supply chain for clean ammonia—i.e., green ammonia and blue ammonia (see diagram below)—and is working toward society's broader implementation of ammonia as an energy source, in order to contribute to a carbon-free, circular economy.

VOICE

Previously, my main involvement was in sales in fossil-fuel businesses such as thermal power plant boilers and petrochemical plants. However, while attending a graduate school course, I talked to my work

supervisor about writing my master's thesis on the ammonia business as a new business, which led to my participation in the ammonia project.

My role in this project is to plan our partner strategy and develop a marketing strategy for publicizing our initiatives. With the push for carbon neutrality by 2050. I feel there has been a sudden acceleration in decarbonization-related initiatives in the last few years, including changes in the mindsets of our customers

I will contribute to the launch of various new businesses, such as hydrogen utilization and energy management, while building the ammonia business into a business that supports IHI's earnings.



Junpei Tsuchikawa Sales Department, Business Promotion Department **IHI Plant Services Corporation** 

# **Decarbonization and Disaster Prevention/ Mitigation Initiatives in Business Activities**









Initiatives in IHI's Yokohama District **Gas Engine Cogeneration System Power Plant** Reduces CO<sub>2</sub> Emissions and Improves Disaster Resilience

In IHI's Yokohama District, we are aiming for a 50% reduction in CO<sub>2</sub> emissions by 2035. To reduce CO<sub>2</sub> emissions and to enhance disaster prevention in our business activities, we completed construction of a gas engine cogeneration system (CGS) power plant, which started operation in April 2021.

This power plant combines the most efficient gas engine in its class (a 4,000-kW engine made by IHI Power Systems Co., Ltd.), which uses clean city gas with a low carbon emission factor as fuel, and a binary generator (a 100-kW generator made by IHI Corporation) that uses heat from cooling water from the engine to generate electricity.

#### **Environmental Performance**

This power plant is expected to reduce the CO<sub>2</sub> emissions of the Yokohama District by approximately 1,400 tons per year, a 4% reduction from fiscal 2019. In addition, IHI will introduce an energy management system to further reduce CO<sub>2</sub> emissions. It will track energy usage of the power plant and other facilities in the Yokohama District, and will use the accumulated data to optimize energy supply and demand.

CO<sub>2</sub> emissions reduction:

Approx. 1,400 tons per year

#### Disaster Resilience

In selecting the site for the power plant and in working on its design, we took into consideration measures to guard against tsunamis and gas supply disruptions. The plant has blackout start capability to ensure that it can generate power with the gas engine even if the electric power company cannot supply power during a disaster.

As a result of the disaster countermeasures we have introduced, the Yokohama District will be able to provide temporary shelter for approximately 3,800 employees and others who have difficulty returning home during a disaster, even if power supply and public transportation are disrupted. This is in accordance with the City of Yokohama's basic policy with regard to controlling the number of people who try to return home at the same time, and the agreement on cooperation to provide facilities and other support in a disaster. Number of people that can be sheltered:

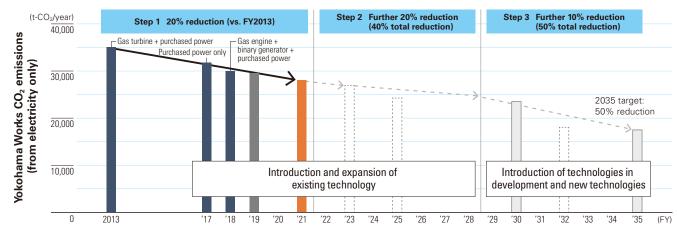
Approx. 3,800

▶ Gas Engine Cogeneration System (CGS) Power Plant



▶ Roadmap to Reducing CO₂ Emissions by 2035 in Yokohama District

(Under review in FY2021)



# Feature: Creation of Growth Businesses Air Transportation Systems

# **Aiming for Safe and Clean Air Transport**



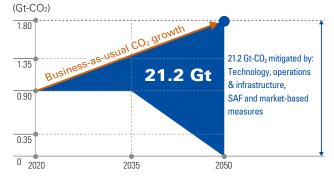


#### Reduction Target for CO<sub>2</sub> Emissions in the Aviation Industry

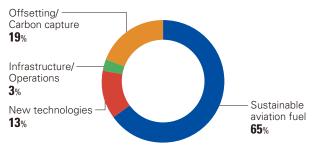
In the aviation industry, carbon emissions reduction to achieve eco-friendly air transportation is a key issue.

At its annual general meeting in October 2021, the International Air Transport Association (IATA) approved a resolution for the global air transport industry to achieve net-zero carbon emissions by 2050.

#### ▶ Net Zero: Aviation Carbon Emissions to Be Abated by 2050



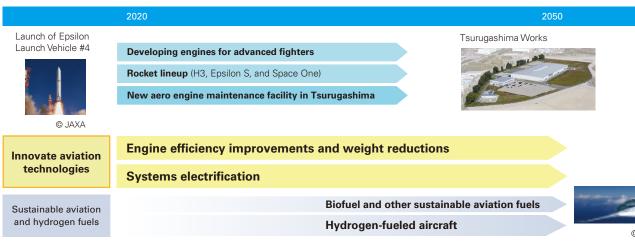
#### ▶ Contribution to Achieving Net Zero Carbon in 2050



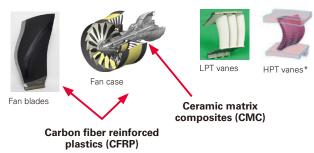
Source: Net-Zero Carbon Emissions by 2050, IATA Press Release No. 66, October 4, 2021

#### Solutions

We will contribute to carbon emissions reduction with a multifaceted approach that includes development of composite material components to enable lighter aero engines, improvement of operational efficiency, and—looking ahead to future technological innovations—use of hydrogen fuel, development of aircraft electrification technology and other advances.



▶ Lightweight and Highly Heat-Resistant Aircraft Components



\* Under joint research as part of the JAXA En-Core Project (2018-2023)

#### ▶ More Electric Architecture for Aircraft and Propulsion Autonomous MEA (More Electric Aircraft) distributed Recovery system for heat and air cooling energy from fuel and air system



**Electric Engine**)

#### **Enhancing Eco-Friendliness While Maintaining Safety and Economic Efficiency**

# **Aircraft Electrification Project**

Reducing carbon emissions in the aviation industry will require not only improvement of existing technologies, but development of new aircraft systems that dramatically improve eco-friendliness while maintaining safety and economic efficiency.

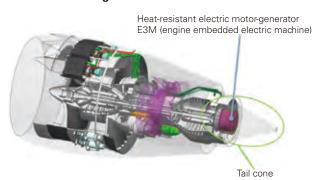
#### Aircraft and Engine Electrification System

IHI is championing MEAAP (More Electric Architecture for Aircraft and Propulsion), an aero engine electrification project to develop technological innovations for reducing aircraft carbon emissions. Beyond simple electrification of equipment, MEAAP aims to achieve a dramatic improvement in fuel efficiency by optimizing all aircraft systems, including engines.

#### **Development of World's First Electric Motor-Generator Suitable for Mounting in the Rear of Aircraft Jet Engines**

One of the biggest technical challenges for MEAAP is development of a large-capacity electric motor-generator that can accommodate increased electrical power demand in future aircraft

#### ▶ Illustration of Engine Embedded Electric Machine



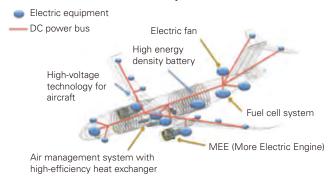
The tail cone is the optimal location for mounting the electric motor-generator in terms of operability and ease of maintenance. However, this is a harsh environment for the motor-generator due to factors such as vibration, impulsion and high temperatures, and a suitable thermal and structural design is not feasible without innovative technologies.

To overcome these challenges, IHI developed components such as pre-shaped and weld-jointed windings with an insulation coating that is heat resistant up to 300°C. Combined with a new cooling system based on IHI's thermal, aerodynamic and structural technologies for jet engines, this enabled the development of an electric motor-generator that can be directly mounted to the engine shaft at the rear end of the engine. In February 2020, IHI conducted ground testing of power generation and achieved 250 kW-rated output.

IHI will continue development for the electrification of equipment that will be required by this technological innovation, and is aiming for adoption of the MEAAP concept in the 2030s.

Note: This development was conducted as part of the Research and Development Project for Advanced Aircraft Systems toward Practical Application supported by Japan's New Energy and Industrial Technology Development Organization (NEDO).

#### ▶ Envisioned Electrification System of the 2030s



VOICE

I am in charge of the development of new electric machines for More Electric Architecture for Aircrafts and Propulsion (MEAAP) which aims to optimize the total

energy management of aircraft systems.

In 2020, collaborating with several domestic companies, we developed a 250 kW-rated electric machine, which can be installed within a jet engine. During this development, we faced many difficulties because this development was the world's first electric machine installed within a jet engine.

I have completed the project in collaboration with my colleagues. I am very proud of this achievement.



Takehiro Jikumaru Electrification Development Project Project Department Technology & Intelligence Integration IHI Corporation

# Feature: Creation of Growth Businesses Maintenance and Disaster Prevention and Mitigation

# Creating Urban Environments Where People Can Live Safely and Securely





#### **Disasters Caused by Extreme Weather**

The United Nations Office for Disaster Risk Reduction (UNDRR) reports that there were 7,348 major recorded disaster events related to natural phenomena from 2000 to 2019, a sharp increase from 4,212 over the previous 20-year period.

This is largely due to an increase in climate-related disasters, including extreme weather events: From 1980 to 1999, there were 3,656 climate-related events, but the number nearly doubled to 6,681 events in the 20 years from 2000 to 2019. The number of major floods increased from 1,389 to 3,254, and the number of severe storms rose from 1,457 to 2,043.

#### Solutions

#### Prepare

The IHI Group protects the safety and security of people in daily life and prepares for disasters by making infrastructure more robust, as well as by monitoring the condition of infrastructure-related facilities and properly maintaining and managing them.

#### **Predict and Control**

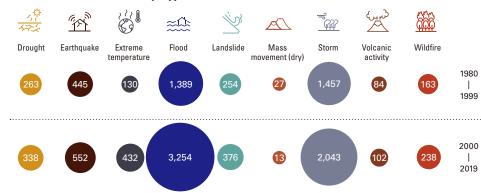
We build infrastructure systems that help minimize the damage from natural disasters. They are able to predict disasters from external data, such as meteorological information and sensing data, and help facilities operate optimally.

#### Restore

Our products and services for assessment of damage status and recovering from disasters help life get back to normal in a short period of time.

The experience and know-how we have gained from our track record in construction and maintenance of social infrastructure such as bridges and water gates, combined with technology for observing natural phenomena, help minimize damage from disasters and lead to the creation of urban environments where people can continue to live safely and securely.

#### ▶ 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

#### Normal circumstances

 Equipment monitoring → Detect and repair abnormalities

# Disaster prevention and mitigation systems

Meteorological Environmental

Public data

Infrastructure, water gate and dam monitoring Disaster prediction

River monitoring

#### **Before disasters**

Disaster prediction

Operations in event of disaster (warnings and evacuation advisories)

#### **Preparations**

- Earthquake-resistant infrastructure, mass dampers
- Flood control and snow removal facilities (including dams, weirs, snow plows and stormwater storage pipes)



#### Recovery and restoration

- Damage assessments
- · Provisional restoration and repair enhancements



#### Supporting Life as a Water Source and Protecting Life from Floods

# **Yamba Dam Construction Project**

Yamba Dam was constructed in Agatsuma District, Gunma Prefecture to secure water for both mains use and industrial use, as well as to prevent flood damage if the Tone River overflows. The dam is a joint venture project comprising IHI Infrastructure Systems, Shimizu Corporation and Tekken Corporation, and was completed in June 2020.

#### The Crucial Role of Yamba Dam in Preventing **Downstream Flooding**

In October 2019, during initial test filling to confirm the safety of the dam, Typhoon Hagibis struck. In just over a single day, the rain from the typhoon caused the water level to rise by 54 meters. Effective coordination with other dams in the Upper Tone River System, aided by the fortunate fact that the dam had barely any water stored at that time, prevented the river from bursting its banks downstream from the dam, which contributed greatly to reducing flood damage in the Tokyo Metropolitan Area.

Note: Video marking the completion of the Yamba Dam: "Gate for our life" https://youtu.be/hlJ1waAE2ZM (Japanese language only)

#### ▶ Discharge Conduits for Regulating Dam Water Volume



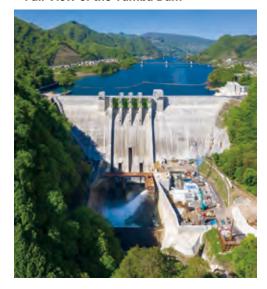
#### **Enabling Safe and Rapid Construction**

Construction on the main body of the dam began with the foundation excavation in January 2015, followed by concrete pouring and test filling, and was completed in March 2020.

Using ordinary construction methods, conduit pipes for regulating the water volume are assembled and welded into place at the dam, during which concrete pouring work must halt. However, for this project the discharge conduits, each a total of 22.5 meters in length and weighing about 400 tons, were assembled with their installation mount prior to installation, thereby shortening construction time.

We will continue contributing to the safety and security of the Tokyo Metropolitan Area, and hope that the Yamba Dam gains the appreciation of many people.

#### ▶ Full View of the Yamba Dam



VOICE

In the Yanba Dam construction project, I led a five-person team as the contact point for design work. I also participated in the design of the common-use flood discharge

pipes, the discharge facilities for maintaining the water level, and the elevator equipment.

The construction method we used shortens construction time as the common-use flood discharge conduits are assembled on a temporary platform before being hauled into their final position. Project members contributed their ideas and opinions across departmental lines, and as a result, we were able to design a construction platform that offered excellent ease of work and safety. That aspect of the project left the biggest impression on me.

When Typhoon Hagibis approached the site during the test filling in October 2019. I watched the situation unfold from Osaka via live camera feed. The dam nearly filled with water in just over 24 hours, but it held up. The thought that the existence of this dam may have saved many people's lives gives me pride in my work.



Toru Asano

Steel Structure Technology Office, Water Gate Design Department IHI Infrastructure Systems Co., Ltd.

# **Financial Strategies**



#### Takeshi Yamada

**Executive Vice President** Senior Executive Officer

# We will reinforce cash generation capabilities by improving the cash conversion cycle.

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.

Under "Project Change," we have set management targets for fiscal 2022, as shown in the table below. We are working to increase management efficiency by improving profitability and reinforcing cash generation capabilities. In order to maintain financial soundness while making investments for sustainable growth under the basic policy, it is clear that we should use cash generated from business activities as a source of funds. For this reason, we have made reinforcing cash generation capabilities a top priority, and are implementing reforms that extend to our business models and operational processes.

Although there were still some issues to be resolved in the first year of "Project Change," we will promote a shift to business operations focused on cash generation.

#### Operating cash flows

In fiscal 2020, although we made steady progress in reducing working capital, the impact of the COVID-19 pandemic caused a significant temporary increase in inventories in the Civil Aero Engines Business. As a result, the cash conversion cycle (CCC) deteriorated to 124 days.

Going forward, we aim to significantly reduce the large working capital balance of the Civil Aero Engines Business by the end of fiscal 2022 by optimizing production lead time and achieving just-in-time procurement of parts and materials.

#### ► Management Targets

Indicator		Target
Management efficiency	ROIC (after-tax) <sup>1</sup>	10% or more
Cash generation capabilities	Cash conversion cycle <sup>2</sup>	80 days
Profitability	Operating profit margin	8% or more

- 1. ROIC (after-tax) = (Operating profit + Interest and dividend income) after tax ÷ (Equity attributable to owners of parent + Interest-bearing liabilities)
- 2. Cash conversion cycle = Working capital ÷ Revenue × 365 days

Financial soundness

- Secure sound financial position commensurate with being a company that supports infrastructure development
- A robust financial position that can withstand short-term results fluctuations from changes in operating environment

Fund allocations

- Optimally allocate funds to accelerate business portfolio transformations
- Secure and boldly execute investment resources to swiftly create new pillars of revenue

Reinforce cash generation capabilities Systematically control production through a proactive Transform proposal-based business approach business model to Optimize inventory levels by enhancing sales forecast generate cash precision based on data Operating Sustainable cash flows Constantly track overall supply chain and project operating Match business growth environment changes processes to investments emand and supply Shorten lead and cycle times and swiftly and flexibly respond fluctuations to demand fluctuations Produce cash in timely manner from asset portfolio and divest Optimize Investment unutilized assets cash flows asset portfolio Concentrate investments based on business portfolio

#### Investment cash flows

In fiscal 2020, we proceeded with sales of real estate holdings to secure investment resources for the creation of growth businesses.

Our basic policy for the use of real estate holdings is to increase their value through development, generate stable cash in the long term through means such as leasing, and use the cash as investment resources for other businesses of focus. However currently, where cash generated from business activities is insufficient due to the impact of the COVID-19 pandemic, selling assets is an option for securing funds.

In fiscal 2021, we plan to continue to sell assets of approximately ¥50 billion, as we did in fiscal 2020.

Our efforts to reinforce cash generation capabilities must be firmly established in our management processes, not limited to temporary improvements. We are very aware that cash generation is equivalent to business value. We will change our business models and business processes to promote a shift to business operations that are focused on cash generation.

#### We will achieve a balance between investments for sustainable growth, improvement of financial soundness, and sufficient shareholder returns.

The management targets set forth in "Project Change" include the operating profit margin as an indicator of profitability, CCC as an indicator of cash generation, and ROIC as an indicator of management efficiency. Among these, we have set a target for ROIC of 10% or more for fiscal 2022. Achieving this level will be an indication of our success in realizing a good balance between investments for sustainable growth, improvement of financial soundness, and sufficient shareholder returns, while taking into consideration the cost of capital.

Unfortunately, in fiscal 2020, ROIC remained at 2.2% due to a significant decrease in operating profit, mainly due to the COVID-19 pandemic and other factors. However, the Company will enhance profitability and cash generation by strengthening

its earnings foundation, expanding the lifecycle businesses, and improving CCC, which should lead to improved ROIC and the achievement of the management targets for fiscal 2022.

#### We will make focused investments in growth businesses to optimize our business portfolio.

Under "Project Change," we plan to invest a total of approximately ¥380 billion over the three years from fiscal 2020. The breakdown of this investment is as follows: ¥100 billion for R&D, ¥200 billion for capital expenditure, and the rest for M&As and other investments. In addition, more than 30% of the total investment over the three years (including more than 50% of the investment for R&D) will be used to create growth businesses.

In fiscal 2020, we froze or reduced some of our investments due to the impact of the COVID-19 pandemic. Meanwhile, we prioritized investments related to the maintenance and renewal of facilities, which are important from the perspective of safety and quality, and the creation of growth businesses. In fiscal 2021 and beyond, we will continue to aggressively pursue investments mainly related to the creation of growth businesses.

#### We will work to return to a growth trajectory as soon as possible in order to resume dividend payments.

We will maintain our basic policy of distributing stable dividends, with the aim of achieving a sustainable increment of dividends in line with the Group's growth. With regard to the actual dividends, our policy of aiming for a consolidated dividend payout ratio of approximately 30% remains unchanged, while comprehensively taking into account investments to increase corporate value and the enhancement and strengthening of equity capital. However, it is with regret that we have decided to forgo the year-end dividend for fiscal 2020, in order to prioritize securing investment resources for

the creation of growth businesses.

In fiscal 2021, we expect the COVID-19 pandemic to continue to affect our business performance, mainly in the Civil Aero Engines Business. However, we will make every effort to resume regular dividend payments and plan to pay an annual dividend of ¥60 per share.

#### ► Main Management Indicators (Consolidated; IFRS)

	FY2019	FY2020	FY2021 (Forecast)
Orders received	¥1,280.0 billion	¥1,097.0 billion	¥1,160.0 billion
Revenue	¥1,263.1 billion	¥1,112.9 billion	¥1,180.0 billion
Operating profit	¥47.8 billion	¥27.9 billion	¥70.0 billion
Profit attributable to owners of parent	¥8.2 billion	¥13.0 billion	¥35.0 billion
Operating cash flows	¥42.4 billion	¥36.3 billion	¥60.0 billion
Investment cash flows	¥(85.5 billion)	¥(40.4 billion)	¥(30.0 billion)
Free cash flows	¥(43.0 billion)	¥(4.1 billion)	¥30.0 billion
Dividends per share	¥50 [¥30 interim; ¥20 year-end]	¥0	¥60 [¥30 interim; ¥30 year-end]
ROIC	4.1%	2.2%	5.5%
Operating profit margin	3.8%	2.5%	5.9%
CCC	92 days	124 days	110 days
D/E ratio	2.00 times	1.85 times	1.57 times
ROE	2.8%	4.5%	11.2%
Ratio of equity attributable to owners of parent	15.0%	16.4%	_

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

# Human Rights and Human Resource Management

# **Human Rights**

#### **IHI Group Human Rights Policy**

The IHI Group formulated the IHI Group Human Rights Policy in December 2020.

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.

#### **IHI Group Human Rights Policy**

https://www.ihi.co.jp/en/company/policy/humanrights\_policy/

#### **Management Framework**

We have 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

#### ▶ Human Rights Awareness Promotion Framework



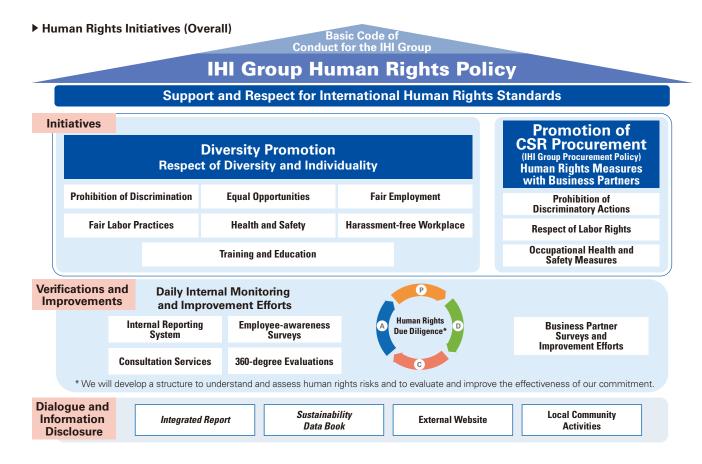
important human rights activities at the ESG Management Promotion Committee as a way to consistently instill the importance of promoting human rights throughout the Group.

#### **Human Rights Initiatives**

The IHI Group does everything in its power to ensure fair employment, fair labor practices, equal opportunities and a workplace free of harassment by promoting and respecting diversity and individuality.

Collaborative human rights measures with our business partners are preventing any human rights violations throughout all of our business activities, not just in the IHI Group but throughout the entire supply chain.

We monitor human rights initiatives on a daily basis and continually improve these measures through regular verifications.



# **Human Resource Management**

#### **Basic Concept of Human Resource Management** for Employee Success

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. We strive to realize a healthy, safe, work-friendly environment where everyone respects one another and prospers.

We formulated the Group Human Resource Management Policy in the belief that we must unify common values among all employees in order to reform corporate culture as well as build workplaces and systems that empower people to reach their full potential. This management policy expands various recruitment, assignment, development, and evaluation measures, and defines our "ideal human resources."

#### ▶ Ideal Human Resources



**Integrity and Trust** 



For Customers and Society



Innovation and Creation

Teamwork

World-class **Professional**  by conducting themselves according to higher standards in addition to norms and rules, alongside three principles: genba, genbutsu, genjitsu.\*

People who earn trust by fulfilling job responsibilities, and

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.

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.

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.

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.

#### **Revisions to the Human Resource System**

In October 2020, the IHI Group revised the Human Resource System to not only mobilize Group human resources but also ensure proper treatment and Group-wide promotions of outstanding employees which puts the right person in the right job.

The revised system adopts common Group-wide criteria set according to the role and responsibility of each position and standardizes the evaluation and compensation system throughout the IHI Group to flexibly deploy human resources.

#### ▶ Initiatives to Overcome Operating Environment Changes (Planned and Under Way)

#### Strategic alignment

Create work

environments

in which

employees can

flourish

#### Allocate human resources flexibly and optimally in line with business portfolio

 Prioritize allocations for lifecycle businesses, digital transformation, and other areas

#### 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
- Cultivate work environments that enhance team communication.

#### Diversity and Inclusion

The IHI Group advocates diversity as an important keyword in the Group Human Resource Management Policy and actively promotes diversity as part of its management strategy.

A workplace where people with diverse backgrounds and values can reach their full potential cultivates an organizational climate that embodies broad views and brings about innovation and creation. More specifically, we are spearheading efforts to empower women as senior management candidates while leveraging the broad perspectives and ideas of young up-andcoming staff.

The IHI Group has always promoted 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 members, to ensuring the active participation of LGBTQIA+ minorities. We also help encourage opportunities both inside and outside of the company as a way to provide broader experiences and open minds.

#### Shift Resources

Have progressed steadily with companywide and domain-wide resource shifts in response to business structure changes

- Reallocate personnel
- Focusing away from manufacturing toward solutions
- Revisions to the human resource treatment policy

#### **Create Positive Workplaces**

#### Created inclusive workplaces for diverse people

• Employ diverse people

Integrate differing values, experience, and expertise

- Support the success of people with a diversity of attributes and experience
- · Second jobs and internal side jobs

#### • Use new work practices

Smart Work Empowerment Division spearheading business reforms

- Create work environments that are free of distance and fixed-hour restraints through teleworking becoming the norm
- Automate processes

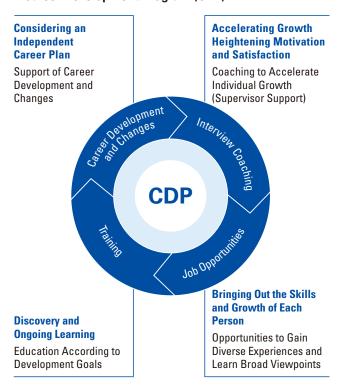
#### **Diversity and Inclusion (Human Resource Development)**

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

#### Career Development Program (CDP)

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

#### ► Career Development Program (CDP)



Though this initiative, we are supporting each employee to be able to independently think about their career plan as well as offer opportunities to grow through work and training so that they can continue their growth.

#### Human Resource Development Program

The IHI Group has been revising its human resource development programs during fiscal 2021. Our aim is a workplace where everyone can reach their full potential. That is why we migrated our educational programs from conventional education emphasizing training by level and position 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 Design Seminars

We hold Career Design Seminars tailored to each career stage to help our employees consider and execute their plans for developing the skills necessary. We also strive to provide career management training to supervisors.

#### Self-selective Training

The IHI Group put together full-fledge self-selective training in fiscal 2021 as a framework for each employee to choose and learn various subjects anytime anywhere according to their career plan.

#### ► Career Development Support Program



#### ► Self-selective Training

	Technical skills	Business skills	Communication skills	Mind
	(Approx. 200 courses)	(Approx. 70 courses)	(Approx. 20 courses)	(Approx. 30 courses)
Selective training (IHI-University)	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

#### **Providing Opportunities to Gain Diverse Experience**

The IHI Group continually enhances the workplace to ensure 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 partner companies, government agencies and startups
- Participation in joint development and other initiatives with universities, research institutes and other companies
- In-house recruitment

#### Systems

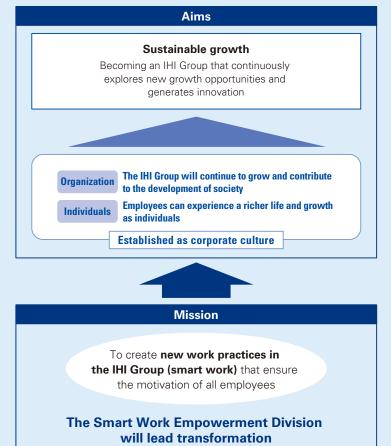
Leveraging diverse viewpoints and ideas in management

- 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

#### **Creating New Work Practices**

In April 2021, we established the Smart Work Empowerment Division. The mission of the Smart Work Empowerment Division is to promote new work practices ("smart work") in the IHI Group that will ensure the motivation of all employees, with the goals of achieving growth for IHI and enriching the lives and growth of individuals.

#### ▶ Aims, Mission and Activities of the Smart Work Empowerment Division



#### **Smart Work**

- Employees are able to concentrate on work that creates value for customers and society, and in terms of personal growth and job satisfaction
- Operations that do not generate value are thoroughly streamlined through automation and labor-saving measures
- Use of digital technology enables smart and agile working practices

#### **Examples of Activities**

- Collecting and implementing employee suggestions for process improvements (ICT-based automation and labor-saving measures for manual form replication and registration tasks)
- Sharing and usage of information that transcends organizational and distance barriers through the use of ICT
- Fostering a flat organizational culture by discontinuing the use of job position abbreviations alongside names

Discussion between President Hiroshi Ide and Outside Director Chieko Matsuda

# Forging a new growth trajectory through a strategic "backcasting" way of thinking, with a focus on ESG

In a rapidly changing business environment, maintaining sustainable growth will inevitably require a higher level of governance. President Hiroshi Ide exchanged views with Outside Director Chieko Matsuda on management issues in light of the 2021 revision of Japan's Corporate Governance Code, as well as the future direction for the IHI Group.

#### Thinking through IHI's Approach to ESG, Together with Employees

Matsuda The revisions to Japan's Corporate Governance Code cover three main areas: enhancing the function of the board of directors; ensuring diversity in core human resources including human rights; and advancing sustainability. In other words, the revisions correlate with ESG (Environment, Social, and Governance).

Ide The revisions add impetus to push through reforms in areas we have yet to address. At IHI, we began discussing ESG-conscious management last year. As ESG management involves customers, business partners, local communities, and employees, I wish for discussions to take place at every level, not just among certain departments or officers, as was previously the case. That is why we are trying to have everyone, from junior employees to Executive Officers and Outside Directors, express their opinions on what our approach to ESG should be.

The world is changing rapidly, and we are entering an age when carbon neutrality is a requirement. At IHI, which has built its business heavily related to the internal combustion engine, this is leading to circumstances in which existing values will be totally disrupted. As such, I feel it is now extremely important that we present a clear direction for our future. In "Project Change," which is currently under way, we are changing our management approach, business portfolio, and ways of working. In my view, ESG was an integral part of the formulation process of "Project Change."





Matsuda Though I believe many companies have a theoretical understanding of ESG, when the time comes for concrete action, consideration of the topic is limited to sustainability-related departments, with merely a final confirmation and sign off from the president.

At the IHI Group, top management has declared, "ESG is the foundation of management," and is promoting that message. For that reason, I believe the Company is heading in the right direction overall.

## **Developing Next-Generation Core Talent** with Diverse Skills and Experience

Ide When discussing ESG, the tendency is to talk about "E" (Environmental) issues, such as working toward carbon neutrality. The environment is important, of course, but I have been saying that we are not truly promoting ESG unless we are also conscious about our social impact. The "S" (Social) aspect is essentially about "people." Bringing young employees and women into the discussion provides views from different angles, and it is vital to incorporate such diverse perspectives.

Matsuda Before I became an Outside Director of IHI, my impression of the Company was one of a "conservative heavy industry company." I was pleasantly surprised to find out IHI has appointed a female Director and female Executive Officers. However, gender alone does not mean diversity. Academically, it is also clear that the diversity that plays a role in management is not only "diversity of attributes," such as gender, nationality and other characteristics, but also "diversity of skills and tasks." This was also part of the Corporate Governance Code revisions—people with different skills and

experience, such as professionals hired in mid-career, bring in diverse ways of thinking to improve a company's performance.

Ide At IHI, our human resource policies have long tended toward practices very typical of Japanese companies, such as seniority-based promotion and wage scales. I feel that the shift in our mindset has not caught up with current times. In executive training, for example, we do work to acquire younger participants. However, the age of candidates who are promoted is still high. This is because the mentality of giving priority according to age is still strong within the Company. It is necessary that we break out of this mindset. Even if we have potentially strong human resources, they will have to wait in line until they reach a certain age before being offered an opportunity.

Matsuda Breaking free from seniority-based thinking as the premise for personnel decisions is a challenge that should be led by top management. The Board of Directors is also discussing systems and mechanisms to resolve this issue. Moreover, adequate investment in human capital is one of the key requirements of the Corporate Governance Code revisions.

Our Management Philosophy states "Human resources are our single most valuable asset," and I believe that the President needs to be ready to go out and hand-pick human resource assets. This does not mean being personally involved in the hiring of every employee, rather that securing management talent requires a strong commitment from top management. That will lead to the cultivation of a pipeline of successors.





Matsuda Successor development is one of the most important jobs of the President, and is an essential point of corporate governance. The role of the Nomination Advisory Committee will also be crucial, and it is vital to find the right approach to management training in order to develop management talent from a wider pool.

At Japanese companies, there are many cases where people who have been developed as generalists are flustered when they are suddenly appointed as officers. One thing that is definitely lacking is the study of how to be a strong leader. The most effective way to learn is to get management experience on the frontlines—for example, by leading an overseas base. People in those positions have to deal with everything that happens there and manage by thinking on their own; otherwise, their organizations will not be able to function. One effective approach is to increase such opportunities for employees to build that kind of experience while they are young, even if on a small scale. Also, people in administrative positions should think in terms of "management," not "administration." Initiating changes like these is a critical part of "Project Change," and one that is sure to produce people who are capable of pioneering future growth.

## Leveraging the Perspectives of Outside Directors in the Creation of the Next Growth Businesses

A key objective of "Project Change" is to create growth businesses, and for that, I think we need to deepen discussion of our strategies. As we go forward, we need to

check whether we are moving in the right direction and how we are seen from a multi-stakeholder perspective. Therefore, impressions and advice from the perspective of Outside Directors are invaluable.

Matsuda For a long time, the management systems of Japanese companies were based on main bank governance, so while companies are good at explaining past performance, they do not have much experience in thinking of strategies for the future. This worked out as long as the business environment remained stable; however, that is no longer how things stand now. It is important to envision the kind of world that IHI wants to create, set subjective goals based on objective analysis, and perhaps to use strategic thinking that involves backcasting (thinking backward from the end goal) to determine what must be done to reach those goals.

Until now, "forecast thinking," i.e., thinking about business as a linear progression from the past to the present, has been entrenched, and backcasting has never taken root. This situation has been changing over the last several years, but I feel its range of use is still narrow. As a company supporting social infrastructure, we need to think of our future vision with a global perspective.

Japan's stance until now has been to try out trends that are happening in the world, and there was a tendency to try to do it all. However, such an approach results in the scattering of resources, and ultimately, very little gets accomplished. Therefore, it is vital that we keep in mind IHI's purpose in society as we think seriously about what we should do to accomplish our long-term goals.

# Improving the Effectiveness of the Board of Directors

Matsuda In briefings prior to Board meetings, the Company is very diligent in providing us with information. That said, we Outside Directors could make recommendations that go even further if we receive not only explanations about agenda items and businesses, but also objective information about the growth potential of target markets, the competitive situation, and business mechanisms. Pondering upon those perspectives can improve strategic thinking and the development of leadership talent.

experience, and provide us with valuable input on whether to step on the accelerator or the brake, depending on the situation. At Board meetings, we should provide further information on the steps leading up to an item being placed on the agenda, but currently, in many cases we are merely showing the results. I would like to change that. In terms of governance, we have a responsibility to the Board of Directors to explain risks to which objective information and supporting evidence are essential. In the discussion of ESG, the Board of Directors has been involved from the earliest stages of its consideration by the Company.

Matsuda Providing quality information means investigating scenarios that incorporate all the assumptions, including risks. Shareholders invest their own money in the Company's future, so they want to know the nature of the Company's risk appetite for the future, and furthermore how the Company will grow and generate returns to meet their expectations. At Board of Directors meetings, I always give my frank opinions from the position of shareholders.

In the past, we took on risks that we should not have in big projects and booked repeated losses. Our focus was on superficial risks that were easy to discover, and we did not do enough to identify latent risks. From now on, we need to change our direction to clearly identifying risks not only at the project level but for each business as a whole, and listen actively to opinions at Board of Directors meetings.

Matsuda I understand the difficulty you face in trying to change the mindset of the Company. Making a change from existing values is something top management has probably talked about a hundred times, and people at the next level in the hierarchy are finally getting it. The responsibility is now theirs to explain it another hundred times to help ensure that it is finally understood throughout the Company. However, without top management bringing it up, it would be very difficult to start up internal reforms.

I agree. In addition to communication from the top, I also place importance on listening. While maintaining communication through the dialogue with all employees that I started when I became President, I want to forge a new growth trajectory. To that end, I hope that you will continue to share your candid opinions.

Matsuda In this time of discontinuous change, I feel that those in charge of execution and those in charge of supervision need to have in-depth discussions on the definition of goals appropriate for IHI and the scenarios for a new growth strategy. To further raise the effectiveness of the Board of Directors, I will actively add to discussions from a position between corporate management and capital markets.



## **Corporate Officers**

### Directors



Tsugio Mitsuoka Chairman of the Board Attendance at Board of Directors meetings in FY2020: 18 of 18 (100%) Term in office: 7 years

Reasons for nomination: Tsugio Mitsuoka took charge of the IHI Group's management as the President of the Company in April 2016, and has actively carried out the selection and concentration of business operations and the transformation of the business model in response to the changing business environment, as well as bolstering risk management and ensuring compliance. Since April 2020, he has been working to strengthen corporate governance as Chairman of the Board. In the belief that his abundant experience and insight as a corporate manager will be indispensable in the management of the IHI Group, the Company has appointed him as a Director.



**Tomoharu Shikina** Executive Vice President Attendance at Board of Directors meetings in FY2020: 18 of 18 (100%) Term in office: 5 years Remuneration Advisory

Reasons for nomination: Tomoharu Shikina accumulated a great deal of knowledge in the aero-engine technology development field and subsequently, as President of the Aero-Engine, Space & Defense Business Area, he led the development of its global operations and achieved growth. In April 2020, he was appointed as Executive Vice President and Senior Executive Officer, and worked on promotion of CSR procurement within the IHI Group and security export control. Since April 2021, he has been working on the appropriate placement of human resources across the Group while also fostering a corporate culture that respects human rights. In the belief that his abundant experience, accomplishments, and insight will be indispensable in the management of the IHI Group, the Company has appointed him as a Director.



Hiroshi Ide President Attendance at Board of Directors meetings in FY2020: 13 of 13 (100%) Term in office: 1 year Nomination Advisory Committee: Chairperson

Reasons for nomination: Hiroshi Ide has accumulated a great deal of knowledge mainly in the overseas marketing division for the energy and plant businesses. After serving as Managing Director of an overseas subsidiary, he has formulated business strategies with a long-term perspective as President of the Resources, Energy & Environment Business Area for the materialization of a carbon-free recycling society. Since becoming Chief Operating Officer in April 2020, and subsequently President in June 2020, he has led the management of the Group. In the belief that his abundant business experience, accomplishments, and insight will be indispensable in the management of the IHI Group, the Company has appointed him as a Director.



Kazuki Awai **Board Director** Attendance at Board of Directors meetings in FY2020: --Term in office: Appointed June 2021\*

Reasons for nomination: Kazuki Awai has accumulated a great deal of knowledge, mainly in personnel and labor relations, and in the Corporate Planning Division. From July 2011, he has served as General Manager of the Administration Division, working on strengthening relationships with stakeholders and enhancing the effectiveness of governance. Since June 2017, he has also been working on strengthening Group compliance. In the belief that his experience, accomplishments, and insight will contribute to strengthened governance of the IHI Group, the Company has appointed him as a Director.



Takeshi Yamada Executive Vice President Attendance at Board of Directors meetings in FY2020: 18 of 18 (100%) Term in office: 4 years Remuneration Advisory Committee: Member

Reasons for nomination: Takeshi Yamada has accumulated a great deal of knowledge mainly in the finance and accounting field and the Corporate Planning Division, and from April 2017 as General Manager of the Finance & Accounting Division, he has been deeply engaged in the Group's financial strategies. After being appointed Executive Vice President in April 2019, he has been focusing on strengthening communication with stakeholders while promoting improvements in the Group's financial structure. In the belief that his abundant experience and high level of insight into the Group's overall business management will be indispensable in the management of the IHI Group, the Company has appointed him as a Director.



Takeshi Kawakami Board Director Attendance at Board of Directors meetings FY2020: 13 of 13 (100%) Term in office: 1 year

Reasons for nomination: Takeshi Kawakami has accumulated a great deal of knowledge in the bridge design, manufacturing and construction divisions. He subsequently served as the manager responsible for many projects, including overseas projects at a subsidiary operating in the Bridges/Water Gates Business, which the Company established through the acquisition of a leading Japanese company, and then as that company's President. Since April 2019, as President of the Social Infrastructure & Offshore Facilities Business Area, he has led that business area in a globally competitive environment. In the belief that his abundant experience, accomplishments, and insight will contribute to the growth of the IHI Group, the Company has appointed him as a Director.

\* Elected as Director of the Company at the 200th Ordinary General Meeting of Shareholders held on June 23, 2017, and resigned as Director of the Company at the conclusion of the 201st Ordinary General Meeting of Shareholders held on June 22, 2018, due to the expiration of his term.



Yasuhiro Shigegaki **Board Director** 

Attendance at Board of Directors meetings in FY2020: 13 of 13 (100%)

Term in office: 1 year

Reasons for nomination: Yasuhiro Shigegaki has accumulated a great deal of experience and knowledge mainly in the research and development division. In addition to having served as Chairman of an overseas subsidiary that the Company acquired, he has actively pursued global expansion to achieve growth as the manager responsible for the business. As the President of Industrial Systems & General-Purpose Machinery Business Area since April 2020, he has been leading the business in a globally competitive environment. In the belief that his abundant experience, accomplishments, and insight will contribute to the growth of the IHI Group, the Company has appointed him as a Director.



Yoshiyuki Nakanishi

Outside Director Independent

Attendance at Board of Directors meetings in FY2020: 12 of 13 (92%)

Term in office: 1 year Nomination Advisory Committee: Member

Remuneration Advisory Committee: Member

Reasons for nomination: Yoshiyuki Nakanishi, following experience in sales of products and services of a global chemical manufacturer and involvement in operations of its key business, has gained abundant experience, accomplishments. and extensive insight into overall corporate management at the helm of the manufacturer, where he implemented various measures to respond to changes in the business environment. Aiming to have him reflect these qualities in the management of the Company and carry out management oversight and monitoring functions from an independent perspective, the Company has appointed him again as an Outside Director.



Hideo Morita

**Board Director** 

Attendance at Board of Directors meetings in FY2020: ---

Term in office: Appointed June 2021





Chieko Matsuda

Outside Director Independent

Attendance at Board of Directors meetings in FY2020: 13 of 13 (100%)

Term in office: 1 year Nomination Advisory Committee: Member





Kazuhiko Ishimura

Outside Director Independent

Attendance at Board of Directors meetings in FY2020: 17 of 18 (94%)

Term in office: 4 years

Nomination Advisory

Committee: Member

Remuneration Advisory Committee: Chairperson

Reasons for nomination: Kazuhiko Ishimura has gained abundant experience, accomplishments, and extensive insight into overall corporate management at the helm of a comprehensive materials manufacturer, where he was at first in charge of manufacturing and technology development. Aiming to have him reflect these qualities in the management of the Company and carry out management oversight and monitoring functions from an independent perspective, the Company has appointed him again as an Outside Director.



appointed him as an Outside Director.

Minoru Usui

Outside Director Independe

Attendance at Board of Directors meetings in

Term in office:

Appointed June 2021

FY2020: --

Nomination Advisory Committee: Member

Remuneration Advisory Committee: Member

Reasons for nomination: Minoru Usui, after being in charge of technology development at an electronic equipment manufacturer that operates business globally, has gained abundant experience, accomplishments, and extensive insight at the helm of the manufacturer, where he implemented various measures to respond to changes in the business environment. Aiming to have him reflect these qualities in the management of the Company and carry out management oversight and monitoring functions from an independent perspective, the Company has

## **Audit & Supervisory Board Members**



Takashi Niimura Standing Audit & Supervisory Board Member Attendance at Board of

Directors meetings in FY2020: 13 of 13 (100%) Attendance at Audit & Supervisory Board

meetings in FY2020: 11 of 11 (100%) Term in office: 1 year

Reasons for nomination: Takashi Niimura has accumulated a great deal of knowledge in the sales and marketing field since joining IHI. As the manager responsible for supervising domestic and overseas branches and affiliated companies, he carried out sales strategies from a Company-wide perspective, while globally expanding operations and managing risks according to the situation in each country. In the belief that his abundant experience, accomplishments, and insight will be effectively utilized in the auditing of the IHI Group, the Company has appointed him as an Audit & Supervisory Board Member.

Reasons for nomination: Aiko Sekine has accumulated abundant experience and insight as Partner of PricewaterhouseCoopers Aarata, Japan, and Chairman and

President of The Japanese Institute of Certified Public Accountants (JICPA), Aiming

for these qualities and her independent perspective to be reflected in the auditing of

the Company's management from an independent perspective, the Company has

appointed her as an Outside Audit & Supervisory Board Member.



Seiji Maruyama

Standing Audit & Supervisory Board Member

Attendance at Board of Directors and Audit & Supervisory Board meetings in FY2020:

Term in office: Appointed June 2021

Reasons for nomination: Seiji Maruyama accumulated a great deal of knowledge, mainly in the areas of finance, internal control, internal audit and business management, and from April 2019 worked on issues such as the Group's finance and accounting strategy, and improving the Group's financial position as General Manager of the Finance & Accounting Division. In the belief that his abundant experience, accomplishments, and insight will be utilized in the auditing of the IHI Group, the Company has appointed him as an Audit & Supervisory Board Member.



**Toshio Iwamoto** 

Outside Audit & Supervisory Board Member Independent

Attendance at Board of Directors meetings in FY2020: 18 of 18 (100%)

Attendance at Audit & Supervisory Board meetings in FY2020: 14 of 14 (100%)

Term in office: 2 years Remuneration Advisory Committee: Member

Reasons for nomination: Toshio Iwamoto gained extensive experience and broad insight as the executive of forefront IT company. Aiming for these qualities to be reflected in the auditing of the Company's management from an independent perspective, the Company has appointed him as an Outside Audit & Supervisory Board Member.



**Aiko Sekine** 

Outside Audit & Supervisory Board Memher Independe

Attendance at Board of Directors meetings in FY2020: 13 of 13 (100%)

Attendance at Audit & Supervisory Board meetings in FY2020: 11 of 11 (100%)

Term in office: 1 year

Yumiko Waseda

Outside Audit & Supervisory Board Member Independen

Attendance at Board of Directors and Audit & Supervisory Board meetings in FY2020: —

Term in office: Appointed June 2021

Reasons for nomination: Yumiko Waseda has abundant experience and insight as an attorney at law, with an extremely high level of expertise in intellectual property law, as well as extensive experience as an outside audit and supervisory board member. Aiming to have her reflect this experience and insight in the management oversight from an independent perspective, the Company has appointed her as an Outside Audit & Supervisory Board Member.



## **Executive Officers**

### Hiroshi lde

Chief Executive Officer In Charge of Business Relating to Internal Audit In Charge of Risk Management General Manager of Corporate Strategy Headquarters

### Takeshi Yamada Senior Executive Officer

Assistant to the President In Charge of Group Finance & Accounting In Charge of Business Relating to Corporate Planning, and Corporate Communication

### Tomoharu Shikina

Senior Executive Officer Assistant to the President In Charge of Group Quality Assurance In Charge of Business Relating to Procurement. Information Management, Human Resources and Labor

In Charge of Group Safety and Health

### Kazuki Awai

Managing Executive Officer In Charge of Business Relating to Administration, Legal and CSR In Charge of Group Compliance

### Takeshi Kawakami

Managing Executive Officer In Charge of Monozukuri System Strategy President of Social Infrastructure & Offshore Facilities Business Area

### Yoshinori Komiya

Managing Executive Officer General Manager of Intelligent Information Management Headquarters

## Yasuhiro Shigegaki

Managing Executive Officer In Charge of Production Base Strategy President of Industrial Systems & General-Purpose Machinery Business Area

## **Hideo Morita**

Managing Executive Officer President of Aero Engine, Space & Defense Business Area

## Masataka Ikeyama

Managing Executive Officer Meisei PMI Office

### **Masato Shida**

**Executive Officer** General Manager of Human Resources Division

## Kouji Takeda

**Executive Officer** President of Resources, Energy & Environment Business Area

## Tetsuji Fujimura

**Executive Officer** Vice President of Aero Engine, Space & Defense Business Area

## Kiyoshi Nihei

**Executive Officer** General Manager of Global Marketing & Sales Headquarters In Charge of Group Operations

## Noriko Morioka

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

## **Akihiro Seo**

Executive Officer General Manager of Corporate Planning Division

## Jun Kobayashi

**Executive Officer** General Manager of Solution & Business Development Headquarters

## Kazuhiro Onitsuka

**Executive Officer** Vice President of Industrial Systems & General-Purpose Machinery Business Area

## Yukihisa Ozawa

**Executive Officer** Vice President of Resources, Energy & Environment Business Area

## Nobuhiko Kubota

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

## Tsuyoshi Tsuchida

**Executive Officer** Vice President of Industrial Systems & General-Purpose Machinery Business Area

## **Corporate Governance**

## **Governance Initiatives**

## **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 decisionmaking 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.

IHI promotes constant improvement of its corporate governance, aiming to earn the trust and support of its shareholders and other stakeholders over the long term.

IHI will work to enhance its corporate governance in line with the following basic policies.

### ▶ 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 audits the duties executed by Directors. The Board of Directors makes decisions related to all important matters concerning the management of IHI and the Group, in addition to supervising Directors in their business execution. The Outside Directors, who are elected from among individuals with extensive experience and broad insight gained at the helms of management, or with a high degree of specialist knowledge and diverse experience, participate in the Board of Directors' decision-making process, offer advice and make recommendations independently of managers who have been delegated the authority to handle day-to-day operations.

### **Executive Officer System**

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. The appointment of Executive Officers is resolved by the Board of Directors.

### **Remuneration Advisory Committee and Nomination Advisory Committee**

The Remuneration Advisory Committee determines the suitability and objectivity of the remuneration brought up by the Board of Directors. 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 Nomination Advisory Committee ensures proper

implementation of officer appointments. This five-person committee is made up of the President and four Outside Directors with the President acting as chairperson.

### **Board of Directors Evaluation**

IHI has been evaluating the performance of the Board of Directors annually in principles since fiscal 2015 to further its effectiveness.

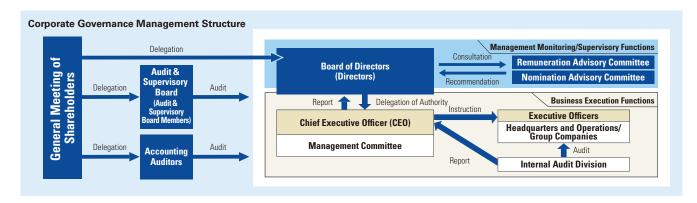
The evaluation is performed as follows:

- An external consulting company administers an anonymous questionnaire to all Directors and Audit & Supervisory Board Members. Items covered by the questionnaire include the composition and operation of the Board of Directors, risk management, and culture of the Board of Directors.
- The external consulting company collects and analyzes the questionnaire responses.
- All relevant officers are interviewed regarding the questionnaire and the analyzed responses.

The results of the above process are brought together in composition the form of a self-evaluation by the Board of Directors, and proposed points for improvement are identified.

Regarding the evaluation of the Board of Directors implemented in fiscal 2020, it has been self-evaluated that effectiveness of the Board of Directors has been continuously secured thoroughly.

In addition, in order to further enhance the effectiveness of the Board of Directors, we recognized the need to further deepen discussions on ESG management, business portfolios, the composition of the Board of Directors, and succession plans. The next evaluation of the Board of Directors is scheduled to be conducted during fiscal 2021.



## **Policy on Determination of** Remuneration for Officers\*

### Remuneration for 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 IHI's and the IHI Group's sustainable growth and improve the medium- and long-term corporate value.

Remuneration shall be structured with the appropriate allocation of a fixed base amount, an annual incentive (performance-based bonuses), which is linked to the operating performance of each fiscal year, and a medium- and long-term incentive (performancebased 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, which states "Human resources are our single most valuable asset," appropriate treatment shall be provided to officers of IHI in consideration of IHI's management environment, and social roles and accountabilities IHI undertakes. To ensure appropriateness and objectivity regarding matters of Director remuneration, the Board of Directors shall make decisions on such matters subsequent to deliberation and reporting findings thereof by the Remuneration Advisory Committee established as an optional body by IHI.

### Remuneration of Outside Directors and **Audit & Supervisory Board Members**

Remuneration of Outside Directors shall consist only of a base amount in the light of their duties. Remuneration of 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.

### Remuneration Level and Allocated Ratios of Remuneration

IHI shall appropriately establish remuneration levels and allocated ratios of remuneration upon having considered factors that include IHI's business characteristics, effectiveness of incentive remuneration, and professional duties. Moreover, IHI shall perform verification by regularly surveying objective market data on remuneration researched by an external specialized institution.

With respect to allocated ratios of remuneration, IHI shall set remuneration at approximate proportions of Base Amount: Performance-Based Bonus: Performance-Based Share

Remuneration equal to 50%:30%:20% for the President, and the Chairman of the Board, and at approximate proportions of 55%:25%:20% for other Directors, subject to standard business performance.

\* Policy as determined on May 13, 2021.

## **Results for FY2020 Remuneration**

▶ Incentive Structure and Targets, Results, and Other Data of Performance Evaluation Payout Rates

Type of remuneration	Incentive structure	Method of review for performance evaluation indicator	Performance evaluation indicator	Margin of performance evaluation payout rate	Targets	Results	Performance evaluation payout rate
Medium- and long-term incentives (Performance- based share remuneration)	The number of shares¹ to be delivered every fiscal year as a medium- and long-term incentive consists of the standard number of shares to be delivered corresponding to titles and positions multiplied by the coefficient proportionate to the achievement level of "ROIC." The coefficient varies from a range of zero to approximately 150 depending on the extent of having achieved such target, with a baseline value of 100 for the number of shares to be delivered when performance tergets have been achieved. The performance evaluation period shall encompass the next three fiscal years, and performance targets for the final fiscal year of the performance evaluation period shall be established at the outset of the performance evaluation period.	IHI shall furthermore review the possibility of making necessary changes in alignment with review of the Group management policies.	Consolidated ROIC	0–150%	Maximum: 15% Target: 12% Minimum: 3.5%	2.2%	0%
			Consolidated profit attributable to owners of parent	0-200%	Maximum: ¥38.4 billion Target: ¥23.4 billion Minimum: ¥8.4 billion	-¥3.8 billion	0%
Annual incentives	The monetary amount of an annual incentive to be provided every fiscal year consists of the standard payment amount corresponding to titles and positions and type of profit indicators used for reference multiplied by the performance evaluation payout rates		Consolidated operating profit margin	0-200%	(Head Office) Maximum: 5.3% Target: 3.3% Minimum: 1.3%	(Head Office) 0.7%	0%
(Performance- based	proportionate to the achievement level of the profit indicators, and the payments based on individuals' performance evaluations.  • The performance evaluation payout rate varies depending on the	particularly upon encountering changes in the management	prontingin		(Business Areas) Maximum and minimum r each business area	ange set for	
bonuses) <sup>2</sup>	achievement level, within an approximate range from 0 to 200 under the assumption of providing the amount of 100 upon the achievement of the targeted performance.	environment and executives' roles, etc.	Consolidated cash flow	0–150%	(Head Office) Maximum: ¥60.0 billion Target: ¥40.0 billion Minimum: ¥20.0 billion	(Head Office) ¥24.5 billion	0%
					(Business Areas) Maximum and minimum reach business area	ange set for	

- 1. A certain part of this incentive is delivered with money by the amount corresponding to the market price.
- 2. The margin of performance evaluation rate of performance-based bonus indicated in the chart above are based on those of fiscal 2020. The performance based bonus has not been paid as dividends were determined to be zero yen for fiscal 2020.

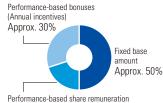
### ▶ Details of Director and Audit & Supervisory Board Member Remuneration

(Millions of ven)

	Number of	Tota	Total remuneration by type								
Category	people remunerated	Basic remuneration	Performance- based share remuneration*	Performance- based bonuses	Total remuneration						
Directors	16	365	199	0	565						
Audit & Supervisory Board Members	7	102	_	_	102						
Total (outside)	23 (9)	467 (81)	199 (—)	0 (—)	667 (81)						

<sup>\*</sup> 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.

### **▶** Composition of **Remuneration for President** and Chairman of the Board



(Medium- to long-term incentives) Approx. 20%

### **▶** Composition of Remuneration for Other **Directors (Inside Directors)**



(Medium- to long-term incentives) Approx. 20%

# **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 "IHI Group Key Risk Management Policies" was formulated to prioritize risks that need to be addressed. Each IHI division and Group company worldwide move forward with independent risk management in accordance with these policies.

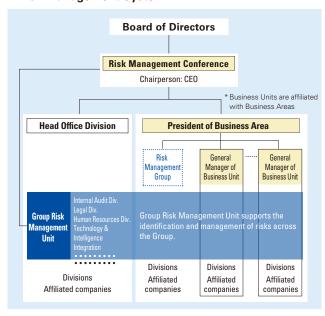
There are common risks throughout the entire IHI Group; therefore, the Group Risk Management Unit made up

primarily of head office divisions share information and provide education to take advantage of expert knowledge and support risk management activities of each Group division. The Internal Audit Division strives to secure a suitable level of risk management by assessing the readiness and progress of the Group risk management structure.

## **Key Policies for Risk Management in FY2021**

The IHI Group considers the risks and opportunities brought by the ever-changing business environment as a Groupwide issue. It is necessary for us to discern potential risks which are beyond conventional frameworks in this business environment, to identify and analyze vital risks, and to promote swift risk management are critical in advancing business reforms. Taking these necessities into account, our efforts which emphasize the key risk management themes are indicated on the right.

### ▶ Risk Management System



- ▶ Risk Management Initiatives to Plan and Promote Risk Management Plans for Top-down Themes
  - 1. Conduct further comprehensive compliance initiatives.
  - 2. Standardize the quality assurance framework.
  - 3. Address key business risks.
- ▶ Risk Management Initiatives to Comprehensively Identify Risks Inherent to Business Activities as well as Plan and Promote Risk Management Plans
  - 1. Thoroughly implement and strengthen safety management.
  - 2. Conduct further comprehensive compliance initiatives.
  - 3. Reform quality and operation systems.
  - 4. Respond to changes in management platforms and competitive environments, and promote ESG management.
  - 5. Properly respond to risks associated with global strategy.
  - 6. Improve operational productivity through workstyle reforms and build workplaces where diverse human resources can actively participate.
  - 7. Transition to robust project implementation and risk management structures.
  - 8. Ensure the appropriateness of large-scale investments.
  - 9. Maintain and improve trusting relationships with stakeholders.
  - 10. Implement thorough measures against harassment.
  - 11. Promote even greater diversity.
  - 12. Promote education on human rights and activities to raise awareness.
  - 13. Ensure information security.
  - 14. Prevent leaks of confidential sales information, personal information, and vital technical information.
  - 15. Develop adequate Business Continuity Plans (BCP) in case of disasters/accidents.

## **Project Risk Management**

### **Project Risk Management System** and Framework

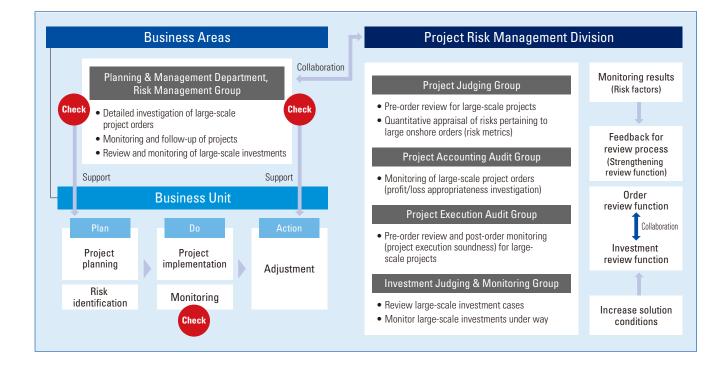
The Project Risk Management Division was established in April 2017 following extensive losses on large-scale overseas projects from fiscal 2014 through fiscal 2016. The division has been strengthening the risk management system in collaboration with the risk management groups of each business unit.

To minimize project risks, the division performs pre-order and pre-investment reviews, and monitors the execution of projects. Present and former employees who are knowledgeable about IHI businesses, as well as outside experts, are appointed as certified reviewers, and conduct thorough, multifaceted reviews. In addition, given that some projects can take as long as four or five years, interim reviews are conducted at each milestone to ensure that the originally planned conditions have been met.

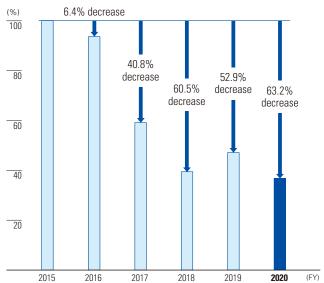
### **Achievements and Future Initiatives**

The number of downward revisions in large-scale projects is decreasing, indicating a certain degree of success in project risk management. Specifically, we believe that improving the accuracy of our estimates by strengthening our estimate system, identifying new elements and

thorough implementation of their risk countermeasures. and carefully monitoring projects in progress have led to the prevention of downward revisions. While maintaining the measures to prevent downward revisions, we will strengthen the resource management of key members carrying out the projects and capture 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.



### ▶ Number of Downward Revisions on Large-Scale Projects



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

## **Quality and Compliance**

## Quality

The IHI Group expanded the following quality measures throughout the Group in an effort to return to the core principles of its corporate ethics in light of the inadequate practices which occurred in 2019.

- 1. Deploy an IHI Group Code of Action and Quality Declaration
- 2. Strengthen the compliance structure
- 3. Strengthen the quality assurance and quality management systems
- 4. Create workplaces where everyone has a voice
- 5. Strengthen risk management

### **IHI Group Code of Action and Quality Declaration**

The IHI Group has established the IHI Group Code of Action with reference to the Basic Code of Conduct for the IHI Group as the guiding light in everyday work of all IHI Group employees clarifying the standards for what actions to take and making judgments.

We have also made quality a top priority in the IHI Group Quality Declaration. The Quality Declaration reaffirms and clarifies the mindset and quality-oriented actions that are the basis for our approach to manufacturing.

### Strengthening Quality Assurance and Quality **Management Systems**

The IHI Group established the IHI Group Quality Committee as a Group-wide committee on quality. The Committee deliberates and drafts important quality policies as well as promotes activities with the Officer in charge of overall Group Quality Assurance as chair. The members are made up of the presidents of business areas, executives in charge of quality for business areas, and executives of head office divisions.

### Creating Workplaces Where Everyone Has a Voice (Worksite Visits by Top Management)

Top management, including the President, visit worksites to engage in discussions and to actively exchange ideas with employees, both from an equal standpoint.

We value Sangen-Shugi, which involves visiting the actual site, looking closely at the actual product, and correctly recognizing the actual situation. By communicating and hearing the voices of the employees directly involved, management and on-site staff work together in small group activities to resolve any problems encountered on-site by focusing on operational processes.

### Quality & Compliance Training

In fiscal 2020, a training course called Quality & Compliance Training (Second Edition) that focused on quality and ontime delivery was conducted for all IHI Group companies.

### Launch of Compliance Day (May 10)

In fiscal 2021, the IHI Group submitted a report to the Ministry of Land, Infrastructure, Transport and Tourism on corrective measures to address the inadequate practices at Civil Aero Engine Maintenance Business in 2019. These corrective measures included the launch of a Compliance Day (May 10) as an opportunity to reflect on and think about compliance each year. This compliance event makes past issues personal for each and every person with the goal of continually raising awareness about compliance.

## **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.

### ▶ Number of Compliance Training Participants

(People)

ltei	m	Scope of Data	FY2018	FY2019	FY2020
Officer T	raining	IHI and subsidiary companies in Japan	47	-	_
Line Manager Training		IHI and subsidiary companies in Japan	75	72	_
Quality & Co	ompliance	IHI and subsidiary companies in Japan	_	27,866	24,085
Train	ing	Subsidiary companies overseas	_	1,774	3,261
o Loorning	Japan*	IHI and subsidiary companies in Japan	18,234	18,164	20,169
e-Learning	Overseas	Subsidiary companies overseas	1,126	1,214	_

<sup>\*</sup> Conducted as Quality & Compliance Training in fiscal 2020

## **Crisis Management**

## **Approach**

We have defined a crisis management structure, response procedures, and Business Continuity Plans (BCP) for the entire IHI Group to respond to emergency situations as part of the Basic Rules on Crisis Management for IHI Group.

The IHI Group formed the Crisis Management Headquarters to take the necessary steps to minimize damage of 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 the COVID-19 infection and any potential cluster infections.

### **Provide a Work System to Prevent Infection**

Telework (work done from home) is formulated as a general rule. Furthermore, any work which requires an employee to come to the office combine 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, measures are formulated which ensure a work environment avoiding closed spaces, crowded places and close-contact settings. Our measures adapt to the circumstances on each site, such as working in shifts, strengthening measures to prevent the spread of the virus when commuting to and from work such as commuting more by car.

### 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 reform traditional work processes and systems to accelerate the adoption of "new work-styles" from digitalization of internal approval and procedures to online meetings and training.

## **Preparation for Disasters**

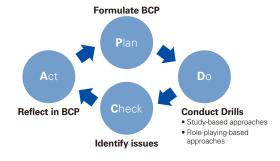
To prepare for severe disasters, the IHI Group has built a system to ensure both employee safety and business continuity. In addition, we have clarified the organizational structure and necessary actions in our internal rules, during both normal times and during times of disaster.

A Business Continuity Plan (BCP) is established at each representative office, division and affiliated company. Furthermore, our plans regularly undergo desk training and constant reviews to verify their effectiveness.

Every March, IHI conducts a response training Group-wide, which the President and other management executives participate, in case of severe disasters. This training varies the day, time, and estimated damage of a disaster each year to test the effectiveness of the BCP from various angles.

In addition to capital investments, such as earthquake proofing of plants and offices, the IHI Group has entered into disaster prevention and readiness agreements and is building other cooperative relationships with local governments in case of disasters.

### ▶ Ongoing Review of Business Continuity Plans



## **Businesses Helping to Prevent the Spread of Infectious Diseases**

Through its ozone-related products, the IHI Group is helping to prevent the spread of COVID-19 in a range of settings.

### Ozone Air Purifier with HEPA Filter

IHI's ozone air purifier with a high-efficiency particulate air (HEPA) filter has a strong antibacterial effect that helps prevent droplet infection and contact infection, and is an easy-to-use device that offers peace of mind in being safe for human health and the environment. It can be



Ozone Air Disinfector e7-3000

combined with a simple negative-pressure tent to create a negative-pressure isolation chamber. https://iat.i9.bcart.jp/uploads/IHI\_Web/ozone\_airclear.html (Japanese only)

## Safe and Secure Antibacterial Spray **Using Fine Bubble Technology**

The IHI Group has begun sales of Re:Clear antibacterial spray, which has been treated with ozone using our proprietary "fine bubble" technology.

The spray has demonstrated a broad antiviral effect, and is effective not only against enveloped viruses, including SARS-CoV-2, but also nonenveloped viruses that are resistant to disinfectants.



Re:Clear

## **Reduce Environmental Impact**

# **Addressing 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.

Our products and services strive to reduce CO<sub>2</sub> emissions throughout the entire life cycle. We monitor the environmental impact from business activities at our plants, offices and other business establishments to help us reduce CO<sub>2</sub> emissions.

## Risk and Opportunity due to Climate Change

### **TCFD** Initiatives

The IHI Group set simple scenario analyses of four business domains with a significantly large impact on climate change: the Energy Business, Vehicular Turbochargers Business, Bridges/Water Gates Business, and the Civil Aero Engines 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 drafted by the International Energy Agency (IEA) and Intergovernmental Panel on Climate Change (IPCC). 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.

### IHI Group scenarios:

### ■ High-transition risk scenario

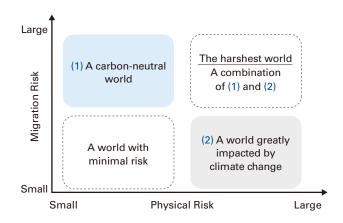
This scenario presents (1) a carbon-neutral world where society at large shifts to mitigate climate change to stop all greenhouse gas emissions.

### ■ High-physical risk scenario

This scenario presents (2) a world greatly impacted by climate change that needs to adapt to the physical impact to 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.



The results of the analysis were classified and organized into "1. Main risks and countermeasures shared across all businesses" and "2. Main risks, opportunities, and countermeasures specific to each business."

### 1. Main Risks and Countermeasures Shared Across All Businesses

(1) Transition	risks and countermeasures for a carbon-neutral wo	orld
Category	Main topics	Main countermeasures and transitioning to opportunities
Policies, laws and regulations	Introduction of carbon taxes, stronger industrial waste regulations, raising 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
Technologies	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
Markets	Declining demand for products and services with high CO <sub>2</sub> 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 and transitioning to opportunities									
Acute/Chronic	Ceased business activities due to damaged offices and plants caused by typhoons, floods, or other natural disasters, etc.	Incorporate the response to weather-related disasters 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									

## 2. Main Risks, Opportunities, and Countermeasures Specific to Each Business (Four Main Business Domains)

(1) Risks, opportu	nities and main countermeasures in a carb	on-neutral world		
	Energy Business	Bridges/Water Gates Business	Vehicular Turbochargers Business	Civil Aero Engines Business
Risks	Declining demand for large fossil fuel power generation equipment	<ul> <li>Increasing procurement costs (carbon tax, etc.) for materials with high CO<sub>2</sub> emissions (concrete, steel, etc.)</li> </ul>	Declining demand for combustion engine vehicles unable to address carbon-neutral requirements and a 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 regulating 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 carbonneutral electric vehicles (PHEV, HEV, FCV, etc.)	Increasing demand for the development of aircraft engines supporting carbon-neutral requirements and opportunities raise 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, remoteization, 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, opportu	nities and main countermeasures in a wor	d greatly impacted by climate change		
	Energy Business	Bridges/Water Gates Business	VehicularTurbochargers Business	Civil Aero Engines Business
Risks	Extreme delays due to on-site construction stoppages or disasters caused by frequent weather-related disasters	Extreme delays due to on-site construction stoppages or disasters caused by frequent weather-related disasters	Suspension of production due to disrupted supply chains caused by frequent weather- related disasters	Suspension of production due to disrupted supply chains caused by frequent weather- related disasters
Opportunities	Contributing in early recovery of equipment damaged in weather-related disasters     Increasing demand for digital technologies to promote labor saving and remote operation	Increasing demand to build robust national infrastructure     Contributing in early recovery of infrastructure damaged in weather-related disasters	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

# **Financial Summary**

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

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

FY	2010	2011	2012	2013	2014	2015	2016	2017	2018	20	19	2020
Standard	Japanese GAAP	IFRS	IFRS									
Key financial highlights											(Bi	llions of yen)
Orders received	1,200.9	1,269.6	1225.6	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
Net sales/Revenue	1,187.2	1,221.8	1256.0	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
Operating profit	61.3	43.3	42.1	53.2	63.2	22.0	47.3	72.2	82.4	60.7	47.8	27.9
Share of profit (loss) of entities accounted for using equity method/ Share of profit (loss) of investments accounted for using equity method	0.3	0.6	4.3	5.3	(1.7)	1.1	(3.5)	(33.0)	4.1	(12.9)	(12.3)	(1.9)
Total non-operating income	(9.9)	(1.6)	(5.9)	0	(6.7)	(12.3)	(25.3)	(50.8)	(16.7)	(28.5)	_	_
Ordinary profit	51.4	41.7	36.2	53.2	56.5	9.7	22.0	21.4	65.7	32.2	_	_
Profit before tax	_	_	_	_	_		_	_		_	29.1	27.6
Profit attributable to owners of parent	29.7	23.8	33.3	33.1	9.0	1.5	5.2	8.2	39.8	12.8	8.2	13.0
R&D expenses	29.2	30.0	30.2	33.5	37.0	41.6	35.5	38.6	36.5	38.1	40.0	26.8
Capital expenditure	86.3	53.5	55.0	54.5	63.9	50.8	52.7	59.2	67.3	80.6	89.9	48.3
Depreciation	38.2	41.1	41.7	40.4	43.2	46.7	46.6	44.8	42.9	53.8	66.3	69.8
Total assets	1,361.4	1,338.1	1364.2	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
Interest-bearing liabilities	373.3	345.2	353.8	357.8	410.6	374.5	371.9	322.2	355.0	488.1	612.7	605.9
Net assets/Total equity	253.6	258.4	299.2	362.5	359.5	333.3	337.6	350.2	381.6	353.7	306.0	327.7
Employees	26,035	26,915	26,618	27,562	28,533	29,494	29,659	29,706	29,286	28,964	29,328	29,149
Per share data												(Yen)
Basic earnings per share <sup>1</sup>	202.94	162.58	228.14	225.13	58.84	9.90	33.98	53.71	258.53	84.21	53.93	88.13
Book value per share/Equity attributable to owners of parent per share <sup>2</sup>	1,623.33	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
Annual dividends per share	30.00	40.00	50.00	60.00	60.00	30.00	0.00	60.00	70.00	50.00	50.00	0.00
Net sales by region/Revenue by region												llions of yen)
North America	126.1	125.8	147.3	213.0	271.5	336.6	320.2	351.3	327.0	364.6	252.1	126.1
Europe	90.8	99.4	93.0	152.2	171.0	139.9	116.1	132.6	102.2	68.6	72.0	52.8
Asia and other	295.1	295.8	245.7	253.2	315.3	320.2	320.8	323.9	284.0	229.7	227.1	235.0
Japan	675.2	700.8	769.7	685.4	697.8	742.4	728.9	782.3	769.9	723.4	711.7	698.9
Net sales by business segment/Revenue by business segment											(Bi	llions of yen)
Resources, Energy & Environment	306.4	312.3	321.5	344.0	415.3	452.4	427.3	490.4	377.0	327.7	324.8	317.6
Social Infrastructure & Offshore Facilities	122.4	114.7	117.8	150.3	188.6	168.1	157.7	154.5	143.1	152.8	148.7	157.9
Industrial Systems & General-Purpose Machinery	282.2	318.7	382.5	397.8	411.7	404.7	411.6	459.0	441.0	406.4	404.5	374.2
Aero Engine, Space & Defense	273.7	299.4	338.4	406.0	434.8	500.2	471.9	463.7	492.2	480.8	369.7	244.6
Financial indices												(%)
Percentage of overseas sales/revenue	43	43	39	47	52	52	51	51	48	48	44	37
Operating profit margin	5.2	3.5	3.4	4.1	4.3	1.4	3.2	4.5	5.6	4.4	3.8	2.5
ROIC (return on invested capital) <sup>3</sup>	6.2	4.6	4.5	5.3	5.8	2.3	5.0	7.7	8.7	5.7	4.1	2.2
ROA (return on assets) <sup>4</sup>	2.1	1.8	2.5	2.3	0.6	0.1	0.3	0.5	2.4	0.8	0.4	0.7
ROE (return on equity)⁵	13.2	9.8	12.4	10.5	2.6	0.5	1.6	2.6	11.8	3.8	2.8	4.5
	I				i .	1			1			
Debt-to-equity ratio (times) <sup>6</sup>	1.47	1.34	1.18	0.99	1.14	1.12	1.10	0.92	0.93	1.38	2.00	1.85

FY	2010	2011	2012	2013	2014	2015	2016	2017	2018	20	19	2020
Standard	Japanese GAAP	IFRS	IFRS									
Balance sheet information											(Bi	llions of yen)
Current assets	853.4	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
Non-current assets	508.0	493.7	549.4	595.1	637.1	614.5	618.9	640.0	676.6	664.7	911.3	886.2
Total assets	1,361.4	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
Current liabilities	691.1	689.6	665.4	726.2	795.9	882.7	876.2	811.6	823.1	909.0	916.5	764.7
Provision for construction warranties, Provision for loss on construction contracts	47.2	44.7	40.4	43.8	65.3	97.5	85.2	80.9	69.1	62.6	31.9	26.4
Non-current liabilities	416.6	389.9	399.5	407.5	535.3	498.9	478.9	471.6	459.7	478.0	646.4	740.3
Total liabilities	1,107.8	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
Shareholders' equity/Total equity attributable to owners of parent	234.6	254.3	282.7	332.2	313.5	305.8	309.9	313.2	343.4	329.2	280.1	300.7
Total net assets/Total equity	253.6	258.4	299.2	362.5	359.5	333.3	337.6	350.2	381.6	353.7	306.0	327.7
Total liabilities and net assets/Total liabilities and equity	1,361.4	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

Cash flow statement information											(Bi	llions of yen)
Cash flows from operating activities	95.5	24.7	74.3	39.2	63.5	95.3	65.3	99.0	46.4	14.5	42.4	36.3
Cash flows from investing activities	(77.7)	(37.7)	(61.0)	(62.2)	(74.6)	(35.5)	(28.9)	(47.9)	(79.2)	(75.8)	(85.5)	(40.4)
Cash flows from financing activities	(25.9)	(38.5)	(3.1)	11.3	33.4	(47.5)	(21.9)	(57.3)	16.4	115.2	96.8	(23.7)
Change in interest-bearing liabilities	(58.7)	(28.1)	8.6	4.0	52.8	(36.1)	(2.6)	(49.7)	32.8	133.0	(119.0)	(6.7)
Free cash flow <sup>7</sup>	17.7	(12.9)	13.3	(23.0)	(11.0)	59.8	36.4	51.0	(32.8)	(61.3)	(43.0)	(4.1)

- 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
- 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

## **Third-Party Evaluation**

#### S&P/JPX Carbon Efficient Index

The IHI Group has been selected as a member of the S&P/JPX Carbon Efficient Index, as we provided ample environmental information disclosure and carbon efficiency (carbon emissions per unit of revenue) standards which met their constituent selection and weighting process.



### CDP

CDP (formerly the "Carbon Disclosure Project") is a non-profit charity established by responsible investors worldwide. The CDP sends an annual questionnaire to companies and local governments and releases the results to

encourage further action regarding climate change. The IHI Group responds to this questionnaire on an annual basis. In fiscal 2020, we were evaluated as Management Level score of B-.



#### **Kurumin Certification**

The Minister of Health, Labour and Welfare recognized the IHI Corporation as a company that supports child raising and granted us the Kurumin certification.



#### Eruboshi Certification

The Minister of Health, Labour and Welfare certified the IHI Corporation as an "Eruboshi (2nd level)" Company for excellence in efforts to promote the participation and advancement of women in the workplace.



#### Health & Productivity Companies 2021 (White 500)

The Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi (Japan Health Council) launched the "White 500 Program" to recognize excellence in employee health management from a corporate management standpoint. The White 500 Program recognized eleven IHI Group companies as Health & Productivity Companies in 2021: IHI Corporation, IHI Scube, IHI Plant Services Corporation, IHI Power Systems, IHI Jet Service, NICO Precision, IHI Infrastructure Systems, IHI Aerospace, IHI Finance Support, Chiba Warehouse, and Takashima Giken.



### **Resilience Certification**

The IHI Group renewed the Resilience Certification acquired in 2016. Resilience Certification is a certification system of the Association for Resilience Japan based on the guidelines for the certification of organizations contributing to national resilience. This certification certifies business operators who endorse ideas of strengthening national resilience published by the Cabinet Secretariat's National Resilience Promotion Office and who proactively work to ensure their company's business continuity.



#### **PRIDE Index Gold Award 2020**

work with Pride (wwP) awarded the IHI Corporation the PRIDE Index 2020 Gold Award, which is its highest honor, for the second consecutive year since 2019. The goal of the PRIDE Index is to support and build working environments friendly to LGBT and other gender minorities. wwP recognized the IHI Corporation for the third consecutive year, praising our human resource policies for LGBT, launch of a "consultation desk" for those needing help, expansion of ally programs, and training conducted to promote greater understanding regarding gender minorities



# **Non-Financial Summary**

Matarialianus	Thomas		la day	Coope of data		Res	Results		
Material issues	Theme		Index	Scope of data	FY2017	FY2018	FY2019	FY2020	
Governance – Principle	ed Corporate Managem	ent –							
Corporate	Corporate	Average attendance rate of Outside Directors	Board of Directors meetings (%)	ІНІ	95.3	98.6	98.1	96.8	
governance	governance	Average attendance rate of Outside Audit & Supervisory	Board of Directors meetings (%)	IHI	96.0	92.6	100.0	100.0	
		Board Members	Audit & Supervisory Board meetings (%)	IHI	100.0	100.0	100.0	100.0	
		Number of law	Competition laws	IHI and consolidated subsidiaries	0	0	98.1 6 98.1 6 100.0 0 100.0 0 0 0 0 0 0 0 10 8 56 120 8 239 7 — 27,866 - 1,774 4 18,164 6 1,214	0	
		violations / Number of	Anticorruption laws	IHI and consolidated subsidiaries	0	0	0	0	
		guidance cases	Laws/regulations relating to PR activities	IHI and consolidated subsidiaries	0	0	0	0	
			Political organizations (Millions of yen)	IHI	10	10	10	10	
	Expenditure to		Economic organizations (Millions of yen)	IHI	42	48	56	57	
		organizations	Other major industry organizations (Millions of yen)	ІНІ	55	101	120	122	
Compliance	Legal compliance	Number of Compliance Hotlin	ne reports	1	209	238	239	202	
			Officer Training	IHI and subsidiary companies in Japan	50	47	_	_	
			Line Manager Training	IHI and subsidiary companies in Japan	83	75	72	_	
		Number of compliance	Quality & Compliance Training (Japan)	IHI and subsidiary companies in Japan	_	_	27,866	24,085	
		training participants	Quality & Compliance Training (Overseas)	Subsidiary companies overseas	_	_	1,774	3,261	
			e-Learning (Japan)	IHI and subsidiary companies in Japan	18,020	18,234	18,164	20,169	
			e-Learning (Overseas)	Subsidiary companies overseas	1,261	1,126	1,214	_	
Innovation	Intellectual	Patents held by region	Patents in Japan	IHI	3,915	4,120	4,150	3,868	
management	property protection	raterits field by region	Patents overseas	IHI	2,598	3,047	3,502	3,808	
Information security	Information security measures	Information security measure	es level evaluation (out of five) (Score)	IHI and consolidated subsidiaries	3.0	2.9	3.2	3.4	

<sup>1.</sup> IHI, affiliated companies in Japan, and some affiliated companies overseas (USA, Brazil, Asia Pacific, China, and Korea) in fiscal 2018, fiscal 2019 and fiscal 2020.

Material issues	Theme		Index	Scope of data		Res	ults	
iviateriai issues	meme		muex	Scope of data	FY2017	FY2018	FY2019	FY2020
Society – Materia	lize an Affluent Society –							
		Consolidated number of empl	loyees	IHI and consolidated subsidiaries	29,706	29,286	28,964	29,149
		Number of employees (IHI)		IHI	8,256	8,011	7,741	7,796
	Number of employees		Male	IHI	7,245	6,994	6,730	6,766
			Female	IHI	1,011	1,017	1,011	1,030
			Ratio of female employees (%)	IHI	12.2	12.7	13.1	13.2
		All employees		IHI	14.8	14.9	15.8	15.1
Human resource	Average years of service		Male	IHI	15.1	15.1	16.0	15.3
management			Female	IHI	12.5	13.2	14.5	14.2
		Total turnover rate		IHI	4.0	4.3	3.5	2.9
	Turnover rate		Rate of retirement due to personal reasons (%)	IHI	2.0	2.0	2.0	1.1
			Turnover rate within 3 years of joining the company (%)	IHI	5.7	7.4	6.8	4.3
	Employee- awareness surveys	Response ratio (%)		IHI and affiliated companies	90.9	91.7	91.4	88.0
		Number of new graduate hire	s	IHI, university graduates	245	158	153	194
			Male	IHI, university graduates	210	138	123	162
			Female	IHI, university graduates	35	20	30	32
			Female recruitment rate (%)	IHI, university graduates	14.3	12.7	19.6	16.5
	Employment	Number of mid-career hires		IHI	87	66	77	55
		Recruitment ratio of people w	vith disabilities (%)	IHI	2.03	2.21	2.39	2.35
<b>-</b>		Re-employment rate of emplo	oyees at retirement age (%)	IHI	87	84	81	81
Diversity and inclusion		Number of employees from a	broad	IHI	86	89	81	82
		Local managers at overseas s	ites	China, Singapore, and the United States	23	22	23	22
		Number of female officers		IHI	3	4	3	3
			Ratio of female officers (%)	IHI	16	24	19	18
	Condor diversity	Number of female		IHI	68	74	83	92
	Gender diversity	managers	Ratio of female managers (%)	IHI	2.6	2.8	3.0	3.4
			Ratio of female general managers (%)	IHI	0.8	0.8	0.8	0.8
			Ratio of female section managers (%)	IHI	1.8	2.0	2.2	2.5

Material issues	Theme	Index		Conso of data	Results			
				Scope of data	FY2017	FY2018	FY2019	FY2020
	Work-life balance	Employees with reduced work hours		IHI	159	158	161	139
		Employees who have taken childcare leave		IHI	677	689	779	768
		Employees who have taken parental leave		IHI	100	118	131	137
		Percentage of employees who return to work after parental leave (%)		IHI	100	100	99.2	100
		Employees who have taken nursing care leave		IHI	18	6	7	2
D: ': 1		Average annual paid vacation days taken		IHI	17.63	18.36	19.40	18.73
Diversity and inclusion		Monthly average overtime (hours)		IHI	22.90	22.50	21.10	13.00
ordoro		Stratified training	Participants	IHI and affiliated companies in Japan	2,900	3,300	3,276	1,882
			Training hours	IHI and affiliated companies in Japan	101,000	112,000	106,208	34,672
	Human resource	Open lectures	Participants	IHI and affiliated companies in Japan	5,800	6,200	3,343	1,948
	development		Training hours	IHI and affiliated companies in Japan	44,000	47,000	25,073	16,358
		Average annual training hours per employee		IHI and affiliated companies in Japan	16.7	16.7	19.8	13.3
		Employees certified as master artisans		IHI	42	37	41	39
	Labor-management partnership	Employee union membership rate (%)		IHI and 7 labor unions of consolidated subsidiaries	74	73	73	72
		Number of labor complaints received		IHI	0	0	0	0
	Occupational health and safety	Participation rate of medical check-ups (%)		IHI and 35 affiliated companies	69	70	71	72
		Participation rate of stress checks (%)		IHI and 35 affiliated companies	91	96	94	95
Occupational health and safety		Absenteeism (employees who take three or more months of leave) (%)		IHI and 35 affiliated companies	0.9	0.9	1.0	0.8
		Presenteeism (employees with restricted hours) (%)		IHI and 35 affiliated companies	1.6	1.7	1.6	2.1
		Smoking rate (%)		IHI and 35 affiliated companies	28	28	27	27
		Lost time injuries frequency rate		IHI and 31 affiliated companies	0.57	0.26	0.40	0.28
		Total injuries frequency rate		IHI and 31 affiliated companies	1.64	1.11	1.49	0.87
		Rate of occupational diseases		IHI and 35 affiliated companies	_	0.165	0.165	0.15
		Occupational accidents <sup>2</sup>		IHI and 31 affiliated companies	87 (1)	55 (0)	71 (0)	38 (0)
			Employees <sup>2</sup>	IHI and 31 affiliated companies	52 (0)	28 (0)	42 (0)	18 (0)
			Temporary employees <sup>2</sup>	IHI and 31 affiliated companies	4 (0)	4 (0)	4 (0)	1 (0)
			Partners <sup>2</sup>	IHI and 31 affiliated companies	31 (1)	23 (0)	25 (0)	19 (0)
Corporate citizenship	Social contribution activities	Social contribution expenses	(Millions of yen)	3	331	635	519	215

<sup>2.</sup> Figure inside parentheses indicates fatal incidents

<sup>3.</sup> IHI and affiliated companies in fiscal 2017. IHI and consolidated subsidiaries in fiscal 2018, fiscal 2019 and fiscal 2020.

N.4-t-vi-li	Theme	Index		Course of data	Results				
Material issues				Scope of data	FY2017	FY2018	FY2019	FY2020	
Environment – F	Reduce Environmental II	mpact –							
Climate change	CO <sub>2</sub>	CO <sub>2</sub> emissions (t-CO <sub>2</sub> )		IHI and consolidated subsidiaries	330,162	329,602	254,227	225,066	
			Scope 1 (t-CO <sub>2</sub> )	IHI and consolidated subsidiaries	_	80,032	64,724	58,517	
			Scope 2 (market-based) (t-CO <sub>2</sub> )	IHI and consolidated subsidiaries	_	249,570	189,503	166,549	
		CO <sub>2</sub> emissions intensity <sup>4</sup> (t-CO <sub>2</sub> /100 million yen)		IHI and consolidated subsidiaries	20.8	22.2	18.3	20.2	
	Energy	Energy consumption <sup>5</sup> (TJ)		IHI and consolidated subsidiaries	6,087	5,828	2,468	2,283	
			Fuel consumption (TJ)	IHI and consolidated subsidiaries	_	_	1,044	974	
			Electricity consumption (TJ)	IHI and consolidated subsidiaries	_	_	1,398	1,276	
			Heat consumption (TJ)	IHI and consolidated subsidiaries	_	_	_	7	
			Steam consumption (TJ)	IHI and consolidated subsidiaries	_	_	0	0	
			Renewable energy used (TJ)	IHI and consolidated subsidiaries	_	_	26	26	
		Energy consumption intensity <sup>4</sup> (TJ/10 billion yen)		IHI and consolidated subsidiaries	38.3	39.3	17.8	20.5	
	External evaluation	Evaluation of CDP climate change		IHI and consolidated subsidiaries	B (Management)	B (Management)	B (Management)	B- (Management)	
	Waste	Waste generated (Tons)		IHI and consolidated subsidiaries	28,691	29,010	27,564	20,912	
		Toxic waste generated <sup>6</sup> (Tons)		IHI and consolidated subsidiaries	_	_	164	182	
		Amount recycled (valuable resources) (Tons)		IHI and consolidated subsidiaries	_	_	61,799	15,067	
	Water	Water withdrawal <sup>7</sup> (1,000 m³)		IHI and consolidated subsidiaries	3,776	4,182	4,251	4,008	
Circular economy			Public water (1,000 m³)	IHI and consolidated subsidiaries	_	_	750	651	
conomy			Industrial water (1,000 m³)	IHI and consolidated subsidiaries	_	_	868	799	
			Groundwater (1,000 m³)	IHI and consolidated subsidiaries	_	_	1,948	1,731	
			Rainwater, rivers, lakes, etc. (1,000 m³)	IHI and consolidated subsidiaries	_	_	685	827	
		Waste water (1,000 m³)		IHI and consolidated subsidiaries	_	_	_	3,373	
Environmental protection	Compliance with environmental laws and regulations	Significant environmental a	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 IHI's environmental impact	Investments (Millions of yen)		IHI	713	696	652	334	
		Expenditures (Millions of y	en)	IHI	79	143	78	23	

<sup>4.</sup> Net sales/revenue as the denominator.

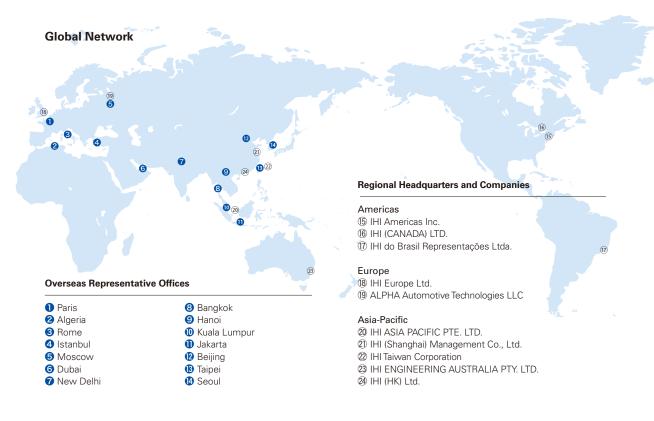
<sup>5.</sup> Changed the method of calculating energy consumption since fiscal 2019.

<sup>6.</sup> Total of specified hazardous wastes and infectious wastes within specially-controlled industrial wastes.

<sup>7.</sup> Changed from amount of water consumption to amount of water withdrawal since fiscal 2019.

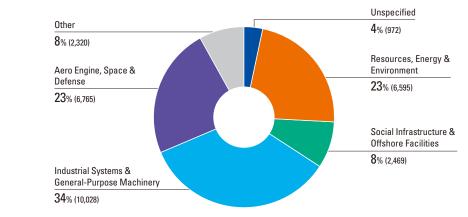
# Corporate Data (As of March 31, 2021)

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 and Chief Executive Officer	Hiroshi Ide
Founded	December 5, 1853
Incorporated	January 17, 1889
Capital	107.1 billion yen
Employees (consolidated)	29,149
Works	6
Branches in Japan	8
Overseas representative offices	14
Group companies	Affiliated companies in Japan: 63 (46 subsidiaries, 17 associated companies) Affiliated companies overseas: 143 (121 subsidiaries, 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	149,067,006 (not including 5,612,948 treasury shares)
Shareholders	79,783
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	Sumitomo Mitsui Trust Bank, Limited 1-4-1 Marunouchi, Chiyoda-ku, Tokyo 100-8233, Japan
	(Contact for mail or telephone correspondence) Sumitomo Mitsui Trust Bank, Limited Stock Transfer Agency Business Planning Department 2-8-4 Izumi, Suginami-ku, Tokyo 168-0063, Japan 0120-782-031 (toll-free in Japan)



### **Employees by Business Area**

All employees **29,149** 



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.

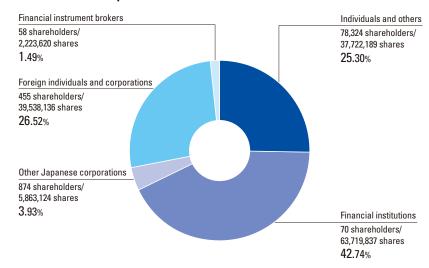
### **Major Shareholders**

Name	Number of shares held (thousand shares)	Shareholding ratio (%)
Custody Bank of Japan, Ltd. (Holder in Trust)	13,201	8.85
The Master Trust Bank of Japan, Ltd. (Holder in Trust)	13,188	8.84
The Dai-ichi Life Insurance Company, Limited	5,406	3.62
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	3.08
Custody Bank of Japan, Ltd. (Holder in Trust 9)	3,141	2.10
IHI Customer Stock Ownership Association	2,755	1.84
IHI Employee Stock Ownership Association	2,480	1.66
JP MORGAN CHASE BANK 380634	2,415	1.62
Sumitomo Life Insurance Company	2,262	1.51
Custody Bank of Japan, Ltd. (Holder in Trust 5)	2,061	1.38

Notes: 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 (5,612,948). 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" (552,400 shares) are not included in treasury shares. The Company holds 5,612,948 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%.

### **IHI Stock Performance and Average Daily Trading Volume**



Notes: 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** Corporation

Corporate Communication Division
Toyosu IHI Building, 1-1, Toyosu 3-chome, Koto-ku, Tokyo 135-8710, Japan
TEL: +81-3-6204-7800 FAX: +81-3-6204-8612
Company Website: https://www.ihi.co.jp/en/