



Technology for People,
the Earth, and the Future



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Editorial policy

Since fiscal 2018, the Hitachi Zosen Group has been issuing an integrated report to explain even more clearly to our shareholders, investors, and other stakeholders the measures we are taking to realize value creation in line with the Group's long-term vision. In the editing of this report, we have consulted the framework promoted by the International Integrated Reporting Council (IIRC). Please refer to our Environmental Databook (URL given on back cover) for detailed information, including numerical data, regarding measures taken by the Group for environmental conservation and protection. For financial information and further details of our other corporate activities, please visit the Group's website.

Scope of This Report

This report covers the Hitachi Zosen Group, comprising Hitachi Zosen Corporation, consolidated subsidiaries, and affiliated companies accounted for by the equity method. Unless otherwise stated in notes, performance data is given on a consolidated basis.

Disclaimer

This integrated report contains forward-looking statements, including business performance forecasts, that are based on information our Company has currently obtained and on certain assumptions it considers reasonable. Actual results may vary depending on various factors.

A History of Creating New Value

Creating new businesses leveraging technologies developed since the establishment of our Company

While maintaining our roots in shipbuilding technology, the Hitachi Zosen Group has transformed our portfolio by opening up new terrestrial businesses. Our goal is to create value for society by continuing to challenge social issues, which are forever changing with the times.

Changes in sales structure

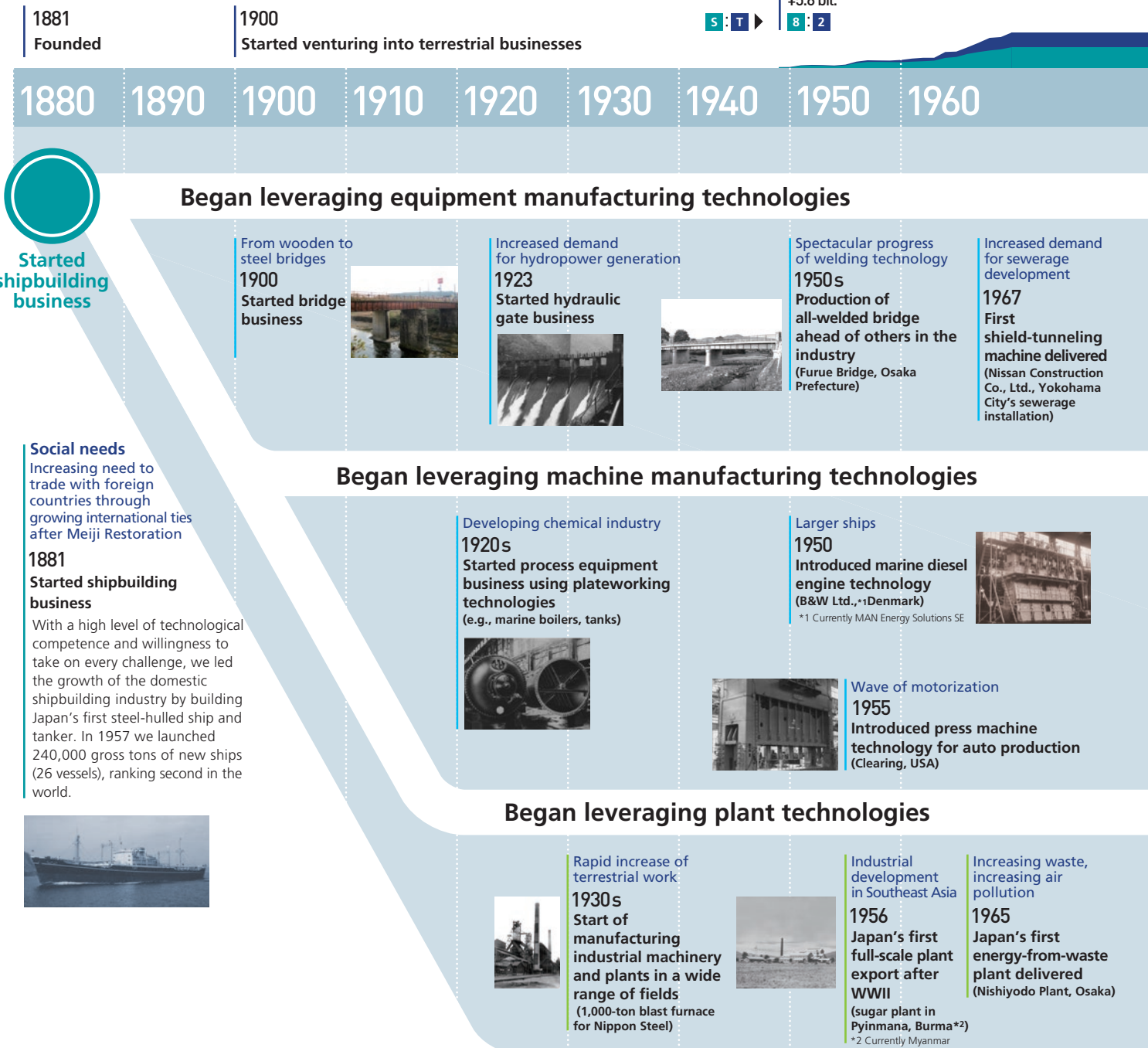
■ Shipbuilding (S) ■ Terrestrial (T)

Note: The starting point for net sales is set at fiscal 1949, when our stock went public. Figures before fiscal 1976 are non-consolidated (Hitachi Zosen only).

1949
Listed on the Tokyo and Osaka Stock Exchanges
¥5.6 bil.

1960
Technological collaboration with Swiss company Von Roll Environmental Technology Ltd.*3

*3 Currently Hitachi Zosen Inova



2021
Integrated shield tunneling machine business
with Kawasaki Heavy Industries, Ltd.

2017
Launching the Long-term Vision—"Hitz 2030 Vision"
Acquired Australian company Osmoflo

2013
Acquired US company NAC

1977
Record-high net sales in shipbuilding
¥358.5 bil.
6 : 4

1996
Record-high net sales
¥635.2 bil.
2 : 8

2002
Separated shipbuilding business
¥395.2 bil.
2 : 8

2010
Acquired Swiss company Inova*3
*3 Currently Hitachi Zosen Inova

FY2020 Net sales
¥408.5 billion

1970 1980 1990 2000 2010 2020 (FY)

Current business segments

Increased demand for high-accuracy location information
1993
First GPS-based control station delivered



Source: Geospatial Information Authority of Japan

Increased awareness of disaster prevention
2013
Started flap-gate type seawall against flood disaster business



Increased demand for renewable energy
2019
Started demonstrated operation of floating offshore wind power generation system



Period of growth for the beverage industry
1971
Delivery of Japan's first aluminum can beer canning machine
(Large delivery of our product to the Nishinomiya Plant of Asahi Beer*4)
*4 Currently Asahi Breweries, Ltd.



Increase of nuclear power plants
1978
First nuclear casks delivered (for power company)



Prevention of oceanic air pollution
2017
Delivery of first SCR system for marine engines (for a shipbuilding company)

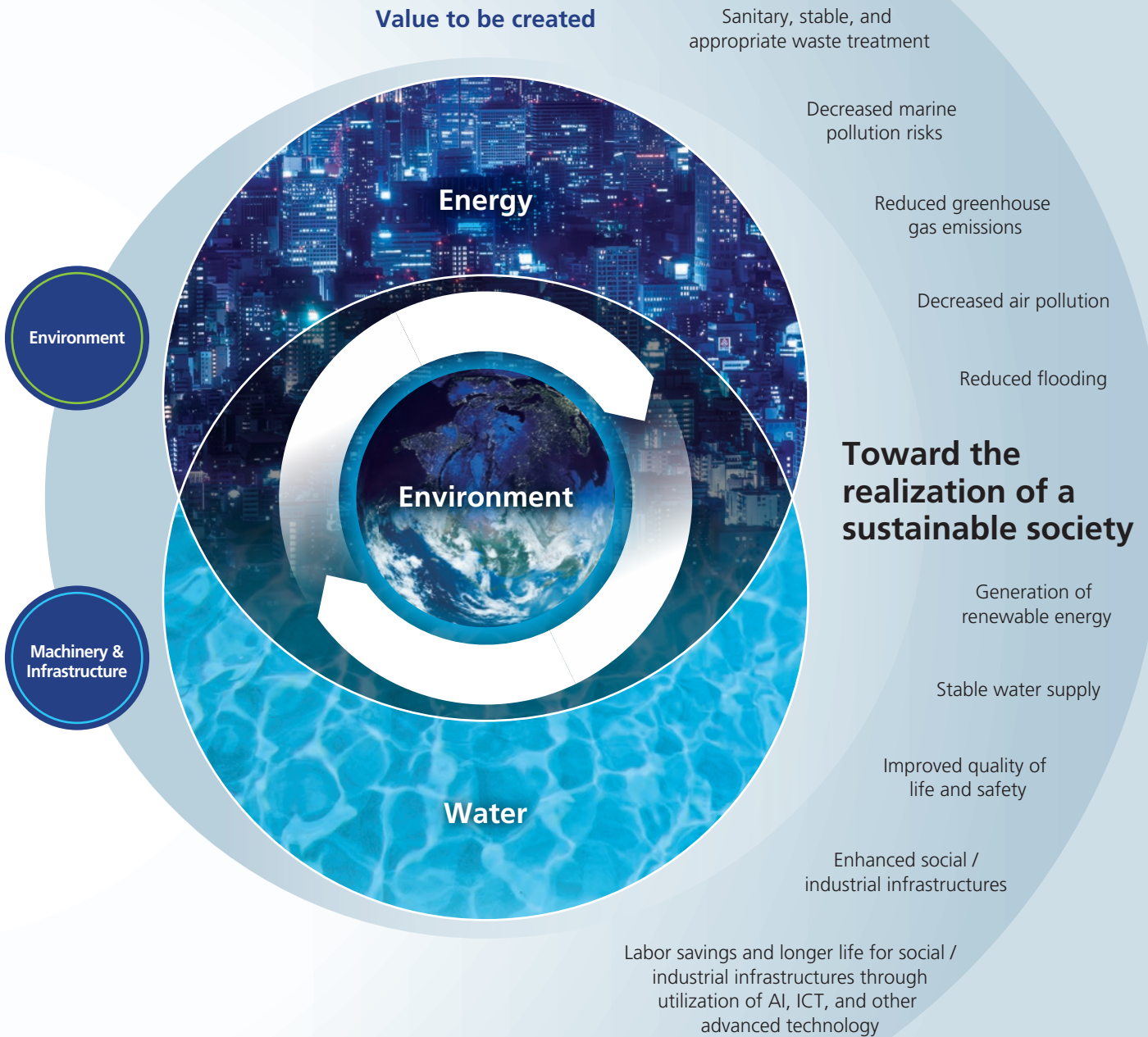


Increased demand for water & power in Middle East
1979
First unit of desalination plant delivered (Saudi Saline Water Conversion Corporation)



Use of organic waste for energy
2018
Started in-house operations of the first Kompogas plant in the United States (California)





Contribution to SDGs

The orientation of the business policies and activities of the Hitachi Zosen Group is in line with the SDGs adopted at the United Nations Summit in 2015. We believe that through our products and services we can contribute to the construction of sustainable societies. As the target year 2030 for SDGs coincides with the period for the realization of the future vision set forth in our Group’s long-term vision, the “Hitz 2030 Vision,” we are committed to continue contributing by mobilizing the collective efforts of Hitachi Zosen Group.



Creating Value with Business Portfolio

We develop businesses focusing on “provision of clean energy and water,” “environmental protection,” and “creation of prosperous, disaster-resilient cities.”

The Hitachi Zosen Group is currently engaged in developing businesses in the areas of Environment, Machinery & Infrastructure.

Amid the growing seriousness of various social issues, including environmental pollution and shortages of energy and water, we are committed to our goals of supplying “clean energy” and “clean water” and realizing “environmental protection and the creation of prosperous, disaster-resilient cities” with the aim of achieving a sustainable society.

Environment

FY2020 Net sales

¥269.4billion

Responding to increasing waste treatment and water demand due to global climate change and population growth

This segment focuses on the EPC (Engineering, Procurement, and Construction) of energy-from-waste plants and stable business and builds various energy-related facilities, including biomass plants, and water-related facilities, including sludge recycling centers and desalination plants, in Japan and overseas. We seek to differentiate ourselves by enhancing additional value in terms of power generation efficiency, treatment capacity, and environmental performance. In the field of stable business, we are working on 24/7 remote monitoring as well as optimal operation management and are promoting technologies and development for longer use or longer life of facilities and equipment. In incinerators and recycling facilities, we have taken on after-sales service contracts for more than 130 facilities, more than 50 contracts for operational services, and more than 40 contracts for comprehensive operational services.



● Energy-from-waste plants



● Biomass plants

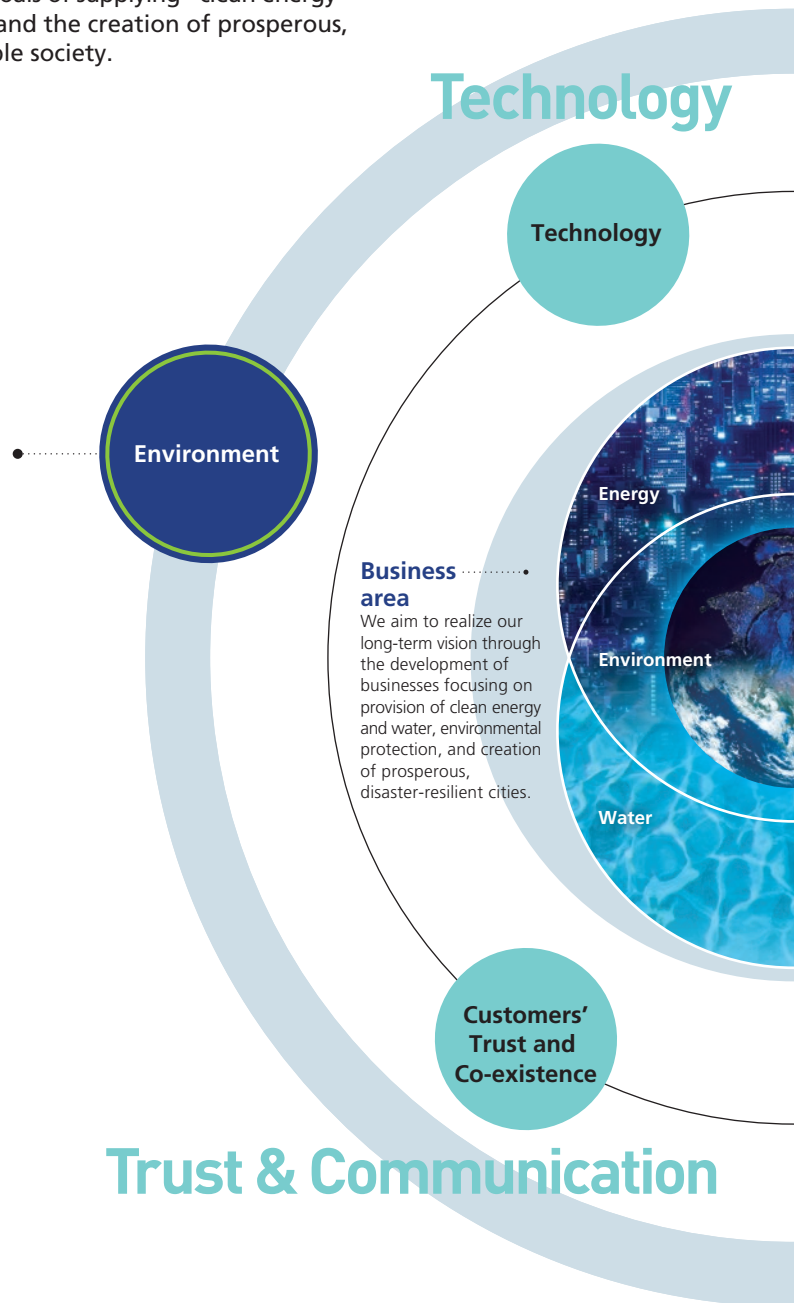
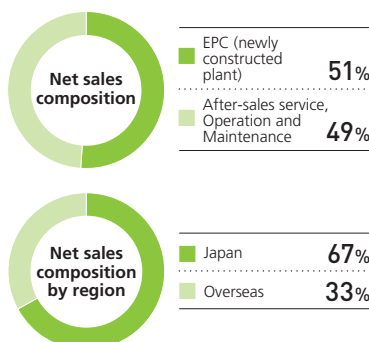


● Biogas plants

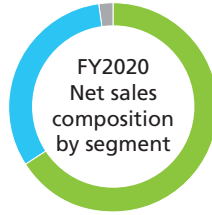


● Sludge recycling treatment plants

- Power generation plants
- Desalination plants
- Recycling facilities
- Water and sewage treatment plants
- AOM
- Long-term operation business (Private Finance Initiative [PFI] and Public Private Partnerships [PPP])
- Remote monitoring, operation support
- Independent power producers (IPPs)
- Power producer and supplier (PPS), etc.



Trust & Communication



Environment	66%
Machinery & Infrastructure	32%
Other	2%

Diversity & Globalization

Diversity & Globalization

Machinery & Infrastructure

Marine diesel engines	18%
Press machines	13%
Process equipment	14%
Precision machinery	18%
Other machinery	15%
Infrastructure	22%

Japan	72%
Overseas	28%

Machinery & Infrastructure

FY2020 Net sales

¥130.8 billion

Contributing to the realization of a comfortable, safe, and secure society and reduction of the environmental load through our manufacturing excellence

In the machinery field, based on our manufacturing excellence cultivated in the shipbuilding business, we have developed a wide range of products and are addressing the problems of customers in various industries, such as mitigating the environmental burden, enhancing the efficiency of manufacturing processes, and offering integrated support from development to after-sale service.

In the infrastructure field, in addition to the fabrication of such steel structures as bridges and hydraulic gates, we have worked on extending the useful life of existing facilities and monitoring them. Furthermore, we are contributing to the creation of prosperous, disaster-resilient cities with our cutting-edge technology and development capabilities, including flap-gate type seawalls against flood disaster due to tsunamis or storm surges, wind power generation using natural energy, and shield tunneling machines for the upkeep of underground space.



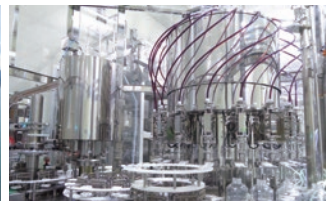
● SCR system for marine engines



● Belt filter



● Flap-gate type seawall against flood disaster



● Systems for filling/packaging lines for beverages and foods

- Marine diesel engines
- Deck machinery for ships
- Process equipment
- Spent nuclear fuel casks
- Various types of precision machinery (mainly for electronics, semiconductor, food, medical-related sectors)
- Filter presses
- Various types of industrial equipment
- Steel stacks
- Shield tunneling machines
- Marine civil engineering
- Maintenance technology, earthquake-resistant technologies
- GPS comprehensive oceanographic monitoring system
- GPS remote monitoring system
- Wind power generation
- Electric discharge impulse crushing system, etc.

Expanding Value Provision

All over the world our technologies are facilitating affluent life and conservation of the global environment.

The Hitachi Zosen Group is developing businesses all over the world to contribute to solving global social issues. We have a delivery record of 948 waste treatment facilities (including licensees), and 242 desalination plants*.

* Including treatment of brackish water and mine drainage.

- Environment
- Machinery & Infrastructure

Europe

- Waste treatment facilities
- Biogas plants
- Marine diesel engines
- Press machines
- Process equipment

Waste treatment facilities

212

Marine diesel engines

110

Africa

- Waste treatment facilities
- Desalination plants
- Marine diesel engines
- Press machines
- Process equipment

Waste treatment facilities

3

Desalination plants

1

Middle East

- Waste treatment facilities
- Desalination plants
- NOx removal system
- Marine diesel engines
- Press machines
- Process equipment
- Shield tunneling machines

Waste treatment facilities

2

Desalination plants

26

Process equipment

498

Asia

- Waste treatment facilities
- Desalination plants
- Chemical plants
- NOx removal system
- Marine diesel engines
- Press machines
- Process equipment
- Spent nuclear fuel casks
- Precision machinery
- Bridges and hydraulic gates
- Shield tunneling machines

Waste treatment facilities

152

Desalination plants

7

Marine diesel engines

307

Press machines

751

Process equipment

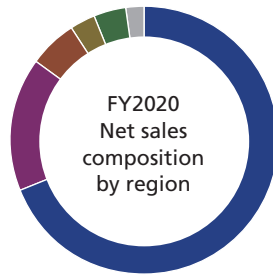
493

Shield tunneling machines

119

For a beautiful earth

For a comfortable life



Japan	69%	North America	3%
Europe	16%	Middle East	4%
Asia	6%	Other	2%

Japan

Waste treatment facilities

496

Desalination plants

25

Australia

- Waste treatment facilities
- Desalination plants
- Marine diesel engines
- Press machines
- Process equipment

Waste treatment facilities

3

Desalination plants

178

North America

- Waste treatment facilities
- Desalination plants
- Biogas plants
- NOx removal system
- Marine diesel engines
- Press machines
- Process equipment
- Spent nuclear fuel casks
- Shield tunneling machines

Waste treatment facilities

79

Desalination plants

1

Press machines

211

Casks and canisters

800

Latin America

- Waste treatment facilities
- Desalination plants
- Marine diesel engines
- Press machines
- Process equipment

Waste treatment facilities

1

Desalination plants

4



For a healthy life



Financial and Non-Financial Highlights

Financial	Operating results	(Fiscal year ended March)				
		2016	2017	2018	2019	2020
	Order intake (¥ million)	398,943	400,461	455,051	454,121	429,421
	Net sales (¥ million)	399,331	376,437	378,140	402,450	408,592
	Overseas sales ratio (%)	32.8	27.2	25.5	27.5	30.6
	Operating income (¥ million)	14,947	5,907	7,358	13,891	15,396
	Operating income margin (%)	3.7	1.6	1.9	3.5	3.8
	Ordinary income (¥ million)	11,225	3,365	6,720	9,429	11,792
	Profit attributable to shareholders of Hitachi Zosen (¥ million)	5,864	2,171	5,445	2,197	4,258
	Research and development expenses (¥ million)	7,089	7,411	7,162	6,897	6,664
	Capital investments (¥ million)	8,174	9,973	6,896	10,302	10,831
	Depreciation expenses (¥ million)	8,536	9,115	8,940	10,090	10,241
	Cash flows					
	Cash flows from operating activities (¥ million)	17,304	-3,373	-5,428	32,808	22,680
	Cash flows from investing activities (¥ million)	-6,998	-10,725	-7,574	6,179	-13,847
	Cash flows from financing activities (¥ million)	-8,417	-4,018	14,982	-31,364	-5,271
	Cash and cash equivalents at end of year (¥ million)	50,848	32,743	34,394	41,595	45,812
	Financial position					
	Total assets (¥ million)	393,587	391,860	429,040	409,531	429,336
	Shareholders' equity (¥ million)	115,692	116,894	119,479	118,003	126,330
	Interest-bearing debt (¥ million)	109,167	107,249	126,343	99,588	98,149
	Per share data					
	Net income (yen)	34.79	12.88	32.31	13.04	25.26
	Net assets (yen)	685.83	693.53	708.89	700.15	749.58
	Cash dividends (yen)	12.00	12.00	12.00	12.00	12.00
	Dividend payout ratio (%)	34.5	93.2	37.1	92.0	47.5
	Financial indicators					
	Return on equity (%)	5.1	1.9	4.6	1.9	3.5
	Return on assets (Ordinary income/Average total assets) (%)	2.8	0.9	1.6	2.2	2.8
	Shareholders' equity ratio (%)	29.4	29.8	27.8	28.8	29.4
	Non-financial					
		(Fiscal year ended March)				
		2016	2017	2018	2019	2020
	Amount of energy consumption*1,2 (TJ)	7,055	6,424	6,191	5,742	5,030
	Amount of water consumption*1,3 (10 thousand tons)	128	123	121	110	105
	CO ₂ emissions*1,2 (tons)	36,541	33,219	33,840	35,793	31,211
	Reduction in CO ₂ emissions compared to FY2005*1,2,4 (%)	-21.7	-28.9	-27.5	-23.3	-33.2
	Amount of waste reduced*1,3					
	Waste volume (tons)	9,182	9,937	10,626	10,818	9,154
	Recycling rate (%)	93.1	94.1	93.1	93.8	89.7
	Number of consolidated employees	10,131	10,377	10,580	10,707	11,089
	Number of non-consolidated employees	3,979	4,034	4,072	4,010	4,105
	Ratio of female employees*5 (%)	7.8	7.8	7.9	7.9	7.9
	Ratio of female managers*5 (%)	1.9	2.2	2.3	2.4	2.8
	Ratio of female and non-Japanese hires to total new hires*5					
	Overall total (%)	9.9	12.7	17.2	12.8	19.8
	Administrative (%)	36.7	35.1	40.7	38.9	48.4
	Technical (%)	4.3	6.6	12.1	8.1	10.0
	Average number of years of continuous attendance*5					
	Male (year)	16.9	16.8	16.5	16.5	16.3
	Female (year)	12.1	12.3	12.2	12.7	13.0
	Frequency rate of accidents causing absence from work*3,6 (%)	0.23	0.92	0.68	0.88	0.69

*1 A review of the coverage scope in the fiscal 2020, ended March 31, 2021 and careful scrutiny of past data are completed.

*2 Hitachi Zosen non-consolidated (mandated reporting items under the Act on the Rational Use of Energy)

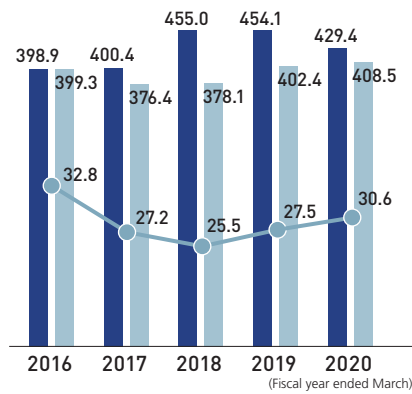
*3 Eight plants in Japan, Head Office, and group companies that engage in business activities in conformity with the principles of consolidated financial statements

*4 Calculated using standards for fiscal year ended March 31, 2021 *5 Hitachi Zosen non-consolidated

*6 (Number of fatalities and injuries due to industrial accidents requiring 1 day or more absence from work÷cumulative hours worked) x 1,000,000

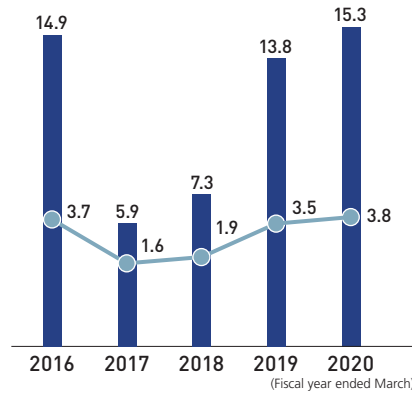
Order intake (¥ billion) / Net sales (¥ billion) / Overseas sales ratio (%)

Order intake Net sales
429.4 408.5



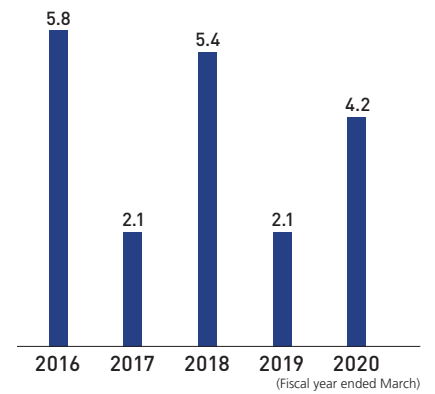
Operate income (¥ billion) / Operating income margin (%)

Operate income Operating income margin
15.3 3.8



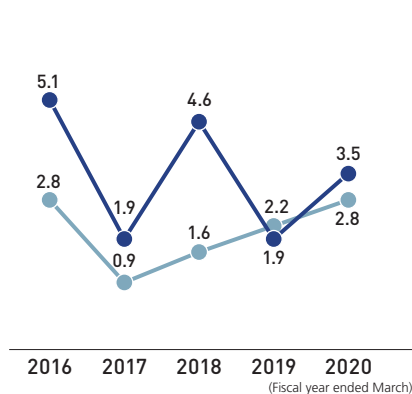
Net income (¥ billion)

Net income
4.2



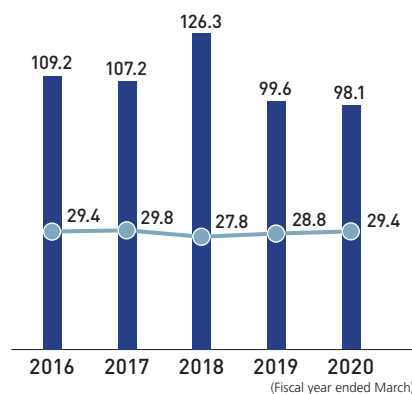
Return on equity and return on assets (%)

Return on equity Return on assets
3.5 2.8



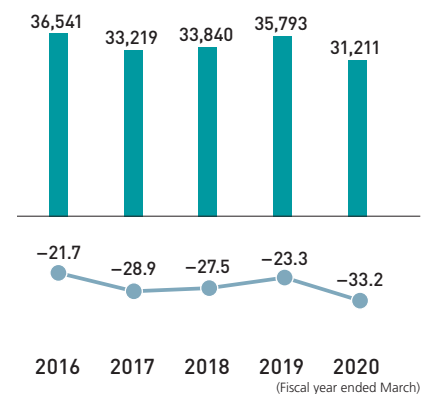
Interest-bearing debt (¥ billion) / Shareholders' equity ratio (%)

Interest-bearing debt Shareholders' equity ratio
98.1 29.4



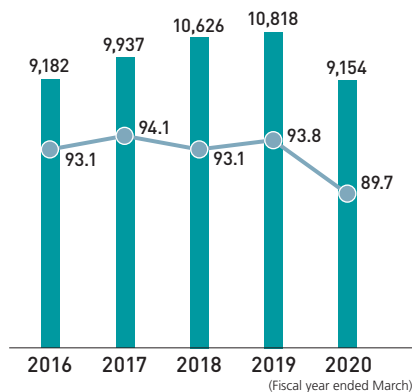
CO2 emissions*1,2 (tons) / Reduction in CO2 emissions compared to FY2005*1,2,4 (%)

CO2 emissions Reduction in CO2 emissions compared to FY2005
31,211 -33.2



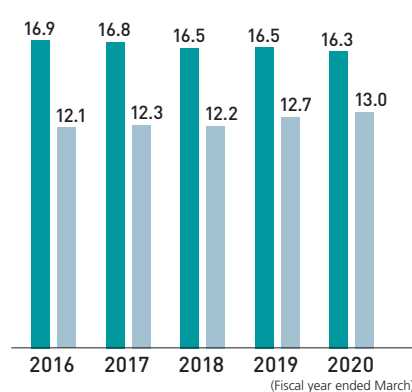
Amount of waste reduced*1,3 Waste volume (tons) / Recycling rate (%)

Waste volume Recycling rate
9,154 89.7



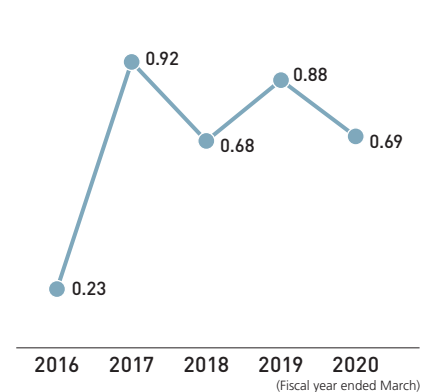
Average number of years of continuous attendance*5 (years)

Males Female
16.3 13.0



Frequency rate of accidents causing absence from work*3,6 (%)

Frequency rate of accidents causing absence from work
0.69



Continuing our founding spirit of taking on challenges and creating new value

Takashi Tanisho

Representative Director
Chairman & Chief Executive Officer



Using our inherent pioneering spirit to continue opening new business domains

Hitachi Zosen is celebrating the 140th anniversary of its founding in 2021. Our company's beginning dates to 1881, when a British businessman overcame numerous obstacles to establish a shipbuilding company in Japan. Using the wide range of technologies we have cultivated in the shipbuilding operations, Hitachi Zosen has expanded its focus from sea to land operations where it is broadening its range of operations and even extending its business overseas. Over our long history, Hitachi Zosen has a long list of "first in Japan," including the first steel-hulled ships and tankers made in Japan, as well as world firsts. One of our standards of business behavior is to "strive boldly to achieve success," which carries forward our pioneering spirit to fearlessly venture into uncharted territory.

I believe it is our pioneering spirit that enabled us to make the transformation needed to adapt to the changing business environment. We have been taking full advantage of our management resources and flexibly arranging our product mix and business portfolio to meet the changing needs of the times and society. We separated out our original shipbuilding business about 20 years ago to shift our focus to environmental and water-related fields with the aim of becoming a company that is helping resolve social issues. Today, those fields are our primary business fields.

The transformation of our Company to keep pace with the changing business environment is ongoing. One of the major changes currently underway is our business shift "from goods to services". In the Environment Business, for example, our value chain has been centered on the product engineering, procurement, and construction, but we are now extending into the high value-added business areas upstream in pre-engineering consulting and downstream in post-construction facility maintenance, operations, and management. We are continuing to hone our skills and deepen our know-how as we take on the challenge of transforming our company with the changing business environment.

A truly global company contributing to sustainable development worldwide

In Japan, the declining birthrate and aging population is expected to lead to shrinking markets and industry reorganization in many fields. Overseas, however, economic development is leading to increasing urbanization in a number of countries, particularly developing countries, and we anticipate growing demand for waste and water treatment facilities, tunnels, bridges, and other social infrastructure. The keys to successfully expanding our business around the world will be our ability to gather information about the needs in each country, to apply our technologies to local needs, and to leverage the trust we have cultivated over many years. In that sense, this is the start of a new phase of globalization for us.

The shift "from goods to services" is accelerating worldwide, and there is an increasing amount of 10- to 20-year long-term concession contracts for business operating rights in overseas markets. I believe the Group can be most successful by becoming an organization that can offer the continuously business operation on a global scale over the long term. To do that, we need to create an organizational structure that is suited to local conditions, including local engineering and procurement bases, supply chains, and with local partners that can carry out marketing and facility management operations. Developing global human resources and leveraging digital transformation (DX) will also be critical to our success, as will be filling in the specific pieces we need to augment our management resources in preparation for extending our business scope worldwide.

Our corporate philosophy is "creating value useful to society," yet our view of society tended to be limited to Japan. We are expanding our perspective to encompass society around the world to become a truly global company capable of contributing to sustainable development in all countries and regions. We look forward to fulfilling the expectations of our stakeholders as the Hitachi Zosen Group transforms for the future.

Representative Director
Chairman & Chief Executive Officer

T. Taiisho

Message from the President

We will generate sustaining growth
by addressing social issues and boosting profitability.

Sadao Mino

Representative Director
President & Chief Operating Officer



Fiscal 2020 Review

We raised both sales and profits in the harsh business environment during the pandemic.

In fiscal 2020, ended March 31, 2021, the COVID-19 pandemic impacted social and economic activity in all countries around the world. The Group's high ratio of public works projects prevented the pandemic conditions from deeply impacting our overall performance, but order intake declined to ¥429.4 billion, largely due to lower orders to the machinery division, whose clients are mainly private companies.

Net sales amounted to ¥408.5 billion in fiscal 2020, as the brisk orders through fiscal 2019 continued to hold sales above ¥400 billion. Operating income rose to ¥15.3 billion, regaining the level of fiscal 2000, and ordinary income rose to ¥11.7 billion as both profit categories benefited from the improved profitability of the overseas subsidiary Hitachi Zosen Inova and the Machinery and Infrastructure business segments. The operating income margin, on which we focus as a key management performance index, rose to 3.8%, bringing it closer to our target for 5% in fiscal 2022.

Net income amounted to ¥4.2 billion, which reflected extraordinary loss of ¥4.9 billion that included the impact of a client company in the independent power production business filing for bankruptcy rehabilitation and impairment loss on related assets due to contract cancellation.

Progress of the Forward 22 medium-term management plan

We made steady progress with the three key policies.

The Group's business has long revolved around addressing social issues. Currently, we are fully engaged in addressing issues related to climate change and the growing movement for decarbonization along with the Japanese government's declaration to be fully carbon neutral in 2050. The changing business environment during the COVID-19 pandemic have also made it clear that digital transformation (DX) is essential to enabling us to respond quickly to new developments.

Fiscal 2020 marked the first year of the Forward 22 medium-term management plan. The three years of Forward 22 are focused on enhancing our profitability as the first step toward fulfilling our long-term Hitz 2030 Vision. During the year, we made steady progress with the three policies designed to boost our profitability—enhancing the added value of products and services, selecting and concentrating businesses, and improving operational efficiency and productivity (workstyle reform).

One of the key ways that we increased the added value of products and services was by using the Hitz Advanced Information Technology Center, which started full-scale operation in fiscal 2018, to automate and save labor at energy-from-waste (EfW) plants. We also advance our DX to improve and integrate smart technology at our production sites, such as by using wireless LAN for visualization of equipment operating status and by using image recognition technology to enhance worksite safety.

Forward 22 targets and first-year results

(FY)	2020 (Target)	2020 (Results)	2021 (Forecast)	2022 (Target)	2030 (Target)
Order intake (¥ billion)	410.0	429.4	580.0	¥400 billion level	Operating income margin 10%
Net sales (¥ billion)	400.0	408.5	400.0		
Operating income (¥ billion) (Operating income margin)	11.0 (2.8%)	15.3 (3.8%)	14.0 (3.5%)	5%	

Message from the President

We made progress in the selection and concentration of our businesses by conducting an overall assessment of the market (social) scale and growth potential of each business and product line and how they align with the Company's future potential and long-term vision. These assessments were begun in fiscal 2021 as the starting point for applying the PDCA cycle to each business and product line as part of ongoing revisions of our business portfolio.

During the year, we improved operational efficiency and productivity by continuing with operational reforms using the SAP enterprise resource planning system introduced in 2018. The system is now being used for real-time analysis of business process data in all areas from progress management to managerial decisions. In September 2021, we introduced a company-wide secure IoT platform. These steps have established the foundation for data-driven management which will provide a solid base for improving profitability in the future.

Fiscal 2021 and long-term outlook

We are applying carefully constructed evaluation and analysis methods to select and concentrate our business portfolio.

The Forward 22 medium-term management plan to fiscal 2022 sets targets to raise orders and sales above ¥400 billion with an operating margin of 5%. Through the years, our Company has used our unique strengths in manufacturing and engineering to provide solutions for social needs. However, as customer needs change and diversify and as society pursues the SDGs and decarbonization, for us to continue providing meaningful solutions, integrating digital technologies into these strengths will be essential.

We are meeting this challenge by applying the very latest technologies beginning with utilizing EfW plants to introducing IoT, AI, and data analysis, and even using drones at our production and engineering operating sites. Our ultimate aim is to incorporate IoT into all of our products and services and use AI and data analysis to add further value. We will do this by unifying the business segments that work directly with clients, the Technical Research Institute, and the Information and Communication Technology Promotion Headquarters for a fully coordinated approach

to developing solutions and raising the value we provide to clients.

We are refining our business portfolio using our own carefully constructed business evaluation methods to screen low profit operations as well as evaluate the business strategies and risks. Businesses are categorized into four categories to enable us to effectively formulate improvement strategies and efficiently allocate our management resources. The portfolio changes and improvements are aimed at both improving profitability in the near term and increasing our contribution to addressing social issues in the medium and long term. Just as the environmental business has become our current primary business, I believe that cultivating businesses that help solve social issues and support sustainability will become the drivers of the Group's business growth in the future.

Further strengthening the collaborative structure with Swiss subsidiary Inova is a key part of our medium- and long-term growth strategy. We have developed numerous synergies in R&D, procurement, engineering, and project management in the ten years since Inova joined the Group. Inova and the Company are working closely together on a major project order received in Dubai in June 2021. We have also rectified the issue with Inova's construction operations, and it now has the structure to generate solid profits. However, I consider Inova's business structure to have limited growth potential and to present risk to earnings stability because of its high reliance on sales from engineering, procurement, and construction (EPC) of EfW plants. Inova is working to bolster Inova's profit structure by adding after-sales services, operation, and maintenance (AOM) services and methane fermentation with the ultimate aim of raising these to roughly half of the company's sales composition.



Establishing sustainability

We are focusing the entire Group on solving social issues.

I believe that we have a responsibility as a corporate entity to contribute to solving global issues, with pursuing the SDGs as one of those responsibilities, as well as a responsibility to raise our corporate value and establish sustainable growth. Many of the Group's businesses are directly aimed at the SDGs. Management prioritizes the SDGs in our business activities and takes further steps to advance non-financial initiatives, represented by our environment, society, and corporate governance (ESG) measures.

Our environmental activities primarily focus on the global climate change. We support the Japanese government's pledge to become carbon neutral by 2050 and its Green Growth Strategy. We also declared our support in March 2021 for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and have conducted a scenario analysis of the impact of climate change on our business. (Please see page 59 for details).

Among our contributions to society, we consider our human resources as our greatest management resource and place great importance on developing our employees as well as providing a comfortable work environment and satisfying employment. We are particularly focusing on acquiring and training IT and global human resources who will support the future of the Group. In fiscal 2021, we began preparations to offer DX human resources Training Courses for selected talent from all departments in the Company. We are also promoting staff diversity, which we view as an important element to creating new value. Our founder Edward Hazlett Hunter had great respect for different cultures, and we are continuing that spirit by recognizing the staff diversity, including the active participation of women, and fostering a corporate culture that thrives on harmony.

Management is fortifying corporate governance at our Group companies overseas and participating in active dialogue with institutional investors to respond to the needs of the capital markets. We are also adamant about bringing in outside directors and incorporating external perspectives to ensure management soundness and transparency.

To our stakeholders

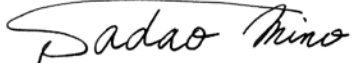
I want to make our company one that our employees and their families are proud of.

Since being appointed President in April 2020, one of my main missions has been not just to make the Company one that employees are proud of, but one that their families are proud of too. To do that, I believe we must increase the sense among employees that their work is meaningful and satisfying and communicate widely how all of the Group's various businesses are playing a role in making a better society.

The long-term Hitz 2030 Vision openly declares our intention to become "a solution partner contributing to creating a sustainable, safe, and secure society." The solutions our Group offers for clean energy, clean water, and to create flourishing communities that are environmentally friendly and resilient to disasters can contribute around the world to achieving many of the SDGs. I am eager to talking with stakeholder about the many positive contributions we can make to society.

It goes without saying that for us to help create a sustainable society, we have to be sustainable ourselves. That is why the top priority in our long-term vision is to improve our profitability. I look forward to the ongoing understanding and support of our stakeholders.

Representative Director
President & Chief Operating Officer



Long-term vision: Hitz 2030 Vision

In 2017 the Hitachi Zosen Group established the Hitz 2030 Vision as a long-term vision outlining our desired image in the year 2030, which will mark the 150th anniversary of the company's founding. The vision indicates the directions of our business in the years to come and promotes efforts toward their realization. While contributing to the achievement of a sustainable society through our business, the Hitachi Zosen Group aims to enhance its earning capacity. In addition, through the Hitz 2030 Vision, we are endeavoring to share our image of the future and further improve communication with our stakeholders.

Desired image and core business areas

Such issues as climate change, sanitary waste treatment, water shortages, and natural disasters have become increasingly evident in recent years. In response to these social problems, the Hitachi Zosen Group believes that it is the mission of our Group, which aims to become a solution partner for a sustainable, safe, and secure society, to supply such solutions as clean energy, clean water, and creating flourishing communities that are environmentally friendly and resilient to disasters, the need for which is increasing worldwide. Furthermore, the business policies and activities of the Hitachi Zosen Group are in line with the Sustainable Development Goals (SDGs) adopted at the United Nations summit in 2015, and through our products and services we are contributing globally to the construction of a sustainable society.

In 2020 the Japanese government announced Japan's goal

of achieving carbon neutrality by 2050, and it issued the Green Growth Strategy, identifying 14 growth sectors, including such energy-related industries as offshore wind power generation and hydrogen, and indicating a schedule up to 2050. The government also carried out a significant revision in April 2021, setting the goal of reducing greenhouse gas emissions by 46% compared to the fiscal 2013 level by fiscal 2030.

In addition to existing energy-from-waste (EfW) plants and hydrogen generation systems (water electrolysis systems), the Hitachi Zosen Group, among other things, is tackling the commercialization of offshore wind generation and methanation systems using green hydrogen. Going forward, we will contribute to the realization of carbon neutrality through our technologies and products.

Efforts toward realization of the Hitz 2030 Vision

Toward the realization of the Hitz 2030 Vision, the Hitachi Zosen Group recognizes the importance of tackling the solution of issues with all our might by means of dialogue with customers and markets. By understanding the problems of customers as quickly as possible and pursuing solutions, we can continue to supply products and services that are of true value to customers. And that outcome leads to both the solution of social problems and income for our Group. Efforts manifesting the Hitz Value, our management stance proclaiming that the enhancement of added value in a way that satisfies multiple stakeholders will in turn lead to the improvement of our Group's operating income margin, are the premise for the setting of long-term management goals.

Direction of business activities and progress in fiscal 2020

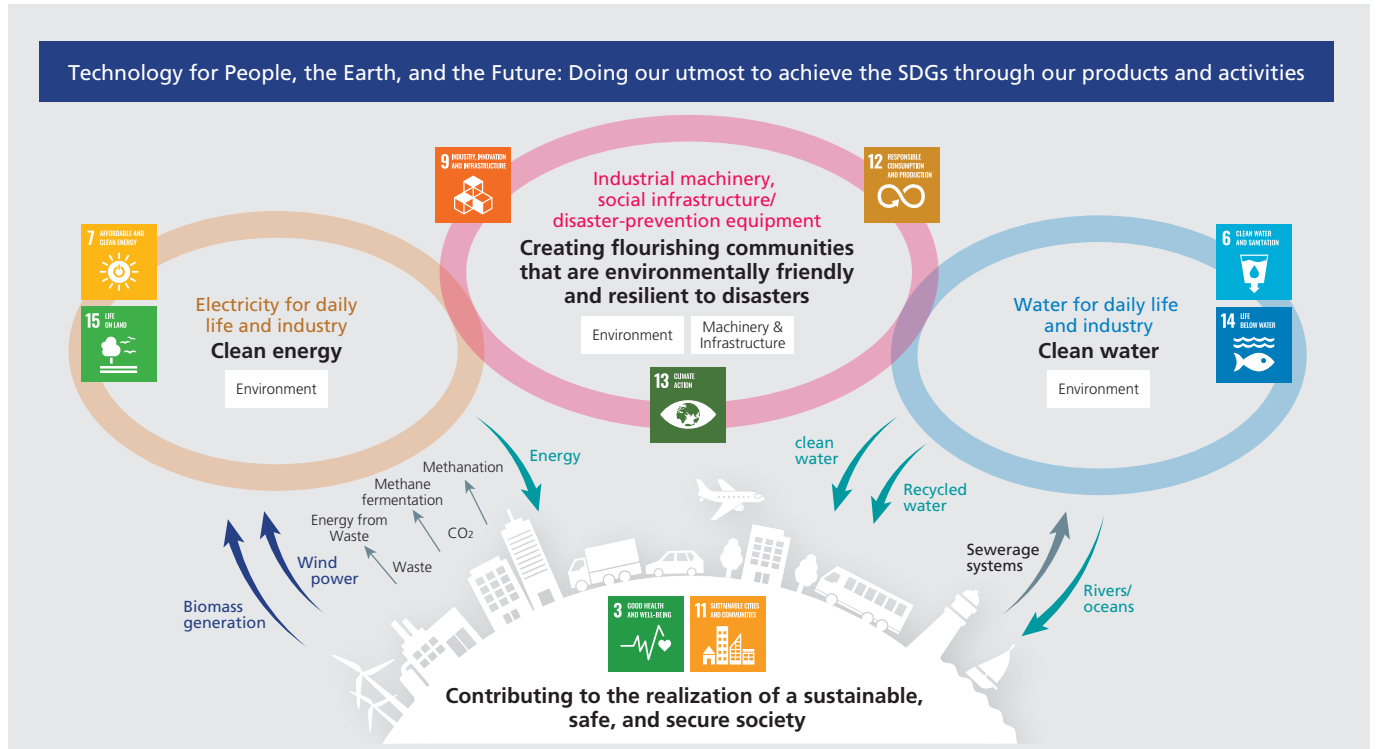
Regarding the direction of business activities toward 2030, on the basis of the revenue foundations built during the period of the previous medium-term management plan, we will endeavor to create new products, new businesses, and new business models and to expand operation and maintenance services in

all businesses. To realize these goals, we will strive to enhance dialogue with customers and the market and improve supplied value through service digitization. Furthermore, we will promote the creation of new businesses through open innovation and alliances with other companies. As a result of these initiatives, we aim to improve our operating income margin from 3.5% in fiscal 2019 to 10% by 2030.

Since fiscal 2020 we have achieved progress in various ways. In Europe we have built a network of sites through M&A to expand our operation and maintenance (O&M) business. In new markets in Australia, the Middle East, and elsewhere, we have participated in EfW projects from the project development stage and realized a new business model embracing long-term O&M orders in addition to engineering, procurement, and construction (EPC). In Sweden we have begun the sale of biogas manufactured at our own facility for local bus companies.

In our machinery and infrastructure business, we are promoting the commercialization of new businesses utilizing artificial intelligence, such as nondestructive testing for heat exchanger and food production line inspection, thereby endeavoring to further expand our operation and maintenance services.

Hitz 2030 Vision — Overall Business Policy



Hitz 2030 Vision — direction of business activities toward 2030



Action plan

- 1** We will promote dialogue with customers and markets and optimize the value supplied to customers by installing IoT and AI in all products and services.
- 2** We will promote open innovation, alliances, and M&As to create new products and new businesses. We will select and concentrate businesses, shifting to the focusing of management resources on growing areas, so as to improve earnings and achieve sustained growth.
- 3** We will improve our income margin by expanding operation and maintenance services in not only the environmental business but other businesses as well.

*New projects: Projects to hand over new assets to customers in the fields of construction, manufacturing and sales.
 Operation and maintenance services: Incidental projects after the handover of plants or products, such as maintenance, operation, management, and other services, and projects based on long-term contracts, such as power generation.

Promoting the boosting of profitability and securing strong results over a three-year period

Basic policies and numerical targets

Positioning the period as a results-oriented term to boost profitability and moving forward steadily and vigorously

The Hitachi Zosen Group aims to be a continuously growing and vigorous corporate group that contributes to the realization of a sustainable, safe, and secure society through business under the Hitz 2030 Vision, our long-term vision.

The three-year term starting in fiscal 2020 has been positioned as a period for boosting profitability to ensure that results are achieved, and the new medium-term management plan was named Forward 22, signifying our determination to move forward toward fiscal 2022.

We aim to achieve an operating income margin of 5% or more in fiscal 2022, the final year of the plan, by implementing various measures in line with the basic policies of Forward 22 and steadily moving forward.

Basic policies of Forward 22

- Contribute to the realization of a sustainable, safe, and secure society through all our corporate activities
- Boost our own profitability and aim to be a corporate group that can achieve sustainable growth

- 1 Enhance the added value of products and services**
 - 1 Utilize cutting-edge technologies
 - 2 Shift business locations and promote interaction with customers and markets
 - 3 Maximize the Group's overall strength
- 2 Promote business selection and concentration and allocate resources to growth areas**
 - 1 Introduce the Hitz Goal Achievement Monitoring System
 - 2 Further promote portfolio management
- 3 Achieve workstyle reform by improving operational efficiency and productivity**
 - 1 Improve operational efficiency through changes in the Group management system
 - 2 Review the state of manufacturing businesses
 - 3 Promote human resource development and workstyle reform

Contributing to sustainability

Initiatives for clean energy

Our energy-from-waste (EfW) plant, which is our main product, conducts sanitary waste treatment and generates electricity at the same time, thereby contributing to the reduction of greenhouse gas emissions. In addition, we are developing such

technologies as methane fermentation (biogas) using organic waste, onshore and offshore wind power, and power-to-gas systems to convert hydrogen manufactured using surplus electricity from renewable energy and captured CO₂ into methane. Our aim is to contribute to greenhouse gas countermeasures by expanding the use of renewable energy.

Clean water, environmental conservation, and building a resilient and prosperous community

In our water business, we are engaged in actively responding to the needs of public-private partnerships in Japan and are promoting the utilization of reverse osmosis membrane technology from Osmoflo (Australia), one of our overseas Group companies, for water and sewage treatment as well as the utilization of mobile equipment. Furthermore, we are promoting the marine SCR (selective catalytic reduction) system technology to clear NOx emission regulations for ships and land-based aquaculture technologies to ensure food safety, and we are also actively engaged in responding to the needs of social infrastructure, including the reinforcement and renovation of aging expressways, the installation of special shield tunneling machines for urban areas, and the construction of flap-gate type seawalls to protect against flood disasters caused by tsunamis or storm surges.

Contribution to CO₂ emission reduction

Clean energy facilities utilizing the technologies of the Hitachi Zosen Group, such as energy-from-waste, biomass, and wind power generation, contribute to the reduction of CO₂ emissions through our customers' business activities. As of the end of fiscal 2019, our products (including the products of licensees) had reduced CO₂* by 15 million tons per year worldwide, equivalent to about 2.3% of the new target for reducing greenhouse gas emissions announced by the Japanese government in April 2021. We aim to continue contributing to CO₂ reduction through our products, with the goals of cutting CO₂ emissions by 22 million tons per year by the end of fiscal 2022 and about 40 million tons per year by the end of fiscal 2030.

	End of FY2019	FY2022 (target)	FY2030 (target)	Cumulative total for FY2020-30
Amount of CO ₂ reduction (including licensees)	15.18 million tons of CO ₂ /year	22.06 million tons of CO ₂ /year	About 40.00 million tons of CO ₂ /year	About 320 million billion tons of CO ₂

*Based on "The Method of Calculating Greenhouse-Gas Emissions and List of Emission Coefficients" issued by the Japanese Ministry of the Environment and, for the emission coefficients of other countries, on "Global Warming" issued by Japan's Agency for Natural Resources and Energy. These estimates of the amount of CO₂ reduction are based on the power generation capacity of working facilities (expected in 2022), excluding decommissioned facilities, and does not include heat utilization in the facilities. Targets for fiscal 2023 and thereafter were calculated proportionally based on the results up to fiscal 2019. Japan's target for reducing greenhouse gas emissions, which was used to estimate the Hitachi Zosen Group's contribution rate, is a reduction of 46% from the 2013 level of 1,408 million tons (CO₂ equivalent).

Forward 22

State of progress

1 Enhance the added value of products and services

The knowledge and expertise of the Hitz Advanced Information Technology Center (A.I/TEC), which began operations in 2018 as a hub for the utilization of information and communication technology (ICT), such as remote monitoring, artificial intelligence (AI), and the Internet of Things (IoT), is being broadly deployed for not only EfW plants but other products and services as well. We are achieving significantly greater work efficiency and testing accuracy through, for example, the development of an AI ultrasonic inspection system to improve the efficiency of nondestructive testing for heat exchanger and the commercialization of a system utilizing AI to raise the efficiency of inspection work in food product plants.

In the environmental business, we are seeking to expand not only engineering, procurement, and construction (EPC) but also operation and maintenance (O&M) business. In overseas markets, where EPC was the mainstream, we received O&M orders in Australia in 2020 and Dubai in 2021. We are also devoting much effort in the field of renewable energy, including biogas plants.

In April 2021 we newly established the Power to Gas Business Promotion Office to accelerate the commercialization of the power-to-gas (PtG) business, such as hydrogen generation systems (water electrolysis) and methanation. In addition, we are not only improving the added value of current products and services but also developing products and services anticipating the new age, such as wind power generation projects, toward the realization of a carbon-free society.

2 Promote business selection and concentration and allocate resources to growth areas

To increase the achievement rate of management plans and business plans, we have begun operation of the Hitz Goal Achievement Monitoring System using the key goal indicators (KGIs) in each business and the key success factors (KSFs) and key performance indicators (KPIs) to achieve them and, when necessary, are undertaking reviews of strategies and policies. Furthermore, we are promoting portfolio management. In order to shift management resources to growth areas, we undertake quantitative and qualitative appraisal of each business's conformity and profitability vis-a-vis our long-term vision. Regarding businesses that are judged to have problems in terms of profitability and growth potential, discussion of countermeasures is continued in the Management Strategy Committee and Board of Directors.

3 Achieve workstyle reform by improving operational efficiency and productivity

Regarding human resource development, in addition to existing training programs, we are tackling the development of management and DX human resources and conducting strategic human resource assignment, including the selection of young management-track employees. Regarding workstyle reform, amid the increase of telecommuting from home, we are endeavoring to improve labor productivity by utilizing ICT and so on. By means of the best practice award, we share good examples of workstyle reform throughout the company. In addition, we are promoting initiatives to utilize ICT toward the improvement of productivity and shortening of long working hours in onsite work.

Forward 22:

Targets and achievements

(FY)	2020 targets	2020 achievements	2021 prospects
Order intake (¥ billion)	410.0	429.4	580.0
Net sales (¥ billion)	400.0	408.5	400.0
Operating income (¥ billion)	11.0	15.3	14.0
Ordinary income (¥ billion)	6.5	11.7	9.0
Net income (¥ billion)	4.0	4.2	5.0
Interest-bearing debt (¥ billion)	110.0	98.1	96.0
Equity ratio	30.0%	29.4%	30.0%
Return on equity	3.4%	3.5%	3.9%

2022 targets

Order intake and net sales:
¥400 billion level

Operating income margin
in FY2022: 5%

(FY)	2020 targets	2020 achievements	2021 prospects
Scale of investment			
Research and development expenses (¥ billion)	8.0	6.6	8.0
Capital expenditure (¥ billion)	7.0	10.8	10.0
Total (¥ billion)	15.0	17.5	18.0

2022 targets

Accelerate the shift to
investments in growth areas

140th

Celebrating Our 140th Anniversary

Energized by Technology and Trust Technology for People, the Earth, and the Future

In 2021 the Hitachi Zosen Group celebrated the 140th anniversary of its founding.

The Company was founded in 1881 by the British businessman Edward Hazlett Hunter. At that time, it was an enormous challenge for a foreigner to establish a private shipbuilding company in Japan. We have inherited his spirit of challenge to this very day. On the basis of technology fostered in the shipbuilding industry, we have continued to make challenges in response to social needs that have changed with the times. We have marketed various

products to meet the needs of society at the time, including the manufacture of steel bridges beginning in 1900, the manufacture of industrial machinery and plants beginning in the 1930s, and the manufacture of Japan's first energy-from-waste (EfW) plant in Osaka in the 1960s through a technical partnership with Von Roll Environmental Technology Ltd. of Switzerland (currently Hitachi Zosen Inova).



1930 Launching ceremony of the Heian-maru large-scale cargo and passenger ship



1974 Minato-Ohashi Bridge (Osaka)



2001 Maishima Incineration Plant of the Environment Bureau of the Osaka City Government (EfW plant)

140th Anniversary Special Columns
Special Column

Column 1

In the district of Western-style foreign settlement residences in Kobe, Hyogo Prefecture, which is a popular tourist spot, there is a hill called Hunter Hill. People who live in Kobe, or even the Kansai region, will surely have heard about it.

This Hunter Hill is so called because of the residence of E. H. Hunter, the founder of Hitachi Zosen's predecessor, Osaka Iron Works, was situated on the northern side of the hill.



Column 2

The Aiko Cherry Tree was named after E. H. Hunter's wife Aiko. It is said that Hunter and his wife planted the *someiyoshino* tree, which still exists, at his residence (now called the Kobe Kitano Hunter Geihinkan). Hunter, who spent his later years at the residence together with his wife, was very fond of the tree and called it the Aiko Cherry Tree. To mark the Hitachi Zosen Group's 140th anniversary, a sapling Aiko Cherry Tree was planted at our head office on February 25, 2021.

Column 3

In 2021 an MO 161 Series MO No. 174 carriage, which was delivered to Hankai Tramway Co., Ltd. in 1930, was returned after nine decades. The carriage, handed over by Hankai Tramway, is now on display in our company grounds. The carriage business was begun in 1921 as a means of supplementing the stagnating shipbuilding business. The company manufactured more than 5,000 carriages up to 1937. Launched from scratch, the carriage business was one of those ventures symbolizing E. H. Hunter's spirit of challenge.



View the transported carriage here. ▶

Global Business Development

The Hitachi Zosen Group aims to become a true global enterprise that contributes to sustainable development in countries and regions around the world. We believe that pursuing cooperation and synergies with our overseas Group companies, while enhancing our competitive advantage by building a track record and trust in each of our markets, will be the driver of further growth for the Group.

Hitachi Zosen Inova



Bruno-Frédéric Baudouin

Chief Executive Officer &
Member of the Supervisory Board

About Hitachi Zosen Inova

Established: 1933
Location: Zurich, Switzerland
Possessing core energy-from-waste (EfW) and renewable gas technologies, Inova formed technical partnership with Hitachi Zosen in the 1960s. Joined the Hitachi Zosen Group in 2010.

From its establishment in 1933 through to the present, Hitachi Zosen Inova has led the market with its core EfW technology. Currently, in addition to EPC,* we have expanded into the operation and maintenance business and project development domains, transforming ourselves into a clean tech company that contributes to the circular economy through waste treatment. We are also working to develop and offer new technology beyond EfW.

(Examples of measures to expand business domains)

- **Acquisition of renewable gas-related firms (Switzerland, Germany)**
To handle both dry and wet methane fermentation treatment.
- **Acquisition of power-to-gas technology (Germany)**
Full-fledged development of methanation technology
- **Acquisition of maintenance service company (France)**
Access to about 70% of EfW plants in Europe
Expanded service delivery network includes continuous maintenance, retrofits and upgrades.

Today, when the world stands at a major turning point, the cooperative relationship with Hitachi Zosen, which has continued since the 1960s, is generating further synergies by leveraging the Group's global management resources since we joined the Group in December 2010. These include various initiatives, including the formulation and implementation of a common R&D roadmap and cost reductions through the discovery of new suppliers in Asia.

These initiatives have significantly boosted Inova's development from market player to market maker. We trust we are in a strong position to contribute to the durable development of the Hitachi Zosen group, while actively serving the environment, driven by a sustainable long-term ambition. We look forward to continuously honoring our commitments.

*EPC: Engineering, procurement, and construction

NAC International



Kent S. Cole

President &
Chief Executive Officer

About NAC International

Established: 1968
Location: Norcross, Georgia, U.S.
Engaged in the business of design, transport, and consulting related to spent fuel transport and storage equipment. Joined the Hitachi Zosen Group in 2013.

From 1988 NAC International consigned Hitachi Zosen to manufacture casks and canisters for the transport and storage of spent fuel and high-level radioactive waste from nuclear power plants. NAC has been part of the Hitachi Zosen family since March 2013, and we have profitably served the global nuclear industry sector through a synergistic relationship with Hitachi Zosen.

Through Hitachi Zosen's Ariake Works in Japan, we have delivered more than 100 of our MAGNASTOR spent fuel storage canisters and 10 of our NAC-STC transportation casks to U.S. and Chinese customers.

Hitachi Zosen, through the Board of Directors, has also recently supported NAC's growth ambitions by approving two strategic acquisitions. The first was an asset acquisition by a newly formed NAC subsidiary, NAC LPT, which specializes in logistics, packaging and technical services related to low-level radioactive wastes. The second was a minority share acquisition of Deep Isolation, aimed at our entry into the field of final disposal. This investment has made it possible for us to propose innovative solutions for geological disposal. These are a few of the exciting activities at NAC in close collaboration with Hitachi Zosen.

Going forward, we believe that through cooperation between NAC and Hitachi Zosen, with our extensive experience in the U.S. in the area of storage casks for spent fuel and high-level radioactive waste, we will be able to provide the people of Japan with superior solutions that offer even greater economy and safety.

AI, ICT x Existing Products

In addition to the technology and trust that we have fostered to date, achievement of the Group's long-term Hitz 2030 Vision will require greater use of digital technology. Here we describe some specific examples of our initiatives involving digital technology.

Our efforts toward digitalization

The Group's policy is to further promote initiatives to achieve the Sustainable Development Goals and a decarbonized society, to enhance the added value we provide customers, and to expand the scope of our products and services—currently positioned primarily midstream in the value chain—from upstream to downstream. To achieve these targets, it is essential for us to promote the advancement of information and communication technology (ICT) and digital transformation (DX). The Information and Communication Technology Promotion Headquarters has a major role and responsibility in this regard.

Specifically, this fiscal year we have begun a full-scale effort to provide our business divisions with IoT Secure Platform. By connecting all of our equipment and facilities at sites to this IoT platform, we will be able to monitor their operating status and detect any signs of failure. These can be combined with advancements and artificial intelligence (AI) being developed by the R&D centers and business divisions so that we can provide customers with a higher level of added value. Our goal is to expand our highly value-added operation and maintenance service, including providing 24/7 remote monitoring via the Hitz Advanced Information Technology Center (A.I/TEC).

The ICT Promotion Headquarters also plays an important role in terms of improving efficiency and providing operational support.

As a platform for promoting the digitalization of operational processes, we have built a companywide core operating system on S/4 HANA, our SAP enterprise resource planning (ERP) system, and we are currently building a data analytics environment to conduct advanced analyses of business data accumulated on a daily basis. We are also

introducing automation tools, including robotic process automation (RPA), sales force automation (SFA), and marketing automation (MA), in an effort to promote greater operational efficiency and support for sales activities.

In terms of the working environment, it is also extremely important that we continue to promote enhanced productivity and improvements in employees' work environments through companywide workstyle reform in anticipation of post-COVID-19 conditions. For telecommuting as well, we will enhance the expansion of mechanisms to maintain productivity and work quality as well as operational support systems tailored to individual tasks.

Focus on DX human resource development

To further this series of plans and developments, we have established the Digital Transformation Consultation Desk. We have put in place a structure for collaboration between the business divisions and the Information and Communication Technology Promotion Headquarters and share the results companywide through daily initiatives and cross-organizational projects.

We are also focusing on improving the digital skills of human resources on the front lines in order to leverage AI and ICT in our business. In response to the COVID-19 pandemic, we have made significant progress in the use of groupware and in remote work initiatives and, as a result, have defined a clear direction for incorporating digital technology in each of our businesses. To promote DX in our business, we have worked with the research centers to conduct training in such digital fields as data analysis and artificial intelligence. In addition, we have also established the new Digital Strategy Planning Office to strengthen the development of DX human resources in each business division (develop on the scale of 500 people by fiscal 2025) and to promote digital strategies. Furthermore, to ensure that our customers can feel confident in making use of these digital innovation initiatives, we have established the Cyber Security Center and are accelerating efforts to further raise security awareness.



Munenobu Hashizume
Executive Officer
General Manager of Information
and Communication Technology
Promotion Headquarters

Hitz Advanced Information Technology Center (A./ITEC)
Remote Monitoring Operation Support Center

Utilizing AI and ICT to save labor and ensure the stable operation of waste treatment facilities

As long as human beings live, there is definitely going to be waste (garbage). Of this waste, garbage that is not suited to the 3Rs of reduce, reuse, and recycle needs to be processed. Waste treatment facilities are indispensable social infrastructure for daily life, and their stable operation is vital.

In Japan, there is concern about a drop in the number of working-age people in the future due to the declining population. In preparation for a shortage of operating personnel in the future, Hitachi Zosen is tackling the development of an optimum operating management system that, by utilizing AI and ICT, will ensure the stable operation and performance of EfW plants with fewer or even no personnel and enable the maintenance, or even betterment, of current performance levels.

Both easily combustible garbage and garbage that is difficult to burn require advanced technology to facilitate stable incineration. To ensure the uniform quality of garbage to be used as fuel, Hitachi Zosen has developed a waste bunker management system, which can visualize the agitated condition of the garbage from not only surface but also three-dimensional displays, and an Automatic Combustions Control system, which uses AI to predict the incineration state from several minutes' to several ten minutes' time, thereby preventing deterioration of the incineration state. These systems are already in operation. It has been confirmed that by introducing these systems, manual work by operators can be reduced by more than 90% than before. We are also aiming for the complete automation of waste crane operation by utilizing AI instead of manual control.

Furthermore, to prevent unplanned operation stoppages at facilities due to unanticipated trouble, we have developed, utilizing ICT, a system to constantly monitor and diagnose the state of deterioration of equipment and a system for the uniform management of the maintenance histories of multiple facilities. These systems enable maintenance to be carried out at appropriate times.

Expansion of remote monitoring services enables smooth response in times of emergency too

Hitachi Zosen launched its remote monitoring site in fiscal 2001; it now covers at more than 30 facilities.

At the Remote Monitoring Operation Support Center (ROC) within the Hitz Advanced Information Technology Center (A./ITEC), which opened in fiscal 2018, personnel with experience in operating EfW plants undertake operational support, troubleshooting, data analysis, and remote adjustment. In addition, since the ROC is situated in the head office grounds, matters that monitors have difficulty handling alone can be dealt with swiftly through collaboration with design department engineers or the data analysis team at the head office.

Waste treatment facilities in Japan are beginning to transition from public-built, public-run to public-built, private-run. Overseas, the trend is for waste treatment projects themselves to be privatized. In these circumstances, especially in communities introducing EfW plants for the first time and in communities suffering from a natural disaster or disease, it is necessary for waste treatment facilities to continue stable operations. In both Japan and overseas, therefore, the need for operation support systems and remote monitoring is increasing more and more. Hitachi Zosen supplies remote monitoring services to facilities delivered overseas as well and, going forward, intends to further expand these services and improve performance.



Suginami Incineration Plant of the Clean Authority of TOKYO

New Technologies (Wind Power Generation, Power to Gas)

The Hitachi Zosen Group aims to solve global-scale issues by using environment-considerate technologies. Rather than adopting a one-way approach from the standpoint of business, we ask ourselves what it is that society needs. The new technologies introduced below were born from this frame of mind. To realize an environment-friendly, low-carbon, and circular society, it is our belief that, together with you all, we should aim to build a better society through environment-considerate products.

Wind power generation: Contributing to the introduction of offshore wind power generation in Japan through engineering of foundations

Future market outlook

Expectations are especially high for offshore wind power generation as an energy source, among the renewable energies seen as necessary to realize the goal advocated by the Japanese government of achieving carbon neutrality by 2050. As of 2020, wind power generation in Japan, including onshore wind farm, accounted for about 4.5 million kW. Since the announcement of the cumulative targets for offshore wind power generation of 10 million kW by 2030 and 30–45 million kW by 2040, much expectation has been placed on the public and private sectors working together to expand Japan’s wind power generation business.

Our strengths and business model

In our wind power generation business, the Hitachi Zosen Group adopts an integrated process that encompasses project development, engineering, fabrication, construction, and operation. Within this approach, we expend much effort on project development and electricity sales in onshore wind power generation and the engineering and fabrication of foundations in offshore wind power generation.

On the technological side, on the basis of our shipbuilding and marine structure fabrication technology, we have pursued research and development on offshore wind power generation foundations in collaboration with European companies, which have taken the lead in offshore wind power generation.

Main Technical Partnership

2012	Statoil in Norway (currently Equinor)	Spar-type floating foundation
2015	Ideol in France (currently BW Ideol)	Barge-type floating foundation
2019	Naval Energies in France (currently Saipem)	Semi-submersible foundation

Future initiatives

Through numerous feasibility studies and demonstration research with the New Energy and Industrial Technology Development Organization (NEDO) (off Hibikinada in Kitakyushu, etc.), the Hitachi Zosen Group has accumulated much know-how on the engineering, fabrication, installation, and maintenance of foundations and is able to supply a variety of foundations. Going forward, while taking marine conditions surrounding Japan and economy into consideration, we will promote the development and proposal of various foundations, including the current bottom-fixed suction-bucket, floating barge, and semi-submersible foundation.

▼NEDO commissioned project: Technology demonstration experiment of a next-generation floating offshore wind turbine system (barge type); fabrication of demonstration foundation



▲NEDO subsidized project: Offshore wind power generation low-cost construction technology development (suction-bucket construction technology demonstration); trial construction of demonstration foundation (Photo courtesy of Toyo Construction Co., Ltd.)

At present, together with domestic and overseas partner companies, we are engaged in project development in Aomori Prefecture in northern Japan with the aim of starting construction of onshore wind farm in the first half of the 2020s and an offshore wind farm in the later 2020s. Regarding the engineering and fabrication of foundations for offshore wind power generation, our goal is to have a 20%–25% share of the domestic market and thereby to contribute toward efforts to introduce wind power generation in Japan and to facilitate decarbonization.

Power to Gas (PtG): Efforts toward the full-fledged use of green hydrogen* and methanation

Future market outlook

PtG is a technology for converting renewable energy power into gaseous fuel and storing it. The Hitachi Zosen Group has been engaged in the research and development of both hydrogen and synthetic methane, which are expected to be important products of PtG, for more than a quarter of a century. Methanation, which is one form of PtG, involves synthesizing methane, which is the main component of natural gas, by causing a reaction of hydrogen and CO₂ within a container filled with a catalyst. The principal merit of synthetic methane is that existing infrastructure for the transportation, storage, and supply of natural gas can be used as it is. Toward the achievement of carbon neutrality, the Japanese government has announced the target of raising the ratio of synthetic methane fed into existing infrastructure to at least 1% by 2030 and more than 90% by 2050. Furthermore, since gas companies and companies with CO₂-emitting plants are turning their attention to methanation, significant capital expenditure is expected in the future.

Our strengths and business model

Jointly with Tohoku University, the Hitachi Zosen Group verified the methanation reaction for the first time in the world in 1995, since when we have been engaged in our own R&D of high-performance catalysts and the reaction process. We also possess knowledge of the hydrogen necessary for the methanation reaction through our R&D of water electrolysis technology. In fiscal 2020 we manufactured and delivered one of Japan's largest hydrogen generation systems (water electrolysis). The Hitachi Zosen Group is one of the few makers that can oversee methanation in an integrated manner, from water electrolysis to the separation and retrieval of CO₂, the production of catalysts and reactors, and the production of synthetic methane. Furthermore, Hitachi Zosen Inova, a subsidiary in Europe, engages in PtG and related projects as a renewable gas business, so the Group as a whole covers PtG-related technology broadly and aims to expand and develop PtG projects globally.



The PtG SQUARE demonstration facility

Future strategy and initiatives

With the aim of accelerating commercialization, we set up the Power to Gas Business Promotion Office in April 2021 to bring together our internal resources relating to technical and business development. Collaborating with Inova in both technical development and business strategy, this organization will promote the commercialization of PtG in Japan and overseas. Furthermore, in November 2021 PtG SQUARE, a dedicated facility for experiments and demonstrations, began operations. Positively addressing the issues of lowering the cost of production equipment and increasing apparatus size, which are challenges to commercialization, we will utilize PtG SQUARE and aim to realize commercialization by the mid-2020s.

*Green hydrogen: Hydrogen produced from water electrolysis using renewable energy.



Finance

Fortifying our financial position and prioritizing investment to realize our long-term vision

Michi Kuwahara

Director
General Manager of Corporate Planning Headquarters

We are advancing the Forward 22 plan and stepping up measures to fortify our financial position

Under the Forward 22 medium-term management plan, we are improving our financial position by applying the Hitz Goal Achievement Monitoring System, which follows a plan-do-check-action (PDCA) cycle using our set of key goal indicators (KGIs). The system begins by setting KGIs, such as operating income margin, fixed asset turnover ratio, and cash conversion cycle, for each business. Key success factors (KSFs) are set for each department, and key performance indicators (KPIs) are used to measure the degree of attainment of specific measures and to verify the speed and the effectiveness of the measures. The degree of attainment is monitored, and the PDCA cycle is used to continue improving the measures.

Fiscal 2020 was the first year of operation of this system, and I believe it is already producing results. The systematic approach to KSFs and KPIs has enabled the business divisions and related departments to formulate more specific and concrete action plans. The approach has also generated lively discussions and exchanges of opinion about the relationships between our plans and the targets we are seeking to achieve. The system also makes it easier to understand the status and progress of our activities, which has the added benefit of inspiring friendly competition among the departments. We have also become better able to respond to changes in the business environment, such as being able to flexibly update our KPIs.

The SAP enterprise resource planning system will strengthen the Hitz Goal Achievement Managing System and allow us to make improvements more quickly and efficiently.

Developments in fiscal 2020 reminded us of the importance of strengthening our financial position. For example, we booked an impairment loss for the year related to the wholesale electricity sales business. The loss was caused by unpredictable abnormal fluctuations in the electricity market at the start of 2021 that triggered tight supply and demand and soaring electricity prices, which even led to one of our electricity purchasers filing for bankruptcy rehabilitation. The pandemic

risk was, of course, another unpredictable event that occurred during the year. Building a financial structure that is resilient to developments like these requires enhancing shareholders' equity and our financing capabilities as well as reducing our risk assets.

Introducing the SAP enterprise resource planning system has enabled us to create a balance sheet for each business and better evaluate the return on invested capital (ROIC). We plan to make maximum use of system with the aims of quickly shifting each business to ROIC-based performance management and increasing attention to capital costs in our portfolio management.

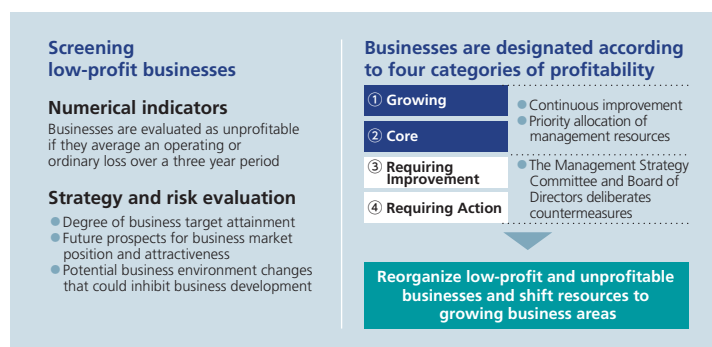
Actively investing in fields that align closely with our vision

Strategic investment for growth will require asset management that includes eliminating or better utilizing underused or low revenue assets as well as selling investment projects that have achieved a certain level of the projected investment return. I believe these are areas that should be given priority as we review our business portfolio management.

Our goal for 2030 is to be "a solutions partner for a sustainable, safe, and secure society." Our strategy is to fulfill this vision by creating an index to measure the consistency of each business department's growth and profit potential as they relate to the vision (social sustainability x company sustainability) and by prioritizing investment in fields aligned closely with our vision.

The Company's vision for social sustainability is rooted in the UN's sustainable development goals. The long-term vision specifically sets clean energy, clean water, and creating flourishing communities that are environmentally friendly and resilient to disasters as core domains for developing Group business. The Group is already taking active steps to fulfill the vision. Hitachi Zosen Inova's construction of a 100%-owned biogas plant in Sweden that commenced operations in December

Prioritizing investment for our vision



2020 is one example. The plant's business model is based on local production and local consumption of green energy, and it focuses on converting locally sourced food waste and green waste into biogas and provides upgraded biogas for use as bus fuel. The plant construction was co-financed by the Japan Bank for International Cooperation and Japanese commercial banks.

This type of business model requires close cooperation with local communities, and the Group is successfully using the model in Japan for a biogas power plant in Akita Prefecture and a wood biomass power plant in Ibaraki Prefecture and overseas for a biogas power plant in San Luis Obispo in the United States and an energy-from-waste (EfW) plant in Rockingham, Australia.

In fiscal 2021, Inova also commenced a project to build one of the world's largest EfW plants in Dubai in the United Arab Emirates. Financing for this project was secured from the Japan Bank for International Cooperation and commercial banks in Japan and Europe. I believe that a major factor in the Group's ability to realize such a large project like this is the trust it has cultivated through its successes in plant construction and operation. This business model covering the full value chain from project development through to operation is being applied to business development for EfW plants, biogas plants, and gas supply businesses as well as newer wind power generation systems.

The Group is also using M&A to continue expanding Inova's business, and in fiscal 2020 acquired and made an after-sales service and maintenance company in France a full subsidiary of Inova. In addition to M&A, the Group is also expanding by increasing its business bases and personnel in each country and region. Our research and development activities are also being broadened to apply the product life and condition monitoring, predictive maintenance, and automated operations expertise of the Hitz Advanced Information Technology Center and the Technology Development Headquarters to EfW plants as well as to integrate new and digital technologies to various products and services.

We are seeking to further improve our financial position and corporate credit rating

At the end of fiscal 2020, shareholders' equity stood at ¥126.3 billion for a shareholders' equity ratio of 29.4%. Adding the ¥10 billion of our ¥20 billion in subordinated loans that can be included in capital for rating evaluation purposes puts shareholders' equity at ¥136.3 billion, placing the shareholders' equity ratio at 31.7%. On the financing side, we have secured a committed credit line of ¥30 billion in addition to our existing short- and long-term loans and bonds, and I believe that we have sufficient liquidity even for contingencies, such as a pandemic.

To further improve our financial position and corporate credit rating, we are seeking to enhance our financial resilience and financing ability by further raising shareholders' equity, reducing risk assets, and improving our financial efficiency.

	End of fiscal 2018	End of fiscal 2019	End of fiscal 2020
Equity ratio (%)	27.8	28.8	29.4
Equity (¥ million)	119,479	118,003	126,330
Interest-bearing debt (¥ million)	126,343	99,588	98,149



Research and development

Creating new products and businesses for the power-to-gas and other businesses with the aim of achieving carbon neutrality

Tadashi Shibayama

Managing Director
General Manager of R&D Headquarters

Creating a roadmap for carbon neutrality

The Development Headquarters' most important mission is to create new products and businesses that contribute to sustaining growth for the Company. The Company's sustainability depends on its ability to continuously adapt to changing business environments, and our department plays an important role in our Company's ability to adapt.

The business environment changed drastically in fiscal 2020 and included the Japanese government's pledge announced in October to become carbon neutral by 2050. Our management policy already includes commitments to contributing to realizing the SDGs and to popularizing renewable energy, and helping create a sustainable, recycling-oriented society is fundamental to our Forward 22 medium-term management plan. The government's pledge will provide momentum for our business policies, and we will need to further step up our efforts to help realize a decarbonized society.

One of our initiatives is to create a Technology and Product Roadmap for Realizing Carbon Neutral in 2050 to guide our efforts to create the new products and businesses that will be needed for the huge market related to realizing carbon neutrality. The roadmap will set concrete targets for 2030 to serve as guides for the next decade of our Company's R&D.

Our current products that contribute to carbon neutrality and to creating a hydrogen-based and a CO₂ recycling society include hydrogen generation systems (water electrolysis) and methanation technology. To boost the competitiveness of these products and actively promote our Power-to-Gas (PtG) business, in April 2021 we consolidated the related human resources and technologies in the new Power to Gas Business Promotion Office. In August, the Company, the Yamanashi Prefectural Enterprise Bureau, Tokyo Electric Power Company Holdings, Toray Industries, and others were selected by the New Energy and Industrial Technology Development Organization (NEDO) to participate in a project of its Green Innovation Funding Program to use water electrolysis to produce hydrogen by using power generated from renewable energy resources.

At our Chikkou Works, in November 2021 we will open PtG SQUARE to serve as a base for assembling and verifying our PtG equipment. We also believe that not just PtG equipment, but all of our products and technologies in all of our businesses warrant reviewing for improvement. In our core energy-from-waste (EfW) plant operations, for example, it is conceivable that future regulations could prohibit all CO₂ emissions from municipal waste incineration. We will continue to devise our product and technology strategy so we will be ready to respond to any changes in the business conditions.

Advancing R&D and linking results to future business

Our R&D efforts following the Forward 22 plan's fundamental strategy to improve the added value of our products and services has already started steadily producing results in fiscal 2020.

One major project, the large-scale, land-based recirculating aquaculture facility for farming chub mackerel co-developed with the Nippon Suisan Group was completed and began demonstration operations in June 2020. Our objective is to develop a land-based aquaculture system that incorporates AI and information and communications technology to monitor the farmed fish conditions using video image analysis and maintain optimal conditions, such as for water quality.

We have also developed an AI ultrasonic inspection system for heat exchanger welds that improves the efficiency and inspection accuracy of our current services. The technology, which was awarded the grand prize at the second Nikkei Deep Learning Business Awards in 2020, has greatly expanded our business opportunities and puts us a step ahead of other companies in obtaining information on subsequent repair work. We will leverage this advantage to broaden our services from inspections to after-sales services.

We are seeking to establish a mindset of creating new services by adding digital elements to existing technologies. We will continue applying cutting-edge technology to develop new products and will further boost our abilities through open innovation and venture capital investment to actively bring in knowledge from outside our organization as well.



Procurement

Leveraging our global strength for efficient procurement and cost reduction

Satoshi Kimura

Senior Managing Executive Officer
General Manager of Procurement Headquarters

Cutting costs from all angles

The mission of the Procurement Headquarters is to engage in fair, equitable and transparent transactions to obtain products of the best quality at the best price and the best time. The Forward 22 plan sets three priority measures for achieving this.

The first priority is to minimize costs. Large plants such as our main product of EFW facilities tend to use extremely large volumes of materials and large amounts of money. In addition, each plant has its own specifications for the materials it uses, which requires the ability to accurately determine the appropriate quality, price, and delivery times for the materials.

One of our strategies to achieve this is to have the best possible sourcing by partnering with companies not just in Japan but worldwide. Our decades of experience working with a large number of plants overseas gives us a competitive strength of well-developed system for process control, manufacturing guidance, and final inspections with overseas suppliers, which gives us the ability to administer procurement activities through direct contracts with vendors without using trading companies as intermediaries. We will also lower our costs at plants in Japan by using our highly-developed on-site management skills developed from our extensive construction experience to create the most efficient combination of small-scale construction companies.

We are also focusing on improving the accuracy of our cost estimates in project quotations. By carefully verifying technical specifications and negotiating prices prior to accepting an order, we aim to increase projected profit at the time an order is received and avoid risks after an order is received. This enhanced scrutiny after accepting an order will allow us to both select suppliers and start the design process earlier, which will give us more time in the projects schedule and help prevent unnecessary costs.

Maximizing the benefits of group management

The second priority is to procure materials with an awareness of Group management. The Procurement Headquarters oversees the Group's procurement activities in Japan and overseas. In Japan, our main function is to assist our Group companies in procuring

materials from international markets. Overseas, we work with local subsidiaries and business bases to develop new business partners. In China and Southeast Asia, we assist business partners with process management and quality control in the production stages. We are using our know-how to improve the processes and quality control capabilities of local staff at each site.

We are also working with Hitachi Zosen Inova, headquartered in Switzerland, to develop new business partners and standardize the design specifications and contract terms for our common business partners for the core equipment in our EFW plants. In addition, the two companies are reviewing each other's procurement methods, and we have stationed young staff at Inova to facilitate smooth joint purchasing activities.

Establishing stable supply throughout the supply chain

The third priority measure is to use our procurement operations to hedge risks. We are using the SAP enterprise resource planning system installed in fiscal 2018 and ensuring project teams receive procurement information in a timely manner. These are improving the accuracy of our budgeting and procurement scheduling management, which minimized risks and contributes to securing profits.

We also must have a business continuity plan that encompasses unforeseen circumstances. The importance of securing the supply chain became very apparent during the COVID-19 pandemic in fiscal 2020 as concerns about our overseas supply sources increased. At the same time, the adverse conditions provided an opportunity to promote new initiatives, including creating an online system for inspections and other processes related to procurement activities from our overseas suppliers. We are increasing our cooperation with overseas bases and Group companies to establish an even more stable supply structure.

We expect demand related to sustainability, including for environmental protection and to address human rights issues, to continue growing worldwide. We intend to make concerted efforts by the Company and our entire supply chain to advance initiatives that will address these issues and contribute to the sustainability of society.



Environmental Business

Enhancing Group management with Inova to meet growing global demand

Toshiyuki Shiraki

Managing Director
Environmental Business Headquarters

Overview of fiscal 2020

Steady progress of EPC construction boosted sales, and profitability attained at a European Group company

Orders intake increased by ¥14.3 billion from fiscal 2019 to ¥303.7 billion supported by steady orders for large-scale engineering, procurement, and construction (EPC) projects. In Japan, we received orders for joint public-private design-build-operate (DBO) projects in Kumamoto, Saga, and Kagoshima prefectures and reconstruction work in Edogawa, Tokyo, and overseas we won multiple orders in Russia and an order for a large-scale project in the United Kingdom.

Net sales rose by ¥15.1 billion to ¥269.4 billion, as progress in large construction projects for energy-from-waste (EfW) plants overseas offset a contraction in the domestic market.

Although earnings improved as the Group company Hitachi Zosen Inova in Europe, overall operating income decreased by ¥3.2 billion to ¥12.6 billion due to higher construction costs from new products and lower power sales business in Japan.

Progress of the medium-term management plan and strategies going forward

Contributing to a low-carbon society through businesses emphasizing environmental value

Despite concerns about a potential impact from the COVID-19 pandemic, we achieved our initial earnings targets as our large proportion of public works projects prevented declines in orders and sales. Projects overseas progressed without significant delays as we overcame restrictions on travel by introducing wearable “smart glasses” to conduct remote inspections and enable remote supervisors.

Our strengthened Group governance is steadily producing positive advances. At Inova, management has been significantly strengthened over the past several years, local management has been reformed, such as for thorough progress management and cost control of individual projects. A system has also been implemented for Hitachi Zosen to review Inova’s project estimates and monitor business conditions.

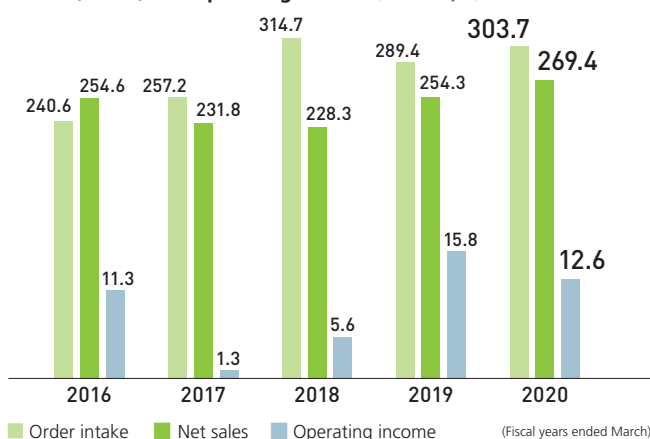
Inova’s order intake reached a record high in fiscal 2020 and surpassed ¥100 billion as orders increased markedly, including in the core market of Europe. We expect Inova to continue generating growing earnings in fiscal 2021 onward supported by an ongoing favorable environment, including in emerging markets, and its growing presence as an EPC contractor.

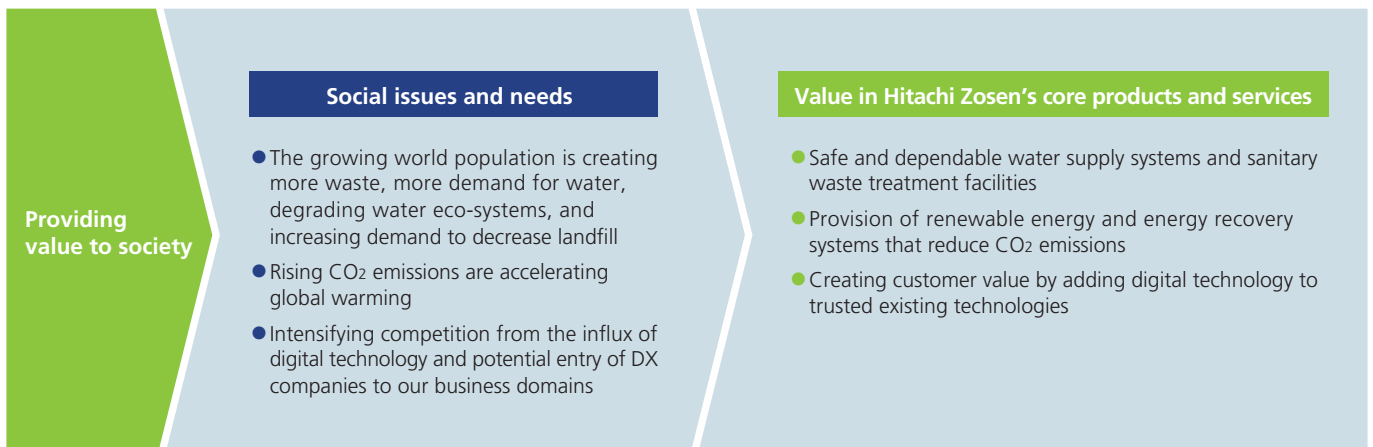
Our business development approach for Hitachi Zosen and Inova has evolved from having each cover separate geographic regions to an approach of effectively combining our resources and areas of expertise to pursue business as a unified Group.

The EfW plants business, mainly through local licensee companies, has provided Group technology for over 100 facilities that have been constructed in China, the world’s largest market for EfW plants. Anticipating potential demand for after-sales services, we plan to boost our competitiveness through a joint venture with a local licensee company.

Demand is also emerging in Southeast Asia with the growing environmental awareness. We are responding by lowering costs in the region by linking and creating collaborations

Orders, sales, and operating income (Billions of yen)





between local companies in the region as well as with Chinese licensee firms, Hitachi Zosen India, and Hitachi Zosen Vietnam. We are also providing our autonomous operations, remote monitoring, and other leading-edge technologies developed in Japan to enhance our ability to attract orders for post-construction operations.

We are also actively working to develop and commercialize new technologies to reduce environmental impact. The growing worldwide interest in addressing climate change, resource issues, and other environmental issues can be a major growth opportunity for the Group's environmental business. We anticipate increasing needs for EfW plants not just in the EU, which has been a leader in landfill waste disposal regulating, and advanced countries, but also in emerging countries where growing populations and rising living standards are expected to produce sharp increases in waste volumes.

Our EfW plants reduce greenhouse gas emissions by simultaneously providing sanitary treatment of waste and generating electric power. Our facilities offer an effective means of converting waste into an energy resource, and we anticipate growing demand from around the world.

We are also looking further into the future, and are aiming to create a new method to replace waste incineration. New waste treatment technology is needed with even less

environmental impact because current waste incineration processes produce exhaust gas that contains dioxins and other harmful, polluting substances. We are developing technology that uses a thermochemical treatment method to extract hydrogen and methane from waste, which can then be recycled for further use. We quickly advancing toward commercialization and are preparing to present the technology for practical demonstrations at the 2025 World Exposition in Osaka.

We will continue to actively advance businesses that emphasize environmental value and contribute to a carbon-free and resource-recycling society.

TOPICS

Dubai order for one of the world's largest EfW plants projects

The United Arab Emirates has begun developing plans as part of its clean energy strategy to build the UAE's first and one of the world's largest EfW plants in Dubai. Inova has been a key member of the project from the initial stages, and will own a partial stake in the operating company. Inova received the EPC order in June 2021 and will design and supply the main equipment for the EfW plants including the waste-handling cranes, grates, boilers, flue gas treatment system, and bottom ash treatment system.

Inova is part of a joint venture that will be responsible for operating and maintaining the facility for 35 years after the completion of construction in July 2024. This project, which will have the capacity to treat roughly 1.9 million tons of waste annually, will contribute to the Government of the Emirate of Dubai and help realize sanitary waste treatment and a sustainable society.



Artist conception of the completed EfW plants in Dubai



Machinery & Infrastructure Business

Strengthening the earnings base by integrating the Machinery Business Headquarters and the Social Infrastructure Business Headquarters

Tatsuji Kamaya

Managing Director
General Manager of the Machinery & Infrastructure Business Headquarters

Overview of fiscal 2020

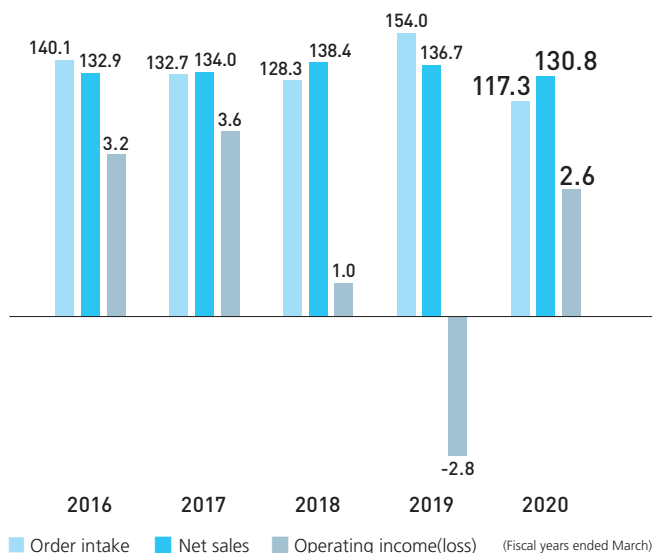
Profitability achieved in the machinery and infrastructure divisions

Order intake declined by ¥36.7 billion year on year to ¥117.3 billion. The decrease was mainly due to decreased orders in the machinery division, particularly in the process equipment and press machine segments, and in the infrastructure division, which was unable to secure orders for large projects.

Net sales also declined from last year, by ¥5.9 billion to ¥130.8 billion, largely due to sharp declines in the press machine and industrial equipment segments, although sales from the order backlogs in the marine diesel engine and process equipment segments offset some of the decline.

Operating income improved by ¥5.4 billion from the previous fiscal year to a positive ¥2.6 billion on increased income in the marine diesel engine, process equipment, and industrial equipment segments.

Orders, sales, and operating income (Billions of yen)



Progress of the medium-term management plan and strategies going forward

Transforming our business and enhancing customer value

Our earnings performance in the first year of the Forward 22 medium-term management plan was well below our initial plan as the COVID-19 pandemic in fiscal 2020 caused our client firms to restrain capital investment, which strongly impacted business in the private-demand driven machinery sector. However, brisk sales of filter presses in industrial machinery segment, lapping plates in precision machinery segment, and vacuum valves for semiconductor manufacturing equipment (produced by subsidiary VTEX) limited the pandemic's impact on our overall performance. The disparities in the business performances have highlighted the need to reevaluate the businesses that had difficulty generating earnings.

In fiscal 2021, we combined the Machinery Business Headquarters and the Infrastructure Headquarters to bring together those businesses and all of our subsidiaries and affiliated companies into a cohesive machinery and infrastructure segment. The objective is to increase profitability in the short term by consolidating and effectively utilizing our human resources, facilities, information, and other management resources, and to promote business transformation in the medium-to-long term to become a business group that is full of vitality and future potential.

As we begin to transform our business, I am keeping two main points in mind. The first is to increase the added value that we create with our manufacturing. In the value chain, we need to be clear about how the manufacturing process creates value for our customers, and we need to consider how to strategically link that value to our profitability.

The second point is to consider whether those strategies match the needs of our customers and society. How well they do that will yield vastly different results. As we celebrate the 140th anniversary of our founding, it is important that we look back on our past actions and apply the lessons we have learned

Providing value to society

Social issues and needs

- Apply digital technology to improve productivity, reduce lifecycle costs, and enable market entry from different industries
- Strengthen the resilience of and upgrade aging domestic infrastructure
- Create a carbon-neutral society and protect the environment

Value in Hitachi Zosen's core products and services

- Mechanical devices and services with IoT and AI technologies, integration of big data (deliver customer value by reliably combining conventional and digital technologies)
- Bridge and floodgate maintenance, participation in redevelopment projects
- Power-to-Gas business expansion in hydrogen generation systems and methanation technology
- Active participation in the renewable energy field, such as wind power generation

to our business going forward. With these ideas in mind, we are working to transform our business in four fundamental ways.

- Propose products and services integrating digital technology to existing customers, become indispensable to our customers
- Overhaul our business processes
- Provide products and services that help realize a carbon-free society
- Provide products and services that improve disaster prevention and safety to maintain and create a safer and more convenient society

Divisional initiatives and outlooks

① Machinery division

Environmental regulations and decarbonization have become major themes for marine engines. The shipbuilding industry is recovering, but competition is fierce. To secure orders, we will strengthen our offerings of marine SCR systems that reduce NOx and CO₂ emissions. In process equipment segment, we will focus on equipment maintenance and replacement for Japan's aging plants. Overseas, ISGEC Hitachi Zosen in India will continue developing high quality, low cost equipment while we strengthen our sales force to boost our competitiveness.

In the press machines segment, we expect orders to rise again as the automotive industry recovers. In the precision machinery segment, we will seek to further expand earnings by maintaining the brisk sales of vacuum valves for semiconductor

and organic EL manufacturing equipment. In the industrial machinery segment, we created the Power to Gas Business Promotion Office in April 2021 to concentrate human resources and technologies related to hydrogen generation systems (water electrolysis) and methanation technology and to actively promote the Power-to-Gas business. The machinery division is stepping up its efforts to realize a decarbonized and resource-recycling society.

② Infrastructure division

In Japan we will respond to the needs for national resilience and disaster countermeasures, as well as to the challenges of aging infrastructure facilities. Overseas, we will seek to firmly establish business in Southeast Asia as the region continues to build new infrastructure.

One business segment we are particularly focusing on is wind power generation. Similar to the Power-to-Gas business, we expect the offshore wind power generation to grow and be a major contributor to decarbonization. We will use our advanced technology in the design and construction of foundation structures and actively promote open innovation as we seek to win orders by participating from the earliest development stages.

TOPICS

Shield machine business integrated with Kawasaki Heavy Industries, Ltd.

Hitachi Zosen and Kawasaki Heavy Industries, Ltd. have been engaged in the shield tunneling machine business in Japan and overseas since 1967 and 1957, respectively. Anticipating an increasing percentage of projects overseas, we decided to integrate our sales and engineering departments to establish a new company that will enable us to combine and strengthen our resources to boost our competitiveness and prepare for expanding business in the future. The new company, Underground Infrastructure Technologies Corporation, commenced operations in October 2021.

Bringing together the two companies' sales and technological capabilities and the strengths of our supply chains and extensive product lineups will enable us to create new value and meet the needs of a wide range of customers.



Shield tunneling machine

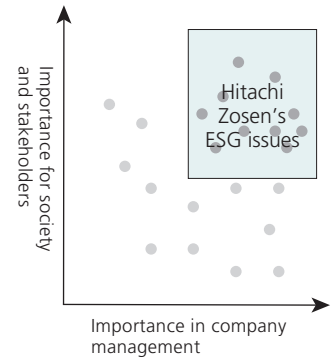
Hitachi Zosen's ESG Issues

Of the risks and opportunities that could impact the sustainability of the Hitachi Zosen Group's business model and the implementation of our strategies, we have identified especially important issues as our ESG issues. We will tackle the solution of these issues with the aim of achieving the sustained increase in corporate value and realizing a sustainable society.

Setting ESG issues

In the process of compiling Forward 22, our medium-term management plan beginning in fiscal 2020, our Group studied and pigeonholed the risks and opportunities that might impact the sustainability of our business model and implementation of strategies from a medium- to long-term perspective. We evaluated the sorted issues in terms of two axes—their importance for society and stakeholders, bearing in mind our Group's understanding of social problems and the opinions of stakeholders, and their importance for our management. We then identified especially important issues as our ESG issues and arranged them in the two categories of "strengthening foundations to support the sustained increase in our corporate value" and "contributing toward sustainability through business."

We will steadily tackle the solution of these ESG issues in order to become a sustainable enterprise and to continue contributing toward the realization of sustainable societies globally.



Our Group's ESG issues **Strengthening foundations to support the sustained increase in our corporate value**

ESG issues	Risks (■) and opportunities (●)	Our Group's efforts
<ul style="list-style-type: none"> Corporate governance Compliance 	<p>G</p> <ul style="list-style-type: none"> Impact on business if the corporate governance setup lacks effect Loss of trust and damage to corporate value through violation of laws and ordinances, such as antibribery and antimonopoly laws, and deviation from social norms 	<ul style="list-style-type: none"> Analysis and evaluation of the effectiveness of the Board of Directors and promotion of improvements by rotating the PDCA cycle Response to corporate governance and code revisions More P.39 "Corporate Governance" Regarding compliance, realization in Japan of a high level centering on public-sector demand and instillation overseas of a spirit of legal abidance among everyone concerned, including partners and suppliers More P.46 "Compliance"
<ul style="list-style-type: none"> Creation of new products and new businesses 	<p>S</p> <ul style="list-style-type: none"> Contraction and disappearance of existing markets due to technological innovation Delay in launching new products and services on the market due to a stance of self-reliance Fast and low-cost development of new products and new businesses through the promotion of open innovation, alliances, and M&A 	<ul style="list-style-type: none"> Use cutting-edge technologies (integration of IoT and AI into products and services and acceleration of productivity improvement) Shift business locations and promote interaction with customers and markets Maximize the Group's comprehensive strengths Strengthen business group activities More P.31 "R&D"
<ul style="list-style-type: none"> Supply chain 	<p>S</p> <ul style="list-style-type: none"> Loss of trust due to human rights infringements, abuse of superiority, environmental load, etc. in the supply chain 	<ul style="list-style-type: none"> Promotion of CSR procurement in the supply chain Implementation of questionnaires to business partners and feedback More P.52 "Promotion of CSR Procurement"
<ul style="list-style-type: none"> Pandemics Large-scale natural disasters Terrorism 	<p>S</p> <ul style="list-style-type: none"> Sickness or disaster damage among directors, employees, and their families Malfunctioning of supply chain Occurrence of contract breaches, such as delivery delays, due to stagnation or suspension of work performance 	<ul style="list-style-type: none"> Prioritization of employees' and workers' safety In the case of impact on delivery, holding of consultations including application of force majeure clauses Regular review of business continuity plans (BCP) More P.47 "Risk Management"
<ul style="list-style-type: none"> Development of human resources to create new value 	<p>S</p> <ul style="list-style-type: none"> Impact of intensified competition to acquire human resources on the recruitment and retention of outstanding human resources Declining quality of human resources due to changes in the business environment and outflow from the company due to loss of opportunities to be active Acquisition of opportunities for company growth through recruitment and securing of human resources empathizing with the Hitz Value Human resource development respecting diversity and enhanced work efficiency and productivity improvement through the promotion of workstyle reform 	<ul style="list-style-type: none"> Recruitment and securing of diverse human resources Appropriate assignment and strategic development (career formation support, development of global, DX, and management personnel) Retention of human resources (enhancement of employee satisfaction) Promotion of workstyle reform Sharing of founder's spirit More P.50 "Development and Utilization of Human Resources"
<ul style="list-style-type: none"> Occupational health and safety 	<p>S</p> <ul style="list-style-type: none"> Impact on business if a workplace environment in which employees can work safely and healthily is not realized 	<ul style="list-style-type: none"> Promotion of health and safety management and healthcare management More P.51 "Promotion of Healthcare Management, Preventing Occupational Accidents"
<ul style="list-style-type: none"> Environmental preservation and protection 	<p>E</p> <ul style="list-style-type: none"> Increased environmental load, loss of trust, and damage to corporate value, resulting from CO₂ emissions and leakage of harmful substances 	<ul style="list-style-type: none"> Climate change initiatives including endorsement of the TCFD Activities to reduce the environmental load based on the Hitachi Zosen Environmental Protection Promotion Plan (ozone layer protection, reduction of CO₂ emissions, and recycling and reduced volume of waste) More P.53 "Environment" P.59 "Disclosures Pursuant to the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)"

Contributing toward sustainability through business [More](#) P. 21 “Contributing to Sustainability”

ESG issues	Risks (■) and opportunities (●)	Our Group's efforts ◆ Existing business ◆ Future business
<ul style="list-style-type: none"> • Transition to clean energy • Reduction of CO₂ emissions 	<p>E • S</p> <ul style="list-style-type: none"> ● Need to curb CO₂ emissions from the use of fossil fuels ● Expanded use of renewable energy ● Shift in the West from waste incineration to waste recycling 	<p>Supply of clean energy</p> <ul style="list-style-type: none"> ◆ Further expansion of the energy business, including biomass ◆ Expansion in energy conversion (biogas) of organic waste ◆ Public-private partnership business in energy-from-waste (EfW) overseas ◆ Promotion of offshore wind power generation, which is expected to become the mainstream renewable energy in Japan ◆ CO₂ recovery and reuse ◆ Conversion of surplus electricity generated from wind power, solar energy, etc. into hydrogen or methane ◆ Studies on technologies for energy recovery from waste as alternatives to incineration
<ul style="list-style-type: none"> • Water shortage 	<p>E • S</p> <ul style="list-style-type: none"> ● Need for clean water 	<p>Supply of clean water</p> <ul style="list-style-type: none"> ◆ Active participation in public-private partnerships in response to requests from public organizations in Japan for public-private collaboration ◆ Overseas business shift from selling facilities to selling water and response to emergency water demand through rental equipment
<ul style="list-style-type: none"> • Resource cycle • Environmental sanitary 	<p>E • S</p> <ul style="list-style-type: none"> ● Global upsurge needs for sanitary waste treatment and scaling back of landfilling and increased volume of waste generated in emerging countries ● Increasing necessity and urgency for domestic disposal of waste plastic rather than its export ● Need to curb air pollution caused by the increased amount of maritime transportation ● Ensuring of safety in the transport and storage of spent nuclear fuel 	<p>Environmental preservation</p> <ul style="list-style-type: none"> ◆ Promotion of sanitary treatment, volume reduction, and energy conversion by EfW plant overseas ◆ Further expansion of the waste treatment business area and effective utilization as renewable energy (electricity, biogas) ◆ Promotion of recycling technology development to dispose of waste plastic domestically ◆ Widespread promotion of our SCR (selective catalytic reduction) systems for marine engines as an environmental regulation countermeasure (compliant with the tier-III exhaust gas emission standard of the International Maritime Organization) ◆ Proposals in Japan and overseas for metal casks and concrete casks, which have a proven track record in the dry storage of spent nuclear fuel
<ul style="list-style-type: none"> • Climate change • Natural disasters • Deterioration of infrastructure facilities 	<p>E • S</p> <ul style="list-style-type: none"> ● Spread of tsunami, high-tide, and flooding countermeasures ● Emergency water demand in disaster- or drought-hit regions ● Expansion of measures to counter the aging of infrastructure 	<p>Building disaster-resilient communities</p> <ul style="list-style-type: none"> ◆ Promotion of flap-gate type seawalls against flood disaster in regions with a high disaster risk ◆ Expanded sale of mobile water treatment equipment ◆ In addition to life-prolonging work for bridges, expressways, floodgates, chimneys, and plants, expansion of business area to maintenance and remote monitoring
<ul style="list-style-type: none"> • Food problem • Low birthrate and aging in Japan • Urbanization of emerging countries 	<p>E • S</p> <ul style="list-style-type: none"> ● Need to break away from the normalization of poor catches and marine environmental issues ● Supply of products and services (agriculture, food product industry, EfW plants) to enable society to adapt to the labor shortage caused by the low birthrate and aging ● Approaching the limit in the new development of underground space for cities worldwide ● Increasing need to ensure railway safety 	<p>Building prosperous communities</p> <ul style="list-style-type: none"> ◆ Promotion of land-based aquaculture system, which enables more safe, secure, and stable supplies compared to offshore cultivation ◆ Contribution toward reducing the burden of farm work through the supply of automatic steering services for farm machinery utilizing satellite measurement data ◆ In addition to the supply of recording equipment for food product production lines, deployment of further labor-saving services, such as food product identification utilizing AI ◆ Promotion of labor saving in EfW and other plants through the improvement of autonomous operations and remote monitoring technologies ◆ Active proposal of special shield tunneling machine suitable for excavatable underground space ◆ In addition to devices to record driving conditions, for which we have a good track record, supply of in-vehicle crime-prevention services through the utilization of on-board cameras

Corporate governance

Ensuring the soundness, transparency, and efficiency of management to respond sincerely to stakeholder expectations

Responses to the Japan's Corporate Governance Code

We are aware that enhancing corporate governance is a high-priority management issue for ensuring the soundness, transparency, and efficiency of management and increasing corporate value while acting as a member of society as a good corporate citizen, and we establish systems to ensure the effective functioning of corporate governance. For further details, refer to the Corporate Governance Report on the Company's website. The English version is scheduled to be posted in January 2022. [▶ https://www.hitachiosen.co.jp/english/ir/policy/governance.html](https://www.hitachiosen.co.jp/english/ir/policy/governance.html)

In the future, we will expand and improve governance frameworks based on revisions to the Corporate Governance Code and other changes and conduct appropriate disclosures.

Corporate governance framework

The Board of Directors and Management Strategy Committee* function to ensure that decisions on important Company policies and appropriate determinations are made following adequate deliberation so that we can reinforce the engineering capabilities based on the strength of our manufacturing technologies while developing business that takes advantage of these characteristics.

* The Management Strategy Committee comprises internal directors and relevant executive officers.

Board of Directors

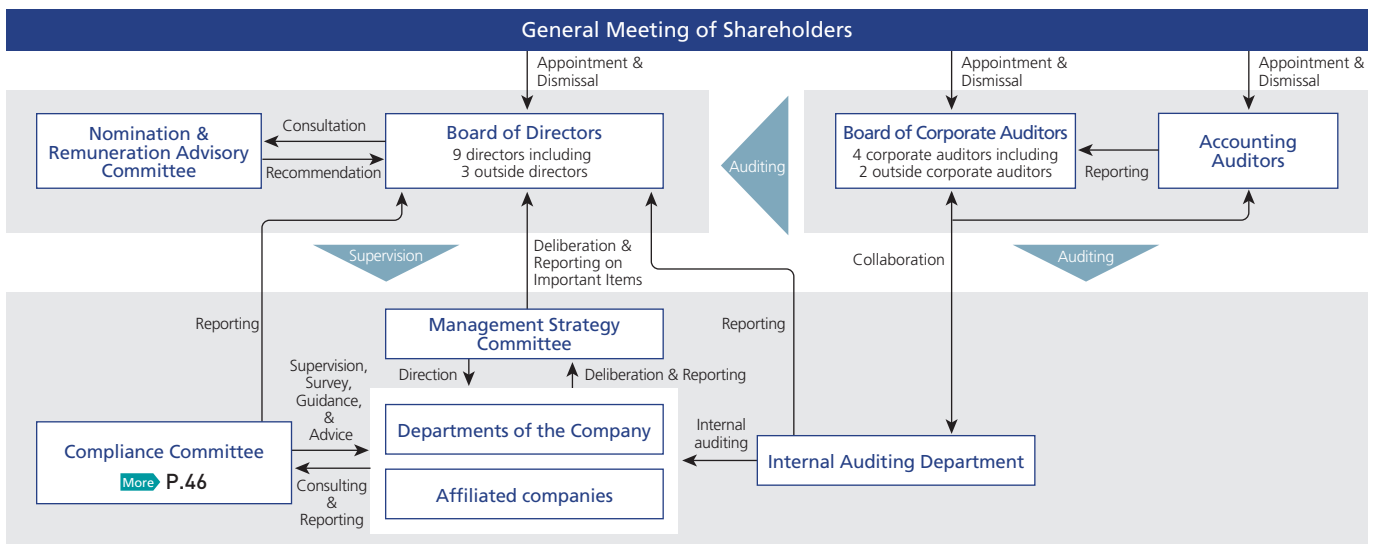
The structure of the Board of Directors was modified in June 2021 to comprise nine directors including three outside directors. We believe that this is an optimal configuration that provides the diversity necessary for the Board to fulfill its roles and responsibilities and is appropriately sized in consideration of the Company's business operations and other factors. In addition to overseeing matters prescribed by law, the Board makes decisions on key matters including basic management policies and strategies and supervises the execution of business. Directors can delegate some of their business execution functions to executive officers to enhance the supervisory functions of the Board and ensure the rapid execution of business.

Furthermore, by establishing a Management Strategy Committee, we have created a framework to ensure that discussion and decision-making on basic policies and important measures concerning business management and business operations are conducted in a timely and accurate manner. Matters of particular importance are discussed by the Management Strategy Committee and then thoroughly discussed by the Board of Directors before a decision on whether or not to go ahead is reached.

Corporate auditors

The Company employs an audit and supervisory system. The four corporate auditors including two outside corporate auditors attend meetings of the Board of Directors and the two full-time corporate auditors also attend important internal meetings, including the Management Strategy Committee to give their input from a neutral perspective and audit business execution

Corporate governance organization



by directors and executive officers. The corporate auditors also hold meetings of the Board of Corporate Auditors to gather input on audits. In addition, corporate auditors monitor and verify the internal control system and its operating status and, where necessary, give advice, make recommendations to directors and executive officers, and take other required measures.

Outside directors

From the perspectives of enhancing corporate governance, business globalization, and diversity-focused management, the Company has appointed three outside directors including one foreign national and one woman.

The secretariat of the Board of Directors supports the outside directors by providing them with important management information in a timely manner, as well as keeping the outside directors briefed on agenda matters and supplying other information ahead of each Board of Directors meeting.

Outside corporate auditors

The Company has appointed two outside corporate auditors who bring extensive knowledge regarding corporate management and specialized expertise in order to enhance the monitoring and supervision of management.

Information on outside directors and outside corporate auditors

The Company gives due respect to the input and advice provided from independent and neutral perspectives by the outside directors and outside corporate auditors, who bring extensive corporate management experience and broad knowledge to the Company, and strives to ensure effective managerial monitoring and supervisory functions by perspectives of enhancing corporate governance, business globalization, and diversity-focused management. actively discussing matters before making a decision.

Outside corporate auditors are fully supported by a dedicated department that assists the work of corporate auditors by briefing them on agenda matters and supplying other information before each meeting of the Board of Corporate Auditors.

Evaluation of the effectiveness of the Board of Directors

Since fiscal 2016 the Company has implemented an annual evaluation of the effectiveness of the Board of Directors in the previous fiscal year. The evaluation seeks to identify and actively improve functional and operational issues with the Board of Directors, with the aim of enhancing corporate governance and increasing corporate value.

The evaluation comprises self-evaluations by directors and corporate auditors and interviews with outside directors and auditors, which are used to identify functional and operational issues with the Board of Directors. The issues are improved through a plan-do-check-act (PDCA) cycle.

Of the issues that have been identified to date, the Company is especially prioritizing the strengthening of supervisory functions and ensuring time for substantial discussions with the aim of continuing the supervision of basic policies and strategies through lively discussions in the Board of Directors.

More P.41 "Results of evaluation of the effectiveness of the Board of Directors (main identified issues and state of efforts)"

Position	Reasons for appointment	Years of service	Independent officer submission
Outside Director Kazuko Takamatsu	Ms. Takamatsu has extensive experience and wide-ranging insight into corporate management and diversity-focused management. Her experience encompasses working for many years at global companies, as well as service as the representative director of a software development company and as the executive director and head of Secretariat of the Japan Institute for Women's Empowerment & Diversity Management. The appointment seeks to leverage her experience and insight to strengthen corporate governance and the globalization of business, which the Company is now pursuing.	6	○
Outside Director Richard R. Lury	Mr. Lury served as a partner of a major law firm in the United States for many years and has extensive experience and expertise in international corporate legal matters. The appointment seeks to leverage his experience and insight to strengthen corporate governance and the globalization of business, which the Company is now pursuing.	5	○
Outside Director Tetsuya Shoji	Mr. Shoji served as a representative director and in other positions of a major telecommunications carrier and has extensive experience and wide-ranging knowledge relating to corporate management. The appointment seeks to leverage his experience and knowledge to strengthen corporate governance, the globalization of business, and digital transformation (DX), which the Company is now pursuing.	0	○
Outside Corporate Auditor Yoshihiro Doi	Mr. Doi served as a representative director and in other positions of a major power utility. The appointment seeks to leverage his extensive experience and broad knowledge of corporate management to benefit the Company's audits.	4	○
Outside Corporate Auditor Hirofumi Yasuhara	Mr. Yasuhara was involved in corporate management in Japan and overseas as a full-time auditor at a world-class electrical machinery and equipment maker and as a representative director and CFO of an affiliate of that company. The appointment seeks to leverage his wealth of experience and wide-ranging knowledge of corporate management and auditing work in the Company's auditing.	1	○

Results of evaluation of the effectiveness of the Board of Directors (main identified issues and state of efforts)

Content of the activities of the Board of Directors	Theme 1: Enhancing supervisory functions	Theme 2: Vitalization of discussions
<p>Number of meetings in FY2020 15 (14 regular, 1 temporary)</p> <p>Composition of the Board of Directors 9 persons (including 3 independent outside directors)</p> <p>Independent outside directors</p> <ul style="list-style-type: none"> ● One-third of the Board of Directors comprises of outside directors (from June 2021) ● Three individuals with extensive experience and a wealth of knowledge in corporate management ● Diverse composition including woman and non-Japanese <p>Roles and functions</p> <ul style="list-style-type: none"> ● Deciding on important matters including basic management policies and strategies, and supervising business execution ● Nominating candidates for directors and corporate auditors, appointing and removing the president and representative director, and discussing and deciding on important matters concerning remuneration for directors, based on the deliberations and reports of the voluntary advisory body 	<p>State of efforts and issues in FY2020 (State of efforts)</p> <ul style="list-style-type: none"> ● Conducted more multifaceted and deepened discussions on the large project orders received and the state of progress, the latest management conditions at main domestic and overseas consolidated subsidiaries, and action plans for businesses with low-profitability. In particular, with regard to Inova, sufficient reporting and necessary discussions were done including status of orders and profitability, progress of contract negotiations, financial situation, and progress status of constructions. Through these efforts the Board of Directors worked to enhance its supervisory functions. <p>(Issues)</p> <ul style="list-style-type: none"> ● Although the initiatives of the Hitz Goal Achievement Monitoring System that began with the medium-term management plan Forward 22 were established company-wide, it is necessary to speed up strategic planning and decision making for the next steps. ● As the Board of Directors still retains aspects of an approval body for internal meetings, in order to further strengthen the system in terms of supervisory functions in the future, it is important to discuss building a governance system that goes one step further, and consider improving the way meetings are conducted, including the proportion of outside directors. <p>FY2021 action plan</p> <ul style="list-style-type: none"> ● In addition to the priority measures of Forward 22 (including promotion of portfolio management, human resources strategy, digital management reform), we aim to hold discussions focused on measures to contribute to the realization of a sustainable society, and speed-up the initiatives. ● Consider a governance system in which there are outside officers who shoulder more substantial responsibilities (reviewing the composition of the Board of Directors, and operational improvements of the Nomination & Remuneration Advisory Committee.) 	<p>Status of efforts and issues in FY2020 (Status of efforts)</p> <ul style="list-style-type: none"> ● Vitalization of discussions and risk identification were promoted by limiting discussions to important agendas to secure time for decisions. ● Informal board meetings were held comprising members of the Board of Directors including outside officers, and general managers of business divisions, and frank and free discussions taking good time were actively held on the following themes. Ideal situation post-COVID-19: Future developments in workstyle reform including using information and communication technology (ICT), impact on business and prospects, state of manufacturing, and human resources strategy. ● Meetings were held among outside officers, the chairman, and the president were held as appropriate, to enhance opportunities for exchange of opinions between outside officers and top management. <p>(Issues)</p> <ul style="list-style-type: none"> ● Continue to improve operations of Board of Directors meeting so that more efficient and meaningful discussions can be held within limited time. <p>FY2021 action plan</p> <ul style="list-style-type: none"> ● Report and deliberate on individual projects as concisely as possible to invigorate discussion on overall policies such as ambitious and challenging goals. ● Continue holding informal board meetings. In the future too, we aim to select medium to long-term fundamental issues as themes, and continue to improve operations so that attendees can engage in more free and active discussions. (The following topics have already been discussed in fiscal 2021. Discussions on the need to change the trade name and trademark, ideal business portfolio, among other things.)

Nomination & Remuneration Advisory Committee

In 2018, the Nomination & Remuneration Advisory Committee, a voluntary advisory body, was designed to secure procedural objectivity, transparency, and accountability in nominating candidates for directors and corporate auditors, appointing and removing the president and representative director, and discussing important matters concerning remuneration for directors. After discussing these matters, the Nomination & Remuneration Advisory Committee reports its findings to the Board of Directors, which further discusses the matter and makes a decision.

The six-person Nomination & Remuneration Advisory Committee is headed by the chair of the Board of Directors and additionally comprises three outside directors and two outside corporate auditors. The five outside officers provide input and advice that helps to secure transparency, suitability, and objectivity with respect to personnel decisions for directors and remuneration.

Compensation for officers

Compensation for directors comprises fixed remuneration and performance-linked bonuses and is decided for individual directors within the total amount of remuneration approved by a resolution of the General Meeting of Shareholders. Fixed remuneration is based on each officer's position. Performance-linked bonuses are based on corporate earnings each fiscal year, using the profit

attributable to shareholders of Hitachi Zosen in each fiscal year as an indicator of performance in order to further motivate directors to improve earnings. So as to ensure their independence, compensation for outside directors consists only of fixed remuneration.

In determining the compensation for the senior management team and directors, the Nomination & Remuneration Advisory Committee reports to the Board of Directors regarding the remuneration provisions and compensation levels, which are discussed by the Board before a decision is made. The Nomination & Remuneration Advisory Committee regularly reviews the remuneration provisions and compensation levels to ensure that the compensation provides a healthy incentive for directors. Retirement bonuses for officers have been abolished.

Composition of officer remuneration

Directors	Fixed remuneration	Performance-linked bonuses
Outside directors	Fixed remuneration	Upper limit on remuneration: Up to 550 million yen a year (fixed remuneration and performance-linked bonuses combined)
Corporate auditors	Fixed remuneration	

Total amount of compensation, etc. by officer position, total amount by type of compensation, etc., and number of officers concerned (FY2020) (¥ million)

Officer position (No. of persons)	Total amount of compensation, etc.	Total amount by type of compensation, etc.	
		Fixed remuneration	Performance-linked bonuses
Directors (7 persons*1)	303	280	23
Corporate auditors (2 persons*1)	61	61	—
Outside officers (6 persons*2)	50	50	—

*1 Excluding outside directors and outside corporate auditors

*2 Including one outside corporate auditor who retired in June 2020

Qualities and skills in the Board of Directors

■ Directors and corporate auditors

Position (July 1, 2021)	Corporate Management	Sales Marketing Innovation	R&D	Estimate, Engineering, Manufacturing, Procurement	Finance and Accounting	Development of Human Resources Diversity	Legal Affairs and Risk Management	ICT Digital	Global Experience
Representative Director Chairman & Chief Executive Officer Takashi Tanisho	○	○	○	○				○	○
Representative Director President & Chief Operating Officer Sadao Mino	○	○	○	○					
Managing Director Toshiyuki Shiraki		○	○	○					○
Managing Director Tatsuji Kamaya					○		○		○
Managing Director Tadashi Shibayama		○	○	○					○
Director Michi Kuwahara	○				○	○	○		○
Outside Director Kazuko Takamatsu	○	○				○		○	
Outside Director Richard R. Lury							○		○
Outside Director Tetsuya Shoji	○	○				○		○	○
Full-time Corporate Auditor Masayuki Morikata		○			○		○		
Full-time Corporate Auditor Kazuhiya Yamamoto		○	○	○					
Outside Corporate Auditor Yoshihiro Doi	○	○						○	○
Outside Corporate Auditor Hirofumi Yasuhara	○				○				○

■ Executive officers

Position (July 1, 2021)	Corporate Management	Sales Marketing Innovation	R&D	Estimate, Engineering, Manufacturing, Procurement	Finance and Accounting	Development of Human Resources Diversity	Legal Affairs and Risk Management	ICT Digital	Global Experience
Senior Managing Executive Officer Satoshi Kimura	○			○					
Senior Managing Executive Officer Hitoshi Kogi		○							
Senior Managing Executive Officer Yuichi Okura	○	○			○		○		○
Managing Executive Officer Mitsutoshi Tsukasaki				○					○
Executive Officer Jitsuhiro Yamaguchi	○			○					○
Executive Officer Takashi Ibe		○							○
Executive Officer Tetsuro Iwashita					○		○		
Executive Officer Toshihiko Yasuda			○	○					
Executive Officer Eiji Ishikawa		○					○		
Executive Officer Toshiki Nakamura					○				
Executive Officer Akira Kamaya				○					
Executive Officer Tomonori Kawatsu		○			○		○		○
Executive Officer Munenobu Hashizume	○							○	
Executive Officer Shinji Shimamura	○		○	○				○	○
Executive Officer Toshifumi Makihata						○			
Executive Officer Hiroshi Miyazaki					○		○		

Messages from Outside Directors



Kazuko Takamatsu
Outside Director

Deep discussions from the effective use of supplemental informal board meetings.

The Board of Directors meetings have become much more lively than when I was first appointed, with effective discussion agendas and members providing very thoughtful and informed comments. I try to ask straightforward questions about things that, from a general perspective, I feel some uncertainty about or that might not align with common sense. I believe asking questions like those is an important and fundamental role of an outside director.

The other outside directors also actively participate in the meetings, and I believe management takes our input into serious consideration. The outside directors represent a diverse group, including a non-Japanese and a woman, with expertise from companies in different industries, which allows us to contribute different perspectives on topics. Overall, I consider the Board of Directors to be highly effective.

In fiscal 2019, the Company began holding informal board meetings to enable focused discussion on important themes for the Company. These supplemental meetings allow us to hold detailed discussions for which there is not enough time to fully discuss in the regular Board of Directors meetings. They also provide opportunities to receive detailed reports on the status of individual business operations and ample time to consider ways to address issues. However, there is often still not enough time to cover the many issues, and I think the Company needs to devise a way to make the system more effective.

In fiscal 2020, the overseas Group company Hitachi Zosen Inova was engaged in a number of large projects, and I was impressed by the frequent reports on the progress of the projects. Inova has suffered a large loss in the past, and the thorough reports on the order status, contract negotiation progress, financing status, and construction progress, enabled us to hold the necessary discussions. We were also able to regularly verify the business conditions of NAC International, Osmoflo, and other Group companies overseas.

Business selection and concentration has recently been a main theme of our discussions at the Board of Directors meetings and the informal board meetings. We have been giving much time to discussing the issue of dealing with unprofitable businesses, which has long been a focus point of stakeholders. The discussion led to specific measures for the shield machine business, including the decision to establish a new company with Kawasaki Heavy Industries, Ltd. The measures we have taken in the business divisions are producing some results, and we are continuing to thoroughly discuss ways to implement effective business selection and concentration as well as ways that we can help the executive side to quickly execute the measures.



Richard R. Lury
Outside Director

While reforming the business portfolio has made progress, the challenge is to accelerate the process of decision-making and action.

It has now been 5 years since I joined the Hitachi Zosen Board of Directors. During that period significant changes have taken place. Hitachi Zosen's management and Board of Directors have embraced the underlying principles of the Corporate Governance Code and Guidelines. The role and influence of independent officers has been enhanced, diversity has been promoted and sustainability and ESG have assumed significantly greater importance. Offsite board meetings have provided a particularly useful and effective forum to advance the exchange of views among directors and to facilitate discussion of topics having broad or longer-term strategic significance. The creation and implementation of the Nominating and Compensation Advisory Committee, the majority of whose members are outside/independent officers, has given these officers greater understanding of and influence over the company's direction. So there has been great progress. In my opinion, however, the Board could be more effective in exercising its supervisory responsibilities by focusing a greater portion of its time and attention on matters involving the company's direction, strategy, growth and profitability.

The company's management has been improving its portfolio management strategy aimed at identifying businesses for which additional investment would be appropriate and those from which an exit strategy should be implemented. On the other hand, in my view the company is slow to act once it has determined that the chance for future growth and profitability of a business is remote. We need to accelerate this process. I also believe that implementing changes in the company's compensation system to place greater emphasis on incentive compensation, particularly for officers and senior level managers, and including a long-term component, would positively influence the company's profitability and growth, so I will continue to urge the company to implement such changes.

I believe my responsibility as an outside director, and particularly as the only non-Japanese outside director, is to provide comments and guidance based on my experience as a long-time corporate lawyer in the United States with familiarity as to corporate governance best practices adopted by successful overseas companies. I also expect to continue making efforts to assist the company and the Board to consider matters from a broader perspective.



Tetsuya Shoji
Outside Director

Providing my ICT company experience to help establish a foundation for sustaining growth.

As a recently appointed Outside Director of Hitachi Zosen, I recognize that I am joining a company that has evolved over a 140-year history of taking on challenges that has produced innumerable innovations from its technologies cultivated in the shipbuilding and iron works industry. In recent years, the Company has been steadily advancing the field of digital technologies, such as in the construction of a company-wide common IoT platform.

ICT will be essential to realizing the objectives of the Forward 22 medium-term management plan to raise the added value of services and products and to improve operating efficiency and productivity. I will use the experience and expertise I gained as a manager at an ICT company applying digital transformation (DX) for workstyle reform and in other areas and in helping customers implement DX. I will also use my experience as a manager of a global corporation to make recommendations for M&A, visualizing management data to strengthen governance, and enhancing security.

As society works to achieve the SDGs and carbon neutrality, our role as an enabler of clean energy through energy-from-waste (EfW) plants and offshore wind power plants as well as desalination plants is becoming increasingly important. I look forward to helping the Company establish a foundation for sustaining business growth and fulfilling the expectations of society.

Intellectual property

Enhancing corporate value by obtaining intellectual property rights for proprietary technologies

Basic policy

The intellectual property strategy of the Hitachi Zosen Group supports its management and business strategies. Intellectual property rights are accumulated and maintained in accordance with a research and development strategy with the goal of strengthening our market competitiveness. This means that all directors, executives, and employees recognize the importance of intellectual property and that we obtain intellectual property rights for the technologies we have developed and utilize them to enhance our earnings and corporate value.

For group companies, we apply a strategic approach to supporting their management of intellectual property aimed at capturing synergies.

Intellectual property management

At the Hitachi Zosen Group, the Intellectual Property Department supports stable business activities by striving to identify or generate inventions, using technology and patent maps to assess and analyze our patent portfolio as well as those of other companies, and ensuring optimal patent applications and acquisitions that suit our business model.

It also plays a core role in the Hitachi Zosen Group’s intellectual property strategies. The department implements a wide range of intellectual property activities, including such functions as developing intellectual property strategies in line with business and development strategies, as well as promoting the acquisition of patents in foreign countries along with the growth of our overseas business. These efforts have produced results. For example, the number of overseas patents held has increased dramatically. The Hitachi Zosen Group’s basic policy is to apply the rights for the intellectual property it has acquired over an appropriate scope of business operations and to manage intellectual property ethically to facilitate fair competition through mutual respect for property rights.

Main activities and initiatives

- Each unit of our Business Headquarters and R&D Headquarters has a member in charge of promoting intellectual property activities. These members intensively coordinate such activities as discovering patent possibilities and facilitating patent applications in collaboration with the Intellectual Property Department.
- We strive to nurture an intellectual property-oriented corporate culture by holding seminars on intellectual property for each employment level, from new recruits to middle-management engineers, conducting e-learning programs tailored to different job responsibilities, and providing information on intellectual property in our internal newsletters. We also organize intellectual property workshops dedicated to AI and IoT to facilitate the use of ICT.
- To encourage the inventive activities of employees and reward them for the value of their inventions, we have established awards for the application/registration of patents and their practical applications, which are selected in accordance with our patent regulations and the judging criteria for practical applications. Recipients of practical application awards are evaluated and rewarded fairly.

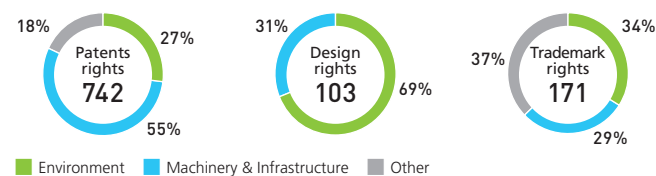
Record of patent applications, acquisitions, and possession (Hitachi Zosen non-consolidated)

		FY2016	FY2017	FY2018	FY2019	FY2020
No. of patent applications	Japan	125	116	112	138	51
	Overseas	62	117	118	112	67
No. of patent acquisitions	Japan	115	85	71	82	84
	Overseas	116	52	76	113	118
No. of patents held	Japan	878	856	803	756	742
	Overseas	305	325	386	480	551

Number of design rights and trademark rights held in FY2020 (Hitachi Zosen non-consolidated)

		FY2020
No. of design rights	Japan	103
	Overseas	45
No. of trademark rights	Japan	171
	Overseas	50

Breakdown by domestic business segment of patent rights, design rights, and trademark rights as of the end of FY2020 (Hitachi Zosen non-consolidated)



Compliance

Raising the compliance awareness and strict adherence to corporate ethics of all employees

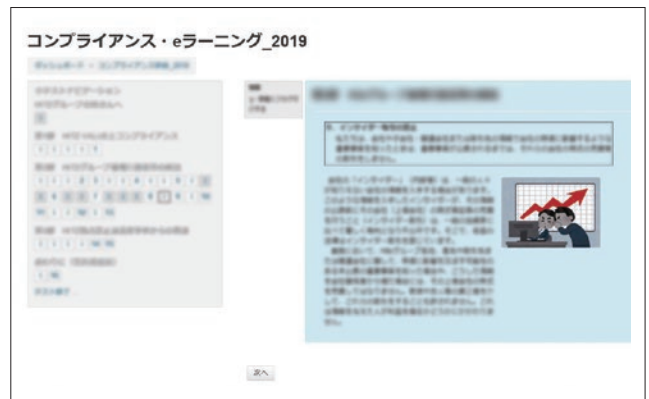
Compliance system

Under the direction of the Compliance Committee chaired by the President, we carry out regular surveys and verification of overall corporate activities from the perspectives of the law and corporate ethics. We also have established the Hitz Group Charter of Ethical Behavior to serve as guidelines for ethical behavior. A wallet-sized reminder card is issued annually to all officers and employees, including those overseas, and e-learning and other means also provide further understanding of these issues.

Furthermore, since April 2019 the Company has issued the Hitz Compliance Guidebook, which uses a Q&A format to explain common compliance issues in business execution. The guidebook has been distributed to all officers and employees in order to raise compliance awareness and encourage strict adherence to corporate ethics. Our whistle-blowing system enables employees to consult with or report to contacts both inside and outside the Company in order to provide quick and effective responses to violation of the law through prevention and early detection.

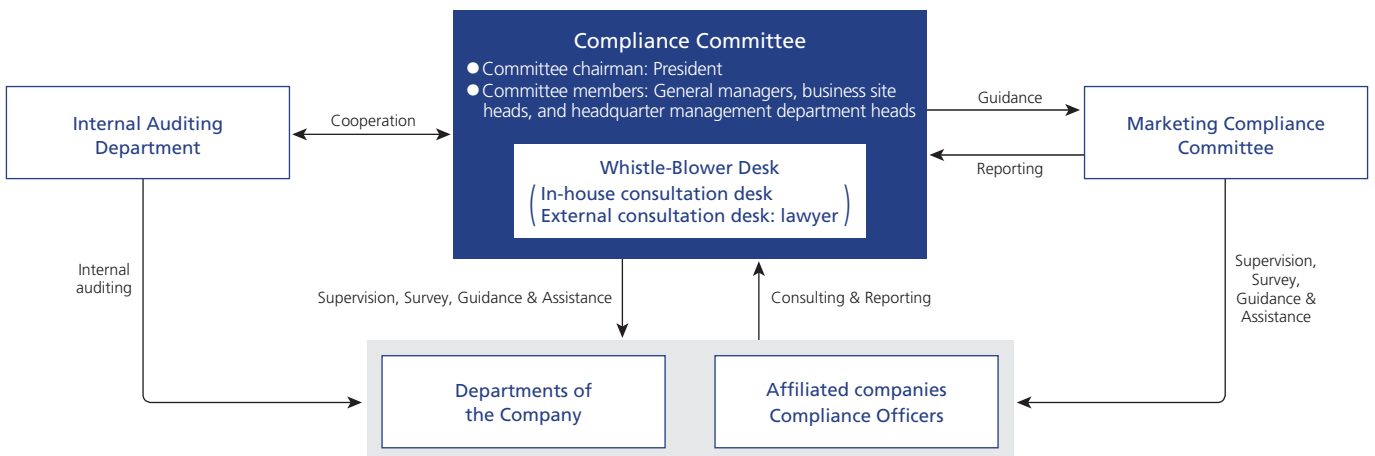


Hitz Compliance Guidebook



Compliance e-learning

Compliance organization



Risk management

Establish a management system in preparation of risks

In the Hitachi Zosen Group, risks related to compliance, the environment, safety, disasters, and information security, as well as other potential operational risks, are continually assessed and monitored by Company divisions responsible for each type of risk. These divisions also carry out related training and guidance

programs. Risks with the potential to materially affect the financial standing of the Company or any member company of the Hitachi Zosen Group are reported to the Company's Board of Directors.

To enable a quick and appropriate response when a major risk materializes, the Company has set up systems in advance, including rules related to methods of communication and response, as well as management systems. The Company's internal audit division audits the effectiveness and adequacy of risk management at group companies, and regularly reports its findings to the Company's Board of Directors.

Major operational risks recognized and managed by the Company

Type of risk	Potential impact	Our response
Risks potentially arising during normal business activities		
Violations of law	Risks occur from ignorance of laws, regulations, and socially-accepted norms as well as from a lack of willingness to comply them. Since public works account for a certain percentage of sales volume of the Group, members of the Group could be penalized by fines, damages, suspension of nominations, or loss of social credibility in the unlikely event of bid rigging or any other violation of the Antimonopoly Act, which could lead to losses that would materially affect their financial and operating results.	The Hitachi Zosen Group upholds compliance as its basic business policy, and considers strict compliance to be one of its critical management tasks. Accordingly, the Group continually carries out a wide range of measures relating to the promotion of compliance management. For the prevention of Antimonopoly Act violations, we revised our "Antimonopoly Act Compliance Guidebook (for officers and employees)" in the current fiscal year while continuously implementing internal education programs to ensure legal compliance. More P.46 "Compliance"
Environmental pollution	The natural and human environments of the communities in which our business operations are located may be severely affected by the release of pollutants or noise.	Since the 1970s, the Hitachi Zosen Group has been making efforts to protect the environment in and around its business sites as well as the local communities in which they operate. Since 1992, the Environmental Protection Promotion Committee has developed basic policies and priority action items for environmental protection at global and regional levels, and has carried out the necessary measures. Each of our plants and Group companies promotes measures to protect the local environment, based on the aforesaid basic policies. For climate change risks and opportunities, we are in the process of constructing a system to enhance systematic evaluation and management to greater levels. Under the new system, we are enhancing our governance with the President as Chairperson and reporting to the board of directors. More P. 53 "Environmental Initiatives"
Accidents and disasters	As engineering and manufacturing are the business activities of the Hitachi Zosen Group, we face the risks of causing personal injuries to a third party as well as industrial accidents involving workers, directly or indirectly, due to a lack of safety measures, unsafe practices, incorrect operations, or equipment failures.	Under the basic policy of "Safety first and a compassionate, pleasant workplace for everyone," we continuously monitor the conditions of our workplaces in order to implement appropriate measures to ensure that safety comes first in our business operations. Furthermore, we promote various events and measures to protect the mental health of our employees in order to maintain their health and prevent the occurrence of diseases. More P.51 "Promotion of Healthcare Management" and P.52 "Preventing Occupational Accidents"
Information security incidents	Risks relating to information security include tampering with corporate websites, destroying or altering data, information leaks, denial-of-service attacks (DoS attacks) due to virus infections, unauthorized access, or account hijacking.	We have ensured that our information assets are secure through the establishment of the Hitz Information Security Policy. We carry out regular training of officers and employees in order to prevent leakage of information from within. For attacks from outside our organizations, we are implementing various preventive measures for each of our network, servers, and clients and conducting multi-layered defense. We implemented an assessment of threats from outside the organization and are furthering an understanding of cybersecurity risks and measures to deal with outcomes. We are also consolidating our Computer Security Incident Response Team (CSIRT) infrastructure and tackling appropriate post-incident responses.
Risks that cannot be managed by conventional systems		
Natural disasters and terrorism	Human casualties and property damage due to earthquakes, typhoons, or pandemics may adversely affect the business performance and financial conditions of the Hitachi Zosen Group.	In order to minimize human casualties and property damage during a disaster, we have a business continuity plan (BCP) in place, and carry out inspections and training to respond to such a disaster. We also maintain emergency communication systems.

Risk management of individual projects

Decision-making and risk management process when accepting an order

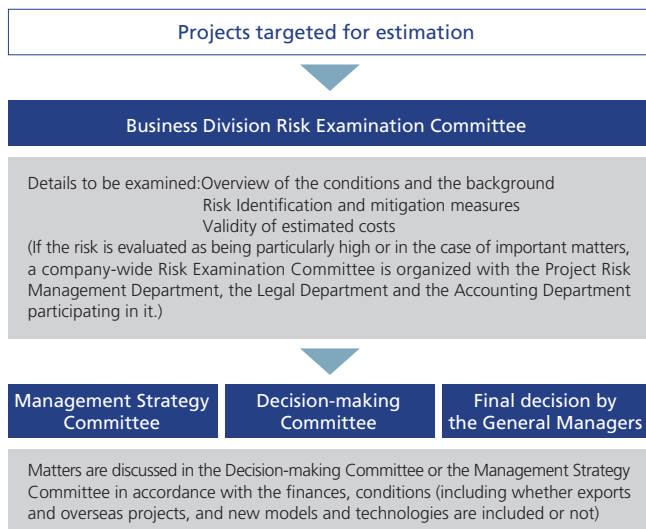
All relevant departments in charge of estimation and proposals identify and evaluate the risks associated with technologies, estimation, delivery dates, and contracts, and incorporate suitable measures when accepting orders for individual projects. By doing so, thorough and stable risk management through the Risk Examination Committee is ensured at the time of accepting an order. The aim is to achieve results that exceed the returns expected at the time of accepting an order by successfully completing the project as planned after the order has been accepted. Special departments for risk management of projects established by the Corporate Planning Headquarters participate in the Risk Examination Committee, and discussions are held about the following points together with each business division. In accordance with the company’s sales regulations, consultations about decision-making on accepting orders are held with the general managers of each business division, the Decision-making Committee, or the Management Strategy Committee.

- 1) Identify and evaluate all technical, commercial, and country risks
- 2) Propose and consider measures for avoiding risks
- 3) Quantify any residual risks and incorporate contingencies into budgets

In this way, we strive to ensure risk aversion through advance identification of any challenges in project implementation after an order has been accepted.

In addition, we are continuously revising the risk categories for consideration. For example, we added potential pre-order risks for new products and new technologies as well as products without long-term track records as targets for consideration, applying lessons learned through difficulties in fiscal 2020.

Risk management process until the acceptance of an order



Risk management of individual projects after accepting an order

As part of the risk management of individual projects after accepting an order, we implement the following initiatives related to profitability management of major large-scale projects of all group companies and affiliated companies.

- 1) Each business division holds monthly follow-up meetings and conducts continuous monitoring of the progress status and profitability forecasts of important projects. Proposals for improvement, advice, and support are made by the participants, who include General Managers, Senior Executive Managers, Project Department Head, Design Department Head, and representatives from the Procurement Division, Quality Assurance Division, and Risk Management Division.
- 2) Follow-up and reports on improvements in implementation conditions and profitability status, expansion to other models
- 3) Reports on 3-5 important matters every month to the Top Management Review Committee chaired by the President
- 4) Regarding completed projects, meetings are held to report project results and share useful information across divisions about the project’s good points, matters to reflect on, issues, lessons learned, and so on, including the situation prior to accepting the order, so as to help strengthen profitability and prevent problems in ongoing and future projects.

Risk management of individual projects of overseas group companies

For decision-making regarding orders by major overseas group companies such as Hitachi Zosen Inova, NAC International, and Osmoflo, transfer of authority is conducted based on a fixed amount of money and specific conditions, but for large-scale projects and those that require attention to risks, the approval of the Hitachi Zosen Group is mandatory. In particular for projects with high risks, the final decision is made after they are reported to the Management Strategy Committee.

In addition, in order to gain an understanding of the progress status, profitability status, risks, and opportunities for projects in a timely manner, and to take appropriate measures, Inova established an exclusive department in 2018, with a more transparent in-house reporting style and a complete revision to an analysis-centered structure based on objective numerical data, thereby strengthening risk management of individual projects.

As a result, we have eliminated declining profits in large-scale projects and improved our profitability, with increased trust in the market facilitating a further expansion of orders.



Human Resource Strategy

Toshifumi Makihata
Executive Officer
General Manager of the General Administration Headquarters

The development and growth of human resources, our greatest management resource, are essential for the company to achieve sustained growth. Therefore, the Hitachi Zosen Group positions human resource strategy as one of the most important management strategies.

Societal changes, such as 100-year life and the diversification of individual values, lifestyles, and career images, are taking place at a much faster speed than before. In addition, the COVID-19 pandemic, which has been raging since last year and still shows no sign of abating, has led to sharp changes in people’s workstyles, including the diversification of workplaces and times due to such trends as the increase of telecommuting from home and accelerated use of information and communication technology. To respond to these changes, it is necessary for us to carry out reforms with a sense of speed.

When compiling our long-term vision, the Hitz 2030 Vision, we defined the goals of the human resources and general affairs departments as “Playing a driving role for the company’s growth by fully displaying the abilities of officers and employees

Fostering of management human resources

For the planned fostering and securing of next-generation management human resources, we will promote a succession plan including management human resources training program, selective personnel administration for the candidate group for management human resources, and objective assessment by an external party.

Strengthening of management skills and fostering of midlevel managers

We will promote labor management training and endeavor to reduce the burden of labor management on midlevel managers in terms of the management of working hours and risks relating to all forms of harassment and so on so that they can concentrate on the career formation of their subordinates and other matters.

Career support, skill development, and self-education assistance to promote the growth of employees

To support individual career formation, we will introduce such schemes as in-house side jobs and an in-house “free agent” program and promote the in-house infrastructure necessary to respond to various forms of assistance for employees.

Skill and technology transfer

To pass on skills and technologies from veteran engineers to young and middle-aged employees, we will advance skill transfer by promoting engineer training programs utilizing the Hitz Training Center, including group training for young engineers and safety education using virtual reality.

in the Hitachi Zosen Group and fulfilling the function of linking the company and people, and people and people, to achieve the growth of both the company and individual employees.”

The keys to realizing these goals are raising individual motivation and enhancing engagement with the company. Therefore, I believe that it is vital to build wholesome relationships between the company and employees.

Our company has celebrated the 140th anniversary of its founding. Our founder, Edward Hazlett Hunter, was a foreigner himself, and we have continued right up to the present to make challenges with respect for other cultures and diversity. We will firmly carry on Hunter’s spirit, continue our efforts to implant it in future generations, strive to promote measures relating to human resources, our most important management resource, and realize a sustainable, safe, and secure society.

Virtuous cycle based on “company” and “individuals” leads to mutual growth



Promotion of strategic human resource assignment

By building a talent management system, we will promote a mechanism for effectively operating the succession plan and so on and the recruitment of outside human resources toward the securing of the diverse human resources necessary for reform and business expansion.

Promotion of healthcare management

In 2020 we formulated and announced the Hitz Hitachi Zosen Group Declaration on Health Management. We are promoting healthcare management so that employees are both physically and mentally healthy and everyone can fully display their abilities.

Continued promotion and upgrading of diversity management

In addition to measures to bring down attribute barriers, we are promoting initiatives toward inclusion, by which officers and employees accept diversity and which will lead to organizational vitalization and value creation.

Promotion of DX human resource training

We are making efforts, centered on in-house training, to secure the human resources essential for the promotion of our digital transformation (DX) strategies. In fiscal 2021 business divisions are training independent-minded DX business leaders to promote their DX strategies.

Human resource development

Fully displaying the abilities of officers and employees in our Group

Human resource development is recognized as a key issue in the continuing development and growth of the Hitachi Zosen Group. Our Group defines the ideal employee to be a person who understands the Hitz Value, which comprises our corporate philosophy, our management stance, and our standards of business behavior, as well as its relevance to their work, and is able to reflect it in results. We have implemented the Career Planning Program, and individual departments specifically define their ideal front-line employee.

Educational measures

Our Group has established various training schemes so as to expand opportunities for human resource development. Furthermore, to create a workplace environment in which everyone is equal and respects one another, we provide company-wide human rights education on a regular basis.

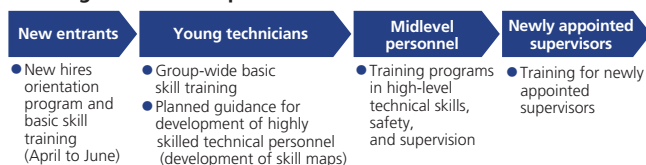
Development of global human resources

For the development of global business, we began an overseas training assignment program in fiscal 2011 and are starting a scheme under which about 30 young employees will be dispatched for three months every year to overseas affiliates and offices to experience practical onsite training, improve their language skills, and expand their international horizons through cross-cultural experience. In addition, to develop global personnel who will work in the areas of business expansion and new market development overseas, we actively assign young employees to positions in charge of work at overseas sites to give them the opportunity to experience a wide scope of duties.

Promotion of training for technical personnel

At our company, we aim for the early development and improvement of technical skills of human resources who possess specialized skills and work mainly in manufacturing functions. We strive to facilitate skill transfers and increase worksite competencies by implementing various rank-specific training. Furthermore, from March 2011, we opened the Hitz Training Center at the Ariake Works in Japan. The Center functions as an educational hub for technical personnel of the Hitachi Zosen Group.

Training for technical personnel



Utilizing diverse human resources

Promoting diversity, strengthening the Group’s overall capabilities, and creating new corporate value

In order to strengthen the Group’s overall capabilities and create new corporate value, we are committed to promoting the development of an environment where people working in our Group can play an active role independently while respecting diverse values.

We established a group to empower women in 2008, the Diversity Promotion Office in 2015, and formulated a policy with the eight categories of organization and culture, workstyle, gender, nationality, age, disability, childcare, and nursing care as its pillars, and are working on promoting relevant initiatives. These activities have been recognized, and Hitachi Zosen was also selected by the Ministry of Economy, Trade, and Industry as one of the 100 companies included in its “FY 2018 New Diversity Management Selection.”

Securing diverse human resources

In April 2021, we hired 133 new graduates, and are working on securing diverse human resources by hiring non-Japanese, recruiting from a wide range of disciplines, as well as by setting target values of 50% for women in administrative jobs and 10% in technology, among other things. We also recruit midcareer people and yet-to-be-employed recent graduates (77 midcareer persons hired in fiscal 2020) for various types of work who, as a work-ready force, contribute their rich expertise and experience. Furthermore, from the perspective of building workplace environments in which everyone can work comfortably, the employment of people with disabilities is an important issue, and at our Group we strive to maintain a hiring rate for people with disabilities in excess of the legally mandated level (2.3 %). (Figures are for Hitachi Zosen non-consolidated).

Ratio of female and non-Japanese hires to total new hires (college graduates)

		Joined April, 2019	Joined April, 2020	Joined April, 2021
New non-Japanese hires		7%	5%	5%
New female hires	Administrative	39%	48%	61%
	Technical	8%	10%	11%

Note: Hitachi Zosen non-consolidated

Utilization of human resources and promoting active participation of women

We comprehensively evaluate the aspirations and aptitudes of individuals through interviews about career plans, rotation to other sections, in-house recruitment of human resources, and

Social

so on, and strive towards appropriate placement of personnel after they join the company.

Moreover, we promote the active participation of women as an important measure to further diversity in the organization. In particular, with respect to the number of female managers, we achieved the target of more than double the number of female managers by fiscal 2020 compared to fiscal 2014. In addition, going forward, with the aim of increasing the ratio of women in managerial positions to 4% or more by 2025, we are committed to continued efforts to create an environment where women can work comfortably.

Our Group strives to create a system and foster a corporate culture that encourages employees to continue to realize their full potential.



Kurumin



Eruboshi

Workstyle reform and work-life balance

Creating a workplace where the company and its employees can grow together

The Hitachi Zosen Group envisions increased productivity and better work-life balance. To this end, we are implementing a number of workstyle reform aimed at creating a workplace where all officers and employees can perform at their best and the Group and its employees can grow together.

We have introduced various systems such as the work-from-home system and the per-hour annual paid leave system to realize flexible ways of working.

As a measure to reduce total working hours, we have established our key performance indicators (KPIs) such as ensuring that no employee dose 60 hours or more of average overtime

Initiatives for workstyle reform

	Content of initiatives
Flexible ways of working	<ul style="list-style-type: none"> Expanding the work-from-home system The super-flexitime system The per-hour annual paid leave system
Reducing total working hours	<ul style="list-style-type: none"> Formulating workstyle action plans for each department Setting KPIs for working hours Days of leaving at regular hours All lights-out
Support for balancing work and family	<ul style="list-style-type: none"> Childcare leave system for up to three years Nursing care leave system for up to five years Shorter working-hour program for childcare and nursing care Shorter working-day program for nursing care Establishment of a childcare and nursing care web portal
Other	<ul style="list-style-type: none"> Relaxed dress code

or working hours on days off. We have formulated action plans for workstyle reform for each department and are working to enhance effectiveness by implementing the PDCA cycle. Under the leadership of the department head, we are actively promoting the creation of workplaces that balance ease of working and job satisfaction of employees.

We also organize workstyle reform promotion workshops for managerial personnel to increase their awareness of the need for efficient work habits and work-life balance, and to raise awareness of workstyle reform such as promoting understanding of men taking childcare leave. In addition, we provide support for female and non-Japanese staff in pursuing their career formation, including the resumption of work after childcare leave.

Promotion of healthcare management

Realizing a lively work life in which employees enjoy good physical and mental health

The Hitachi Zosen Group promotes health management so that employees can maintain an excellent level of physical and mental health and display their abilities to the full.

In 2020, we introduced PepUp, a health web service, to ensure that employees take keen interest in their well-being and cultivate a healthy life-cycle. As part of the PepUp service employees can view their health status such as results of medical examinations and health age, and events are hosted in which one can participate while having fun. PepUp aims to continuously strive to raise awareness so that employees can actively maintain and improve their health.

In 2021, we received the Health and Productivity Management Outstanding Organizations accreditation, and we aim to further strengthen our efforts to acquire the White 500 accreditation in the future.

Initiatives for healthcare management

	Content of initiatives
Prevention of lifestyle-related diseases	<ul style="list-style-type: none"> Training on reviewing dietary habits Health promotion campaign
Measures for mental health	<ul style="list-style-type: none"> Formulating a mental health promotion plan Training of self-care and care by managers Workplace improvement activities using stress checks Conducting fatigue tests Providing 24-hour consultation service
Measures against smoking	<ul style="list-style-type: none"> Separation of smoking and non-smoking zones throughout business sites Establishing no-smoking time and no-smoking days Support from industrial physicians to quit smoking

Preventing occupational accidents

Building compassionate workplaces so that everyone can work safely and comfortably

We are developing safety management activities based on our basic safety management policy of, "Building compassionate workplaces so that everyone can work safely and comfortably." We are committed to continued efforts to prevent occupational accidents based on accurate understanding of "actual site, actual goods, and actual situation" by our managers and supervisors and subsequent appropriate measures. Further, we promote safety education through the utilization of hazard experience facilities and virtual reality education systems in order to enhance every individual's knowledge and ability to act safely. We aim to achieve a risk-free workplace through these safety management activities.

Quality management

Improving customer satisfaction and enhancing technological and quality capabilities through our management stance and ISO 9001

Our Group advocates "Always pursuing quality" as one of our management stances. As a company built on a foundation of advanced technology, all our employees are constantly aware of quality and pursue a level of quality that satisfies customers. When trouble does occur, we act swiftly to find a solution, investigate the reasons, and take steps to prevent recurrence without being hampered by thoughts of immediate gain. Specifically, we promote raising the awareness of all employees and encourage company-wide activities through the following initiatives:

- (1) **Building and effective operation of quality management systems**
 - All business headquarters and principal affiliated subsidiaries have acquired and maintained the ISO 9001 quality management system certification. Reviews and improvements are made regularly to ensure the effectiveness and appropriateness of operation.
 - ISO 9001 internal auditor workshops are held with instructors from external certification organizations. About 100 employees complete this training every year.
- (2) **Thorough sharing of trouble case examples and measures to prevent recurrence**
 - Reasons for troubles and countermeasures are shared across the Group through reports on serious technological problems, meetings to report cases of technological problems and measures to prevent recurrence, and other measures.
 - To learn lessons from problems that have occurred for the future, we promote the improvement of the trouble management system (trouble information database) and quality improvement design review tools.

(3) Strengthening of our technological foundations and transfer of skills from veterans to young employees

- We conduct the Project to Strengthen Our Technological Foundations and Eradicate Troubles with the aim of improving quality through collaboration between R&D divisions and business divisions.
- We have established the Technology Transfer committee (design, onsite engineering work, etc.) to promote the passing on of the know-how possessed by veteran employees to the next generation, as well as the standardization of work processes.

Promotion of CSR procurement

Promoting CSR procurement through the supply chain and reducing social and environmental risks

As a solution partner for a sustainable, safe, and secure society, the Hitachi Zosen Group has stipulated the Hitz Value, Hitz SDGs Promotion Policy, and Environmental Basic Policy, and develops business to supply products and services that are considerate of the global and local environment. We also conduct CSR-considerate activities constantly at the design, construction, and procurement stages.

At the product design stage, we reduce the amount of materials used and employ highly efficient, energy-saving equipment. At the construction stage, we make efforts to efficiently utilize construction materials and reduce waste. Furthermore, at the procurement stage, besides technical aspects, we have stipulated a purchasing policy to promote reasonable and fair transactions, compliance with laws, and environmental protection. By cooperating broadly with suppliers, we aim to enhance CSR throughout the entire supply chain.

As part of these initiatives, since fiscal 2018 we have been implementing a fact-finding survey to gauge the state of efforts and awareness at each supplier, initially focusing on the theme of environmental protection. From fiscal 2019 apart from environmental protection, we added such themes as human rights and ethics and used questions compiled by the United Nations Global Compact, an international organization promoting the SDGs. In addition, we provide feedback to suppliers so that they can utilize the survey results in their subsequent CSR improvement activities.

In March 2021, our company announced its support for the recommendations by the TCFD (Task Force on Climate-related Financial Disclosures) and is promoting countermeasures to climate change. Going forward, we aim to further improve CSR by reducing social and environmental risks by working on these initiatives throughout the supply chain.

More P.59 "Disclosures Pursuant to the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)"

Environment

Policies for environmental activities

Establish policies for environmental activities and promote global environmental protection activities

The Hitachi Zosen Group expressly indicates that we will work to protect the environment in the Hitz Group Charter of Ethical Behavior, which organizes the corporate ethics that all employees must comply with. This is applied in the Basic Environmental Protection Policies and specific Behavior Guidelines and is put into practice.

Basic Policy on the Environment

In order to promote activities to protect not only the regional environment, but also the global environment, in January 1992, Hitachi Zosen formulated a set of Environmental Protection Promotion Regulations comprising Basic Environmental Protection Policies and Behavior Guidelines, and since then has continuously taken action.

Basic Environmental Protection Policies

At Hitachi Zosen, we are conscious of our responsibilities as a good corporate citizen. We know that a global approach to tackling environmental issues is an essential condition for building relationships of trust and coexistence with society. We will work to promote environmental protection, recognizing that protection of the natural and living environments in local communities is our social responsibility as a company.

Behavior Guidelines

- 1 Continuously improve the environmental management system and respond accurately to environmental risks.
- 2 Actively address environmental issues at the global level as a member of global society and strive to protect the global environment.
- 3 Observe laws, regulations, and ordinances related to environmental protection.
- 4 Actively promote conservation of energy and resources, as well as recycling, and respond to the needs of a recycling-oriented society.
- 5 Strive to protect the natural and living environments around the Company's business sites.
- 6 Actively cooperate with and participate in environmental protection activities conducted by global society and local communities.

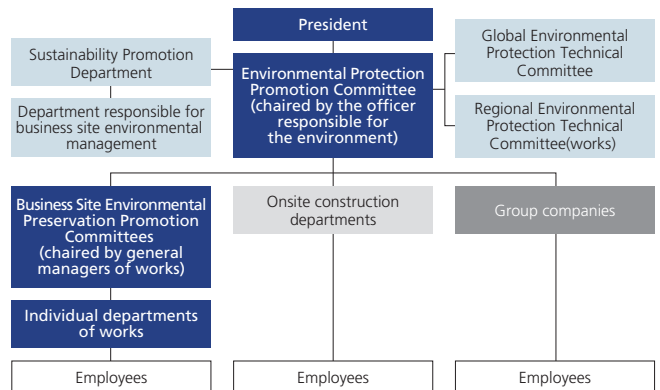
Environmental management system

Reinforce management structures by establishing new organizations

Environmental management structures

The Environmental Protection Promotion Committee, established in 1992, has developed basic policies and priority action items for environmental protection at global and regional levels, and has carried out the necessary measures. Each of our works and group companies promotes measures to protect the local environment through its Business Site Environmental Preservation Committee, following the aforesaid basic policies.

Environmental management structures



Maintenance of ISO 14001 Certification

Since first obtaining ISO 14001 certification in March 1998, all works and major business divisions in Japan have acquired certification. The Quality Assurance Division plays a central and ongoing role in making improvements and responding to environmental risks.

Sustainability Promotion Structures

Hitachi Zosen established the SDG's Promotion Policy in November 2018 and has sought to solve sustainability issues in accordance with Hitz Value, our corporate philosophy. The Sustainability Promotion Department was established in October 2021 under the direct authority of the president to plan and propose companywide sustainability and CSR policies, promote individual measures relating to climate change, and coordinate within the company. Going forward, we will define the roles of each organization for sustainability management centered on the Sustainability Promotion Department, build risk management structures, and enhance governance and business management structures.

Environmental protection measures

Support for the TCFD recommendations, building systems for decarbonization

Medium- to long-term target and status of measures

In 1993, the Environmental Protection Promotion Committee formulated the Hitachi Zosen Environmental Protection Promotion Plan based on the Basic Environmental Protection Policy and Behavior Guidelines, which were established in 1992.

We subsequently expanded our existing measures to protect regional environments to measures for protecting the global environment including ozone layer protection, global warming prevention, and recycling and reduction of waste in accordance with our environmental policies.

In March 2021, we expressed our support for the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), and we have investigated the impacts on our business from the risks and opportunities resulting from climate change. Going forward, we will establish mechanisms for undertaking decarbonization throughout all of our businesses.

Environmental risk management

Establish voluntary standards and targets and ensure thorough management of waste

To reduce the environmental risks of our business activities with respect to the emission of pollutants into the environment, individual offices and works of the Hitachi Zosen Group exercise strict waste management according to our voluntary standards and targets, which are stricter than the legally required levels. With the aim of minimizing environmental risk and preventing environmental problems from arising in our business activities we periodically inspect and maintain our equipment, and ensure that work is performed according to work process standards. We have manuals for responding in the event of environmental accidents so as to minimize pollution, and periodically conduct emergency drills and training. Environmental risks that have the severest impact on the Group are accidental oil spills, coating operations, and noise issues. To prevent these risks from materializing, we are constantly working on improvements based on the PDCA cycle and ISO 14001.

Achievements under the Hitachi Zosen Environmental Protection Promotion Plan

◎: Fully on target ○: Largely on target △: Short of target

Measures	Results of activities through fiscal 2020	Assessment	Medium- to long-term targets	
Environmental management	Build an environmental management system	<ul style="list-style-type: none"> Environmental audits conducted at each of works by the headquarter management department Audits conducted by internal auditors at business sites Audits conducted by a third party 	◎	<ul style="list-style-type: none"> Maintain and improve ISO 14001 management systems Build management structures including onsite engineering work departments and group companies (1) Expand and improve environmental audits (2) Build management systems compliant with ISO 26000
	Promote CSR procurement	<ul style="list-style-type: none"> Ascertained the status of CSR procurement in supply chains and took measures to improve CSR 	◎	<ul style="list-style-type: none"> Ascertain, assess, and reduce supply chain CO₂ emissions
Reduce environmental burden of business activities	Reduce use of ozone-depleting substances	<ul style="list-style-type: none"> Establish a management system for equipment that uses fluorocarbons Ascertained the status of use of equipment that uses fluorocarbons Systematically updated equipment to use green refrigerants 	◎	<ul style="list-style-type: none"> Update all equipment to use green refrigerants
	Reduce CO ₂ emissions	33% reduction compared to FY2005 (26% reduction compared to FY2013)	◎	Head offices, branch offices, works: Reduce by 50% compared to FY2013 by FY2030 Onsite engineering work: Work to set medium- to long-term targets is underway All company business sites: Effectively zero by FY2050
	Reduce industrial and municipal waste	14% reduction compared to FY2000	◎	Reduce by 15% compared to FY2000 by FY2025
	Curb landfill waste (promote the 3Rs)	60% reduction compared to FY2000	△	Zero emissions*
Contribute to protection of the regional environment	Take action to protect the regional environment	<ul style="list-style-type: none"> Conducted regular cleanup activities in areas around business sites Managed noise and vibration in areas around business sites Established systems to prevent leaks of hazardous substances Maintained and managed facilities and conducted training on the prevention of leaks 	◎	<ul style="list-style-type: none"> Establish communities with local society and work with governments and citizens to undertake environmental preservation activities

* Definition of zero emissions: When the ratio of landfilled waste is 3% or less of emitted waste including valuable waste.

Environment

Material balance of business activities

Strive to curb resource usage with quantitative assessments of our burden on the environment.

At Hitachi Zosen Group, we are committed to reducing our use of raw materials, energy, water resources, and more by quantitatively assessing our burden on the environment incurred through all business activities.

Material balance of business activities

INPUT

Energy

• A heavy oil	2,399 KL
• Gasoline	84.5 KL
• Light oil	188 KL
• Kerosine	79 KL
• Town gas	445,000 m ³
• Liquefied natural gas	80,390 t
• Purchased electric power	48,546,000 kWh
• Solar power generation	2,341,000 kWh

Service water

• Industrial water	920,000 t
• Clean water	130,000 t

Materials

• Steel materials	24,362 t
• Paint usage	336 t
• Solvent usage	790 t

OUTPUT

Greenhouse gases, etc.

• CO ₂	31,200 t-CO ₂
• NO _x	28.3 t
• SO _x	2.6 t
• PRTR substances	63 t
• Wastewater	571,000 t-CO ₂
• Transport CO ₂	3,100 t-CO ₂

Electric power selling

• Net system energy demand	547,069,000 kWh
• CO ₂	219,500 t-CO ₂

Industrial waste

• Valuables	5,094 t
• Waste	4,060 t
Recycled	3,660 t
Landfilled	400 t

Note: The above is the data from the head offices, branch offices, works, and the Group companies that engage in on-site business activities. We strive for data disclosure by expanding the scope of our management to include construction work and operation and maintenance services from fiscal 2021.

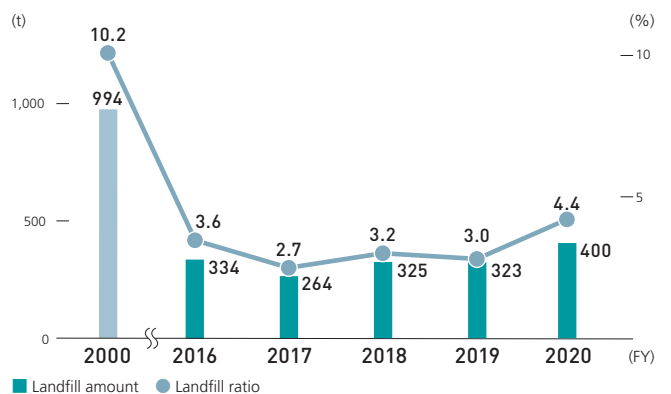
Resource cycle

Promote the reduction of our burden on the environment by achieving zero emissions and curbing water usage

Landfilling of waste

With the landfill amount at 400 tons and the landfill ratio at 4.4%, zero emissions were not reached in fiscal 2020. This was due to a decline in the recycling rate of a specific waste material. We are engaged in maintaining zero emissions by further promoting the 3Rs within and beyond our business sites.

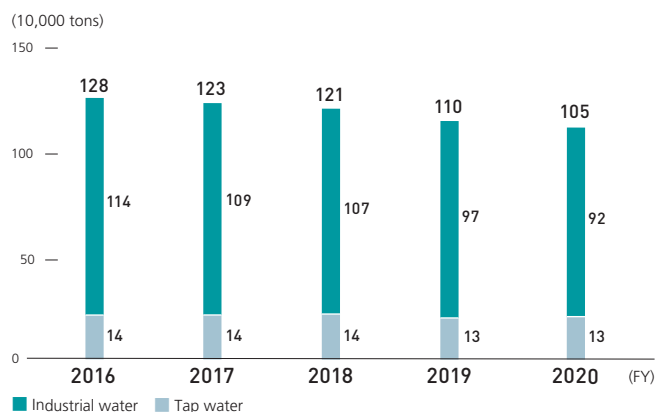
Trends in landfill amount (tons) and landfill ratio (%)



Water usage

In fiscal 2020, the amount of water used was 1.05 million tons, which was down 50 thousand tons from the previous fiscal year. The downward trend in water usage has been maintained since fiscal 2016.

Trends in water usage (10,000 tons)



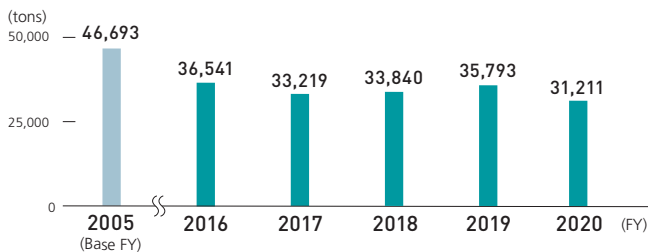
Prevention of global warming

Contribute to the reduction of CO₂ emissions through production activities and products

Carbon dioxide (CO₂) emissions

While there was a temporary upward trend due to fluctuations in production, we were able to improve both the total amount and the intensity of emissions by upgrading to high-efficiency equipment and conducting fuel conversion.

Trends in carbon dioxide emissions (Scope 1, Scope 2)



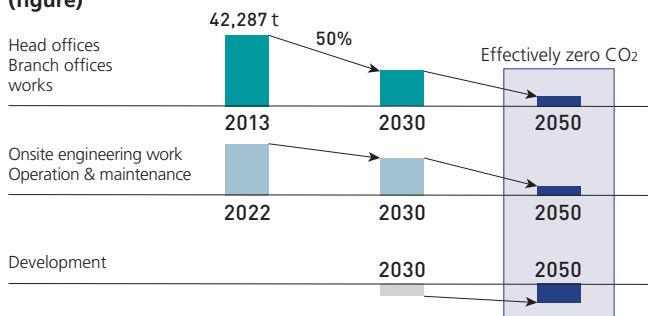
Notes: Electric power emission coefficient: The emission coefficient in fiscal 2019 after adjustment by electric power companies is employed.

Initiatives aimed at "carbon neutrality by 2050"

Hitachi Zosen Group strives to achieve "carbon neutrality by 2050" by improving production efficiency and promoting the conversion to renewable energy as well as by incorporating CO₂ controls and capture technology through technological development.

We aim for a 50% reduction in CO₂ emissions from our head offices, branch offices, and works by fiscal 2030 with fiscal 2013 as the year of reference. Proceeding with an assessment of actual CO₂ emissions from onsite engineering work and operation and maintenance services from this fiscal year, we are formulating our targets for fiscal 2030 with fiscal 2022 as the year of reference. We aim to be at effectively zero levels as of fiscal 2050 by utilizing our CO₂ controls and capture technology.

Future targets for the reduction of carbon dioxide emissions (figure)



Management of chemical substances

Strive for systematic reduction by formulating a plan to reduce hazardous chemical substances

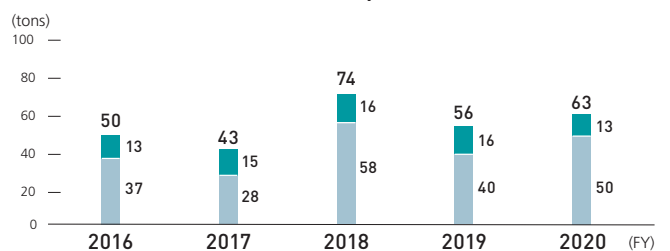
PRTR (Pollutant Release and Transfer Register) system

The amounts of chemical substances released and transferred were compiled in accordance with the PRTR Law, which took effect in April of 2001.

At Hitachi Zosen, the substances released and transferred in high amounts were the solvents xylene, ethylbenzene, and toluene contained in paint and the manganese contained in welding materials. We are committed to systematic reduction by creating a code of voluntary management standards to be set forth in the plan to reduce hazardous chemical substances, including the improvement of paint processing and the prevention of excessive weld leg length.

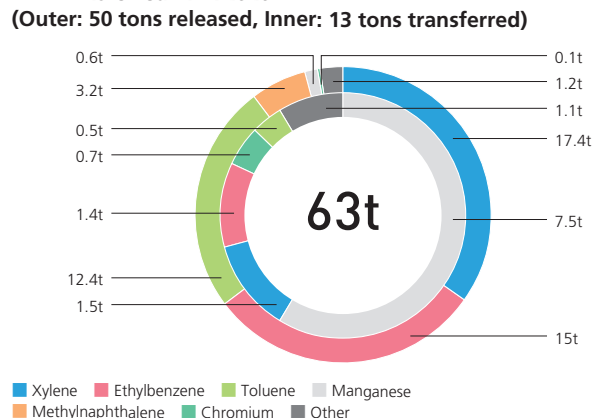
Note: PRTR system: an arrangement in which business operators ascertain and report the amounts of chemicals potentially hazardous to human health and ecosystems that are released into the environment (air, water, soil) as well as the amounts of those chemicals that are transferred offsite to government authorities whereby government authorities then compile and make public the emissions and transfer amounts based on the estimates used in the reports, statistical materials, and such from business operators.
PRTR (Pollutant Release and Transfer Register)

Amounts released and transferred (head offices, branch offices, works)



■ Amount transferred: the wastes, liquid wastes, and others transferred offsite
■ Amount released: the release, permeation, and so forth into the air, water, and soil

Breakdown of the amounts of chemical substances released and transferred in FY2020 (Outer: 50 tons released, Inner: 13 tons transferred)



Environment-oriented products

Strive to lessen resource usage through a quantitative grasp of environmental loads

Development of stoker-type sewage sludge treatment incinerators

Emissions reductions for greenhouse gases are also sought in sewage sludge incinerators. Among the challenges of conventional fluidized-bed furnaces are that they continuously use large amounts of auxiliary fuel and emit nitrous oxide (N₂O), which has a greenhouse effect around 300 times that of carbon dioxide (CO₂).

By introducing stoker-type incinerator technologies for waste incineration, fostered at waste treatment plants, to our sewage sludge incinerators, we have realized reductions in greenhouse gas emissions as well as energy conservation and creation models, and will newly enter the sewage sludge incineration business. Steam generated from a waste heat boiler of a stoker-type incinerator is used to dehydrate sludge, making it possible to incinerate sludge without the use of auxiliary fuel, and to further generate power using the excess steam. Using a stoker-type incinerator, it is also possible to greatly reduce N₂O emissions by combustion of sludge at temperatures of 900°C and above.

In 2019, we began the collaborative study with the Bureau of Sewerage of the Tokyo Metropolitan Government “Joint research for second-generation incinerator adaptation (adapted technologies of sewage sludge incineration of stoker-type incinerator)” and installed sludge drying facilities with a daily capacity of 10tons as well as stoker-type incinerators at the Sewerage Technical Research and Development Center in Sunamachi Water Reclamation Center (pictured).

We began demonstration tests from September 2020, the results of which confirmed reductions in N₂O of 50% or more, as well as CO₂ reductions of 20% or more, when compared with conventional incinerators. We also confirmed stable combustion operations without the use of auxiliary fuel.

From now, on the basis of the results of the demonstration tests, we will set our sights on obtaining approval for these technologies from Tokyo Metropolitan Government in fiscal 2021 and on our first unit order.



Demonstration test facilities

Development and sale of ACSTERIA, a space sterilizer using deep UV LEDs

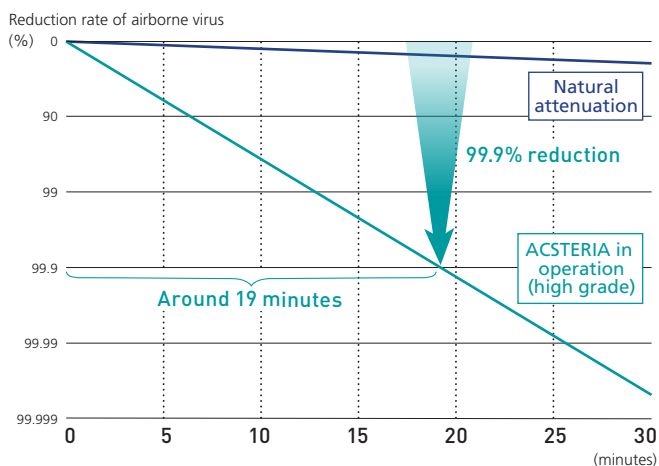
Hitachi Zosen has developed and made available equipment which sterilizes food and medicine container units for production lines, as well as sterilization equipment for the purpose of reducing viruses and bacteria adhering to surfaces, using deep ultraviolet LEDs capable of reducing microorganisms and viruses. The particular strengths of our deep ultraviolet LED sterilization equipment are the application of various technologies, including optical analysis, numerical fluid dynamics, design and manufacturing technologies, and technologies to verify sterilization using microorganisms, to design devices which realize effective sterilization functions.

Using the design technologies described above, we developed the space sterilizer ACSTERIA for the purpose of reducing viruses and bacteria suspended in spaces. ACSTERIA intakes air in indoor spaces similarly to an air purifier and then uses a deep ultraviolet LED to irradiate the air inside the device, thus reducing airborne viruses. This device allows increased reduction effects for viruses and bacteria in large spaces such as conference halls or assembly rooms by circulating the air in indoor spaces using its powerful suction force. The measurement results for the number of airborne viruses in a 25m³ experimental space are shown in the below graph, illustrating the high virus reduction effects of the device. Upon activation of airflow of around 6m³/minute, there was a 99.9% or above reduction in suspended viruses after approximately 19 minutes, confirming advanced indoor sterilization performance. From now, we hope to engage with various space sterilization solutions using the device, while making efforts to improve its functionality.



Space sterilizer ACSTERIA

Virus mitigation effects of ACSTERIA



(Experiment contracted to: Japan Food Research Laboratories)

Utilizing green finance

First Japanese manufacturer to issue green bonds

On September 21, 2018, Hitachi Zosen became the first Japanese manufacturer to issue green bonds. The proceeds from the Hitachi Zosen Green Bonds have been used to purchase materials for the construction and refurbishment of energy-from-waste (EfW) plants.

1 Overview of projects and status

1. Kyoto City Nambu Clean Center

Client	Kyoto City
Project	Rebuilding and construction of Kyoto City Nambu Clean Center No. 2 Plant (provisional name)
Contents	Design and construction of waste treatment facility, administration office, and environmental learning facility (including dismantling of existing facility and construction of exterior and other ancillary facilities)
Description	Treatment capacity 500 t/day (250 t/day x 2 stoker-type incinerators), power output 14,000 kW Sorting and resource reuse facility: 180 t/6 hrs Biogas generation facility: 60 t/day (30 t/day x 2 lines)
Completion	September 30, 2019
Current status	Completed at the end of September 2019, currently in operation.

2. EfW Plant for Kikuchi Environmental Preservation Association

Client	Kikuchi Environmental Preservation Association
Project	Construction and operation of new EfW plant
Contents	Design, construction, and operation for 20 years after completion of EfW plant
Description	Treatment capacity: 170 t/day (85 t/day x 2 lines) Power output: 2,800 kW
Completion	March 31, 2021
Current status	Completed at the end of March 2021, currently in operation.



Kyoto City Nambu Clean Center

2 Impact reporting

The report on the reconstruction work at the Kyoto City Nambu Clean Center No. 2 Plant (provisional name) can be found below.

	Power generation output performance (MWh/year) *1	Annual GHG emissions saved (CO ₂ reduction volume) (t-CO ₂ /year) *2
Incineration facilities	79,200	25,186
Biogas facilities	7,475	2,377
Total	86,675	27,563

*1 Generated power (MWh): Operational result from April 2020 (following start of power generation) through March 2021 (approx. 12-month period)

*2 CO₂ reduction (t-CO₂): Generated power (MWh) X CO₂ emission coefficient (t-CO₂/MWh)

We use the emission coefficient (0.318 t-CO₂/MWh, 2019) of Kansai Electric Power Company to calculate reduction effects for CO₂ emissions. This emission coefficient reflects the adjustment of environmental values, etc. in the CO₂ emission coefficients of the Ministry of the Environment. Adjustments are carried out to reflect the introduction of the feed-in tariff system for renewable energy based on the Law Concerning the Promotion of the Measures to Cope with Global Warming.

3 Forthcoming initiatives

In September 2021, we revised the Hitachi Zosen Green Bond Framework, adding, as part of this framework, methane fermentation systems, wind power generation business, land-based aquaculture, flap gates, and hydrogen generation systems to our eligible businesses in addition to our EfW facilities.

As is the case with existing green bonds, this framework incorporates an external review in the form of a second-party opinion by DNV GL Business Assurance Japan K.K.

We will continue to promote the active use of green finance including green bonds.



EfW Plant for Kikuchi Environmental Preservation Association

Disclosures Pursuant to the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

Hitachi Zosen's climate change initiatives

Climate change is an urgent social issue as well as an important risk and opportunity factor in the management of the Group, the business policies of which are the provision of clean energy and water and the creation of flourishing communities that are environmentally friendly and resilient to disasters. In order to achieve the sustainable society that the Group seeks, we are working to make contributions by providing products and services and by reducing the Group's own CO₂ emissions.

Expression of support for the TCFD and reinforcement of related governance systems

The Group expressed its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in March 2021 and also established an internal cross-departmental working group to analyze our current status, identify and assess climate-related risks and opportunities, and analyze scenarios to understand the medium- to long-term impact of climate related issues on our business.

In addition, functions relating to climate change responses and the promotion of sustainability were previously distributed to multiple departments, but in October 2021 we newly established the Sustainability Promotion Department as an organization under the direct control of the president. We are working to create systems for promoting the SDGs, ESG, carbon neutrality, and more throughout the entire group under the supervision of the Board of Directors.

Overview of scenario analysis

We adopted three different scenarios assuming that global average temperatures will rise by about 4°C, 2°C, and 1.5°C by 2100 compared to before the Industrial Revolution and analyzed the impact of climate change on our core energy-from-waste (EfW) and biogas businesses in 2050 as well as wind power business, which is expected to grow in

the future. The main details of the scenarios used are as follows.

- Main scenarios to analyze transition risks and opportunities: NZE by the IEA, SDS, and STEPS
- Main scenarios to analyze physical risks and opportunities: RCP 1.9, 2.6, and 8.5 by the IPCC

Notes) NZE: Net Zero Emissions by 2050 Scenario
 IEA: International Energy Agency
 SDS: Sustainable Development Scenario
 STEPS: Stated Policies Scenario
 RCP: Representative Concentration Pathways
 IPCC: Intergovernmental Panel on Climate Change

In the process of analysis, approximately 40 risks and opportunities relating to climate change were identified for each scenario and the degree of impact on business was quantitatively and qualitatively verified and evaluated in three stages: large, medium, and small. Among the identified risks, the introduction of a carbon tax, rising raw material prices, changes in policies, regulations and the energy mix, and intensification of natural disasters were identified as risks that will have a large impact on business.

Scenario analysis results (business resilience)

In all of the scenarios used for this analysis, it is possible to carry out resilient management in businesses that were the subject of analysis.

In the baseline 4°C scenario, a steady increase in demand for EfW plants can be expected, mainly in emerging countries, but it is assumed that there will be no major changes in policy and that the spread of renewable energy such as offshore wind power generation will be limited. On the other hand, it will be necessary to deal with physical risks such as process delays and plant shutdowns due to the intensification of abnormal weather. In the 2°C scenario, policies will be developed to promote renewable energy and curb greenhouse gas emissions, and there will be impacts from rising costs due to higher raw material prices and carbon taxes. At the same time, as a result of the increase in the ratio of renewable energy, it is expected that demand for EfW plants as well as biogas plants and offshore wind power

Status of action and future response policies by Hitachi Zosen

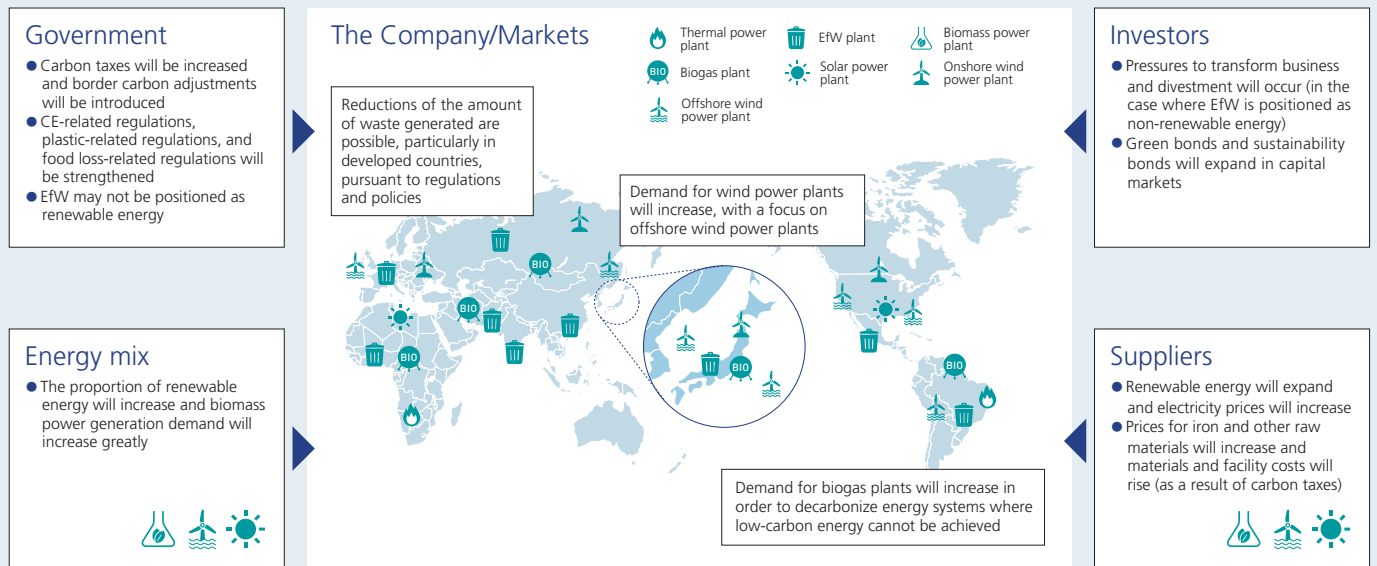
TCFD recommended disclosure items	Status of measures/response policies
Governance	We are developing the following systems to reinforce governance systems. <ul style="list-style-type: none"> ● We created a new special organization under the direct authority of the president to promote Group sustainability (October 2021). ● We will establish a committee under the supervision of the Board of Directors and the president as chair to systematically evaluate and manage overall sustainability including climate change risks and opportunities (currently underway).
Strategies	<ul style="list-style-type: none"> ● We will identify and evaluate short-term, medium-term, and long-term, climate change risks and opportunities from the present to 2050 and consider and reflect them in future business, strategic, and financial plans as appropriate. ● We used 4°C, 2°C, and 1.5°C scenarios to conduct scenario analysis regarding three businesses that are susceptible to impacts from climate change in 2050 (EfW business, biogas business, and wind power business).
Risk management	<ul style="list-style-type: none"> ● Risk management functions work together to identify, evaluate, and manage climate change risks and opportunities that will have major impacts on business. ● Going forward, we will create systems to monitor climate change risks and opportunities identified as a result of the scenario analysis including carbon taxes, regulatory trends, and the energy mix and implement specific responsive measures.
Indicators and targets	<ul style="list-style-type: none"> ● We have started setting CO₂ reduction targets including long-term targets for 2050. ● In addition, we partially disclose Scope 1 and 2CO₂ emissions information for Hitachi Zosen (non-consolidated). In the future, we will expand disclosures to include consolidated subsidiaries and Scope 3 and will disclose information on our website as appropriate. <p>More P.56 "Prevention of Global Warming"</p>

plants will increase. We anticipate that demand for waste treatment will increase particularly in emerging countries. On the other hand, R&D for technical innovation to achieve sustainable growth will continue while monitoring the regulations in each region as needed, keeping in mind the possibility that the amount of waste generated will be curtailed in developed countries and that the growth of waste treatment demand will decline. The 1.5°C scenario envisions a world in which more stringent regulations on greenhouse gas emissions are in effect and that

is more affected by carbon taxes and rising raw material prices compared to the 2°C scenario. It is expected that the demand for renewable energy will increase significantly as the energy mix changes and that biogas plants and offshore wind power plants will rapidly become widespread.

Going forward, we will develop concrete policies to respond to the risks and opportunities identified at this time, incorporate them into our medium- to long-term management strategies, and work to enhance the Group's business resiliency.

Image of society in the future assuming a rise of about 2°C



Summary of scenario analysis results

Item	Anticipated changes and worldview			Countermeasures		
	Overview	Scenario				
		4°C	2°C	1.5°C		
Risks	Introduction of carbon taxes	<ul style="list-style-type: none"> Operation costs increase as a result of carbon pricing If border carbon adjustments are introduced, costs associated with the import and export of materials and equipment may increase 	High	High	<ul style="list-style-type: none"> Formulate and implement long-term strategies, targets, and measures to reduce CO₂ emissions (including Scope 3) Prepare and implement a carbon neutral product development roadmap Introduce internal carbon pricing (ICP) and use it as an engine for companywide decarbonized management 	
	Higher raw material costs	<ul style="list-style-type: none"> Procurement costs for energy-intensive materials and equipment rise (items that use iron, copper, cement, plastic, and other materials as raw materials) 	Medium	Medium	<ul style="list-style-type: none"> Transfer increased costs for raw materials to sales prices Shift to (materials and equipment that use) raw materials with low carbon loads Curtail use of (materials and equipment that use) raw materials with high carbon loads 	
Transition	Changes in policies, regulations, and energy mix	EfW plants	<ul style="list-style-type: none"> The ratio of renewable energy and demand for biomass power generation varies greatly depending on the scenario (EfW) Overseas markets expand substantially as a solution to the problems of increased waste generation and landfill in conjunction with economic growth in developing countries 	High	Medium	<ul style="list-style-type: none"> Prepare strategic options for each scenario and adjust the business portfolio by taking into account changes in policies, regulations, and the energy mix In addition to focusing on EPC, also focus on O&M so that we can respond to demand for extending plant lifespans Build ecosystems by involving supply chain companies and prepare for opportunities for market expansion Use open innovation and M&A to advance technologies adapted to a circular economy Leverage Company technologies and extensive delivery track record to contribute to solving the expected problem of increased waste generation in emerging countries Conduct R&D on methods of recovering energy from waste other than incineration Promote green procurement by involving supply chain companies. Respond to the requirements of the Task Force on Nature-related Financial Disclosures (TNFD)
		Biogas plants	<ul style="list-style-type: none"> Regulations relating to a circular economy, plastics, and food losses are strengthened and waste processing volumes decrease in order to curtail temperature increase EfW is no longer treated as renewable energy in developed countries and demand for new equipment stagnates (Biogas and wind power generation) Markets expands greatly in low-carbon societies (particularly for offshore wind power) 	High	Medium	
		Wind power plants	<ul style="list-style-type: none"> Markets expands greatly in low-carbon societies (particularly for offshore wind power) 	Medium	Medium	
Physical	Risks & opportunities	Intensification of natural disasters (flooding, lightning strikes, etc.)	<ul style="list-style-type: none"> Natural disasters, such as floods, typhoons, heavy rain, and lightning strikes, damage facilities, resulting in additional cost to restore facilities and lower revenues during outages in DBO projects Orders for repair work on damaged facilities increase 	High	High	<ul style="list-style-type: none"> Adequately provide for annual countermeasure provisions based on past damage amounts Implement business continuity plan measures including insurance to cover natural disaster damage

Board of Directors and Corporate Auditors (as of October 1, 2021)

Directors



Takashi Tanisho
Representative Director,
Chairman and
Chief Executive Officer

Apr. 1973 Joined the Company
Jun. 2010 Director, the Company
Apr. 2012 Managing Director, the Company
Apr. 2013 Representative Director, President and Chief Operating Officer, the Company
Apr. 2016 Representative Director, President and Chief Executive Officer, the Company
Apr. 2017 Representative Director, Chairman and President, the Company
Apr. 2020 Representative Director, Chairman and Chief Executive Officer, the Company (current position)



Tatsuji Kamaya
Managing Director

Apr. 1984 Joined the Company
Apr. 2014 Executive Officer, the Company
Apr. 2015 Deputy General Manager of Environment Business Headquarters, the Company
Apr. 2017 General Manager of Corporate Planning Headquarters, and Responsible for General Administration Headquarters and Procurement Headquarters, the Company
Jun. 2017 Director, the Company
Aug. 2017 General Manager of Corporate Planning Headquarters, and General Manager of SR99 Project Team, Corporate Planning Headquarters, and Responsible for General Administration Headquarters and Procurement Headquarters, the Company
Apr. 2018 Managing Director, the Company (current position)
Apr. 2019 General Manager of Corporate Planning Headquarters, and General Manager of General Administration Headquarters, and General Manager of SR99 Project Team, Corporate Planning Headquarters, and Responsible for Production Engineering Dept., the Company
Apr. 2020 General Manager of Corporate Planning Headquarters, and General Manager of General Administration Headquarters, and General Manager of SR99 Project Team, Corporate Planning Headquarters, the Company
Jul. 2020 General Manager of Machinery Business Headquarters, and General Manager of SR99 Project Team, Corporate Planning Headquarters, and Responsible for Infrastructure Business Headquarters, the Company
Apr. 2021 General Manager of Machinery & Infrastructure Business Headquarters, the Company
Jun. 2021 General Manager of Machinery & Infrastructure Business Headquarters, and Responsible for Production Engineering Dept., the Company (current position)



Sadao Mino
Representative Director,
President and
Chief Operating Officer

Apr. 1982 Joined the Company
Apr. 2015 General Manager of Environment Business Headquarters, and Responsible for Architect Supervision Dept. and Quality Assurance Dept., the Company
Jun. 2015 Managing Director, the Company
Apr. 2017 Representative Director, Executive Vice-President, the Company
Apr. 2017 President's Assistant (Responsible for Production Engineering Dept., Wind Power Business Promotion Office and Functional Materials Business Promotion Office), the Company
Apr. 2018 President's Assistant (Responsible for Sales and Production Engineering Dept.), the Company
Apr. 2019 President's Assistant (Responsible for Sales and Procurement Headquarters), the Company
Oct. 2019 President's Assistant (Responsible for Sales, Procurement Headquarters, and Yumeshima Area Development Promotion Dept.), the Company
Apr. 2020 Representative Director, President and Chief Operating Officer, the Company (current position)



Tadashi Shibayama
Managing Director

Apr. 1982 Joined the Company
Apr. 2012 Executive Officer, the Company
Apr. 2016 General Manager of Wind Power Business Promotion Office, the Company
Apr. 2017 General Manager of Machinery Business Headquarters, the Company
Jun. 2017 Director, the Company
Apr. 2019 General Manager of Machinery Business Headquarters, and Responsible for Infrastructure Business Headquarters, the Company
Jun. 2019 Managing Director, the Company (current position)
Apr. 2020 General Manager of Machinery Business Headquarters, and Responsible for Sales, Overseas Business, Infrastructure Business Headquarters and Yumeshima Area Development Promotion Dept., the Company
Jul. 2020 Responsible for Sales, Overseas Business, General Administration Headquarters, Corporate Planning Headquarters and Yumeshima Area Development Promotion Dept., the Company
Jun. 2021 General Manager of R&D Headquarters, and Responsible for Overseas Business and Information and Communication Technology Promotion Headquarters, the Company
Jul. 2021 General Manager of R&D Headquarters, and Responsible for Information, and Communication Technology Promotion Headquarters and Global Headquarters, the Company (current position)



Toshiyuki Shiraki
Managing Director

Apr. 1984 Joined the Company
Apr. 2016 General Manager of Technology Development Headquarters, and General Manager of Business Planning Headquarters, the Company
Jun. 2016 Managing Director, the Company (current position)
Apr. 2017 General Manager of Business Planning & Technology Development Headquarters, and Responsible for Information and Communication Technology Promotion Headquarters, Architect Supervision Dept. and Quality Assurance Dept., the Company
Apr. 2019 General Manager of Environment Business Headquarters, the Company
Apr. 2020 General Manager of Environment Business Headquarters and Responsible for Procurement Headquarters, the Company
Apr. 2021 Responsible for Environment Business Headquarters and Procurement Headquarters, the Company
Jun. 2021 Responsible for Environment Business Headquarters, Procurement Headquarters, and Architect Supervision Dept., the Company (current position)



Michi Kuwahara
Director

Apr. 1986 Joined the Company
Apr. 2015 General Manager of Corporate Planning Dept., the Company
Jan. 2018 General Manager of Corporate Planning Dept., the Company and Chairman of the Supervisory Board of Hitachi Zosen Inova AG
Apr. 2018 Executive Officer, the Company
Apr. 2018 Assistant to General Manager of Environment Business Headquarters, the Company and Chairman of the Supervisory Board of Hitachi Zosen Inova AG
Jul. 2020 General Manager of General Administration Headquarters, and Corporate Planning Headquarters, the Company
Apr. 2021 General Manager of Corporate Planning Headquarters, the Company
Jun. 2021 Director, the Company (current position)
General Manager of Corporate Planning Headquarters, and Responsible for General Administration Headquarters, Sustainability Promotion Dept. Quality Assurance Dept. (From October)
and Yumeshima Area Development Promotion Dept., the Company (current position)



Kazuko Takamatsu
Outside Director

Apr. 1974 Joined Sony Corporation
Apr. 2003 Representative Director, Sony Digital Network Applications, Inc.
Oct. 2008 VP in charge of Environment, Sony Corporation
Apr. 2012 Advisor, YAMAGATA INTECH Corporation
Apr. 2013 Executive Director and Secretariat, Japan Institute for Women's Empowerment & Diversity Management
May 2015 Outside Director, Deterials Corporation (retired in June 2019)
Jun. 2015 Outside Director, the Company (current position)
Apr. 2020 Executive Director, Japan Institute for Women's Empowerment & Diversity Management (retired in June 2020)
Jun. 2020 Outside Director, The Kansai Electric Power Co., Inc. (Member of the Nomination Committee)(current position)



Richard R. Lury
Outside Director

May 1974 Admitted to the bar of the State of New York
Sep. 1989 Partner, Kelley Drye & Warren LLP (retired in January 2015)
Jun. 2003 Admitted to the bar of the State of New Jersey
Mar. 2013 Outside Director, Sanken North America, Inc. (currently, Allegro MicroSystems, Inc.) (current position)
Jun. 2014 Outside Director, Sanken Electric Co., Ltd. (current position)
Jun. 2016 Outside Director, the Company (current position)



Tetsuya Shoji
Outside Director

Apr. 1977 Joined Nippon Telegraph and Telephone Public Corporation
Jun. 2006 Senior Vice President and General Manager of Personnel Dept., Nippon Telegraph and Telephone West Corporation
Jun. 2009 Senior Vice President and Head of General Affairs Dept., Nippon Telegraph and Telephone Corporation
Jun. 2012 Senior Executive Vice President, Representative Member of the Board, NTT Communications Corporation
Jun. 2015 President & CEO, Representative Member of the Board, NTT Communications Corporation
Jun. 2020 Corporate Advisor, NTT Communications Corporation (current position)
Mar. 2021 Outside Director, Sapporo Holdings Limited (current position)
Jun. 2021 Outside Director, the Company (current position)



Masayuki Morikata
Full-time
Corporate Auditor

Apr. 1974 Joined the Company
Jun. 2010 Director, the Company
Apr. 2012 Managing Director, the Company
Apr. 2014 Responsible for Corporate Planning Dept., Accounting Dept., Subsidiary Administration Dept., and Overseas Business Administration Dept., the Company
Jun. 2015 General Manager of General Administration Headquarters and General Manager of Corporate Planning Headquarters, the Company
Apr. 2016 General Manager of General Administration Headquarters and General Manager of Corporate Planning Headquarters, and responsible for Procurement Headquarters, the Company
Jun. 2017 Corporate Adviser, the Company
Jun. 2018 Full-time Corporate Auditor, the Company (current position)



Kazuhisa Yamamoto
Full-time
Corporate Auditor

Apr. 1982 Joined the Company
Apr. 2014 Executive Officer, the Company
Apr. 2015 General Manager of Environmental EPC Business Unit, the Company
Apr. 2017 General Manager of Environment Business Headquarters, the Company
Jun. 2017 Director, the Company
Apr. 2019 General Manager of Business Planning & Technology Development Headquarters, and Responsible for Information and Communication Technology Promotion Headquarters, Architect Supervision Dept. and Quality Assurance Dept., the Company
Jun. 2019 Managing Director, the Company
Apr. 2020 General Manager of Business Planning & Technology Development Headquarters, and Responsible for Information and Communication Technology Promotion Headquarters, Production Engineering Dept., Architect Supervision Dept. and Quality Assurance Dept., the Company
Apr. 2021 General Manager of R&D Headquarters and Responsible for Information and Communication Technology Promotion Headquarters, Production Engineering Dept., Architect Supervision Dept., and Quality Assurance Dept., the Company
Jun. 2021 Full-time Corporate Auditor, the Company (current position)



Yoshihiro Doi
Outside
Corporate Auditor

Apr. 1979 Joined The Kansai Electric Power Co., Inc.
Jun. 2006 Executive Officer, The Kansai Electric Power Co., Inc.
Jun. 2009 Managing Director, The Kansai Electric Power Co., Inc.
Jun. 2013 Director and Managing Executive Officer, The Kansai Electric Power Co., Inc.
Jun. 2016 Director and Executive Vice President, The Kansai Electric Power Co., Inc. (retired in March 2020)
Jun. 2017 Outside Corporate Auditor, the Company (current position)
Apr. 2020 Director and President, Kansai Transmission and Distribution, Inc. (current position)



Hirofumi Yasuhara
Outside
Corporate Auditor

Apr. 1979 Joined Matsushita Electric Industrial Co., Ltd. (currently Panasonic Corporation)
Sep. 1996 Director and CFO, America Matsushita Battery Industrial Co., Ltd (currently Panasonic Energy Corporation of North America)
Jun. 2008 Director and Executive Officer, PanaHome Corporation (currently Panasonic Homes Co., Ltd.)
Jun. 2012 Representative Director, PanaHome Corporation
Jun. 2015 Senior Audit & Supervisory Board Member, Panasonic Corporation (Retired in June 2019)
Jun. 2019 Outside Corporate Auditor, Santen Pharmaceutical Co., Ltd. (current position)
Mar. 2020 Outside Corporate Auditor, Sumitomo Rubber Industries, Ltd.(current position)
Jun. 2020 Outside Corporate Auditor, the Company (current position)

Financial Statements

Consolidated Balance Sheets

(Millions of yen)

	Previous fiscal year <small>(As of March 31, 2020)</small>	Current fiscal year <small>(As of March 31, 2021)</small>		Previous fiscal year <small>(As of March 31, 2020)</small>	Current fiscal year <small>(As of March 31, 2021)</small>
Assets			Liabilities		
Current assets			Current liabilities		
Cash and deposits	42,939	47,277	Notes and accounts payable - trade	44,140	41,598
Notes and accounts receivable - trade	160,013	169,316	Electronically recorded obligations - operating	21,731	21,787
Merchandise and finished goods	1,188	1,622	Short-term borrowings	14,338	14,572
Work in process	16,509	16,738	Current portion of bonds payable	—	5,000
Raw materials and supplies	5,691	5,594	Lease obligations	809	1,006
Other	20,144	22,264	Accrued expenses	46,780	59,026
Allowance for doubtful accounts	-3,379	-3,307	Income taxes payable	3,022	1,112
Total current assets	243,106	259,505	Advances received	22,757	24,914
Non-current assets			Provision for construction warranties	5,602	7,586
Property, plant and equipment			Provision for loss on construction contracts	2,714	3,688
Buildings and structures	88,223	87,975	Other	17,399	17,819
Accumulated depreciation	-52,969	-53,439	Total current liabilities	179,297	198,113
Buildings and structures, net	35,253	34,536	Non-current liabilities		
Machinery, equipment and vehicles	101,633	103,158	Bonds payable	25,000	20,000
Accumulated depreciation	-79,439	-80,981	Long-term borrowings	56,359	54,528
Machinery, equipment and vehicles, net	22,194	22,176	Lease obligations	3,082	3,043
Tools, furniture and fixtures	17,688	18,410	Deferred tax liabilities	393	527
Accumulated depreciation	-14,521	-15,256	Retirement benefit liability	20,929	20,685
Tools, furniture and fixtures, net	3,167	3,153	Provision for retirement benefits for directors (and other officers)	363	251
Land	47,876	46,474	Asset retirement obligations	3,056	3,074
Leased assets	1,450	1,709	Other	1,547	944
Accumulated depreciation	-530	-705	Total non-current liabilities	110,732	103,055
Leased assets, net	920	1,004	Total liabilities	290,030	301,169
Right of use assets	2,973	3,798	Net assets		
Accumulated depreciation	-465	-1,139	Shareholders' equity		
Right of use assets, net	2,507	2,658	Share capital	45,442	45,442
Construction in progress	2,370	3,327	Capital surplus	8,527	8,530
Total property, plant and equipment	114,290	113,330	Retained earnings	65,060	67,296
Intangible assets			Treasury shares	-1,020	-1,022
Goodwill	2,164	1,626	Total shareholders' equity	118,009	120,246
Other	8,231	7,873	Accumulated other comprehensive income		
Total intangible assets	10,395	9,500	Valuation difference on available-for-sale securities	145	1,294
Investments and other assets			Deferred gains or losses on hedges	-6	-117
Investment securities	15,337	15,832	Revaluation reserve for land	-7	-7
Long-term loans receivable	16	28	Foreign currency translation adjustment	-110	637
Retirement benefit asset	913	4,703	Remeasurements of defined benefit plans	-26	4,278
Deferred tax assets	18,089	17,091	Total accumulated other comprehensive income	-6	6,084
Other	7,856	10,444	Non-controlling interests		
Allowance for doubtful accounts	-562	-1,163		1,496	1,836
Total investments and other assets	41,650	46,936	Total net assets		
Total non-current assets	166,335	169,767		119,500	128,167
Deferred assets			Total liabilities and net assets		
Bond issuance costs	88	62		409,531	429,336
Total deferred assets	88	62			
Total assets	409,531	429,336			

Consolidated Statements of Income

(Millions of yen)

	Previous fiscal year (Fiscal year ended March 31, 2020)	Current fiscal year (Fiscal year ended March 31, 2021)
Net sales	402,450	408,592
Cost of sales	333,171	335,777
Gross profit	69,279	72,815
Selling, general and administrative expenses		
Selling expenses	7,680	6,619
Wages and allowances	24,232	27,041
Rental costs	2,516	2,328
Travel and commutation costs	2,553	1,152
Experiment and research costs	6,897	6,664
Other	11,506	13,612
Total Selling, general and administrative expenses	55,387	57,418
Operating income	13,891	15,396
Non-operating income		
Interest income	147	295
Dividend income	146	103
Gains for equity method investments	576	—
Foreign exchange gains	—	269
Insurance money received	386	111
Gain on sales of investment securities	474	60
Indemnity money received	353	—
Other	591	774
Total non-operating income	2,675	1,615
Non-operating expenses		
Interest expenses	846	738
Losses for equity method investments	—	622
Expenditure associated with plant relocation	—	807
Expenditure accompanying removal of fixed assets	—	557
Damages accompanying delayed delivery	2,382	66
Security money paid	951	—
Foreign exchange losses	854	—
Other	2,102	2,426
Total non-operating expenses	7,137	5,219
Ordinary income	9,429	11,792
Extraordinary income		
Gain on sale of non-current assets	10,969	—
Total extraordinary income	10,969	—
Extraordinary losses		
Impairment losses	502	4,924
Loss on valuation of investment securities	9,826	—
Loss on overseas business	6,469	—
Total extraordinary losses	16,798	4,924
Profit before income taxes	3,600	6,868
Income taxes - current	5,053	1,945
Income taxes - deferred	-3,693	631
Total income taxes	1,359	2,576
Profit	2,241	4,291
Profit attributable to non-controlling interests	44	33
Profit attributable to shareholders of Hitachi Zosen	2,197	4,258

Consolidated Statements of Comprehensive income

(Millions of yen)

	Previous fiscal year (Fiscal year ended March 31, 2020)	Current fiscal year (Fiscal year ended March 31, 2021)
Profit	2,241	4,291
Other comprehensive income		
Valuation difference on available-for-sale securities	-63	954
Deferred gains or losses on hedges	153	-144
Foreign currency translation adjustment	-1,336	691
Remeasurements of defined benefit plans, net of tax	-172	4,299
Share of other comprehensive income of entities accounted for using equity method	-290	289
Total other comprehensive income	-1,710	6,090
Comprehensive income	530	10,382
Comprehensive income attributable to		
Comprehensive income attributable to owners of parent	519	10,348
Comprehensive income attributable to non-controlling interests	10	34

Financial Statements

Consolidated Statements of Changes in Net Assets

For the year ended March 31, 2020

(Millions of yen)

	Shareholders' equity				
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity
Balance at beginning of period	45,442	8,527	64,856	-1,018	117,807
Cumulative effects of changes in accounting policies			13		13
Restated balance	45,442	8,527	64,870	-1,018	117,821
Changes during period					
Dividends of surplus			-2,022		-2,022
Profit attributable to shareholders of Hitachi Zosen			2,197		2,197
Purchase of treasury shares				-1	-1
Sale of shares of foreign consolidated subsidiaries			15		15
Net changes in items other than shareholders' equity					
Total changes during period			189	-1	188
Balance at end of period	45,442	8,527	65,060	-1,020	118,009

	Accumulated other comprehensive income						Non-controlling interests	Total net assets
	Valuation difference on available for sale securities	Defer red gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income		
Balance at beginning of period	280	-146	-7	1,335	209	1,671	931	120,410
Cumulative effects of changes in accounting policies								13
Restated balance	280	-146	-7	1,335	209	1,671	931	120,424
Changes during period								
Dividends of surplus								-2,022
Profit attributable to shareholders of Hitachi Zosen								2,197
Purchase of treasury shares								-1
Sale of shares of foreign consolidated subsidiaries								15
Net changes in items other than shareholders' equity	-134	139	-	-1,446	-235	-1,677	564	-1,112
Total changes during period	-134	139	-	-1,446	-235	-1,677	564	-924
Balance at end of period	145	-6	-7	-110	-26	-6	1,496	119,500

For the year ended March 31, 2021

(Millions of yen)

	Shareholders' equity				
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity
Balance at beginning of period	45,442	8,527	65,060	-1,020	118,009
Changes during period					
Dividends of surplus			-2,022		-2,022
Profit attributable to shareholders of Hitachi Zosen			4,258		4,258
Purchase of treasury shares				-2	-2
Disposal of treasury shares			-0	0	0
Change in ownership interest of parent due to transactions with noncontrolling interests			3		3
Net changes in items other than shareholders' equity					
Total changes during period		3	2,235	-2	2,236
Balance at end of period	45,442	8,530	67,296	-1,022	120,246

	Accumulated other comprehensive income						Non-controlling interests	Total net assets
	Valuation difference on available for sale securities	Defer red gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income		
Balance at beginning of period	145	-6	-7	-110	-26	-6	1,496	119,500
Changes during period								
Dividends of surplus								-2,022
Profit attributable to shareholders of Hitachi Zosen								4,258
Purchase of treasury shares								-2
Disposal of treasury shares								0
Change in ownership interest of parent due to transactions with noncontrolling interests								3
Net changes in items other than shareholders' equity	1,148	-111	-	748	4,304	6,090	340	6,430
Total changes during period	1,148	-111	-	748	4,304	6,090	340	8,667
Balance at end of period	1,294	-117	-7	637	4,278	6,084	1,836	128,167

Consolidated Statements of Cash Flows

(Millions of yen)

	Previous fiscal year <small>(Fiscal year ended March 31, 2020)</small>	Current fiscal year <small>(Fiscal year ended March 31, 2021)</small>
Cash flows from operating activities		
Profit before income taxes	3,600	6,868
Depreciation	10,090	10,241
Amortization of goodwill	593	563
Impairment losses	502	4,924
Loss on overseas business	6,469	—
Increase (decrease) in allowance for doubtful accounts	-427	542
Increase (decrease) in retirement benefit liability	1,410	519
Increase (decrease) in provision for loss on construction contracts	-504	973
Interest and dividend income	-293	-399
Interest expenses	846	738
Foreign exchange losses (gains)	854	-269
Share of loss (profit) of entities accounted for using equity method	-576	622
Loss (gain) on sale of property, plant and equipment	-10,969	-143
Loss (gain) on valuation of investment securities	9,826	0
Decrease (increase) in trade receivables	12,672	-8,339
Decrease (increase) in inventories	790	-315
Decrease (increase) in other current assets	-2,192	-2,067
Increase (decrease) in trade payables	-2,486	-2,888
Increase (decrease) in accrued expenses	1,335	11,390
Increase (decrease) in advances received	1,338	2,056
Increase (decrease) in other current liabilities	6,674	1,730
Other, net	7	-432
Subtotal	39,561	26,318
Interest and dividends received	478	608
Interest paid	-991	-607
Income taxes paid	-6,240	-3,639
Net cash provided by (used in) operating activities	32,808	22,680
Cash flows from investing activities		
Payments into time deposits	-1,457	-3,983
Proceeds from withdrawal of time deposits	1,302	3,815
Purchase of property, plant and equipment	-10,016	-10,511
Proceeds from sale of property, plant and equipment	21,387	372
Purchase of intangible assets	-1,454	-1,420
Purchase of investment securities	-181	-72
Proceeds from sale of investment securities	495	464
Payments for investments in capital of subsidiaries and associates	-2,016	-2,347
Payments for sale of shares of subsidiaries resulting in change in scope of consolidation	-145	-87
Purchase of shares of subsidiaries resulting in change in scope of consolidation	—	-162
Proceeds from sale of shares of subsidiaries resulting in change in scope of consolidation	125	214
Other, net	-1,859	-128
Net cash provided by (used in) investing activities	6,179	-13,847
Cash flows from financing activities		
Net increase (decrease) in short-term borrowings	-22,968	856
Proceeds from long-term borrowings	14,294	1,746
Repayments of long-term borrowings	-20,601	-5,328
Dividends paid	-2,022	-2,022
Other, net	-67	-523
Net cash provided by (used in) financing activities	-31,364	-5,271
Effect of exchange rate change on cash and cash equivalents	-422	655
Net increase (decrease) in cash and cash equivalents	7,200	4,216
Cash and cash equivalents at beginning of period	34,394	41,595
Cash and cash equivalents at end of period	41,595	45,812

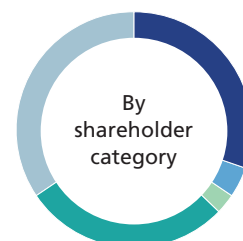
Investor Information (as of March 31, 2021)

Stock data

Number of shares authorized:	400,000,000
Number of shares issued:	170,214,843 (including 1,678,837 treasury shares)
Number of shareholders:	87,065

Distribution of shareholdings

Financial institutions	30.4%
Securities firms	4.3%
Other domestic corporations	2.6%
Non-residents	28.3%
Individuals, etc	34.4%



Major shareholders (Top 10 shareholders)

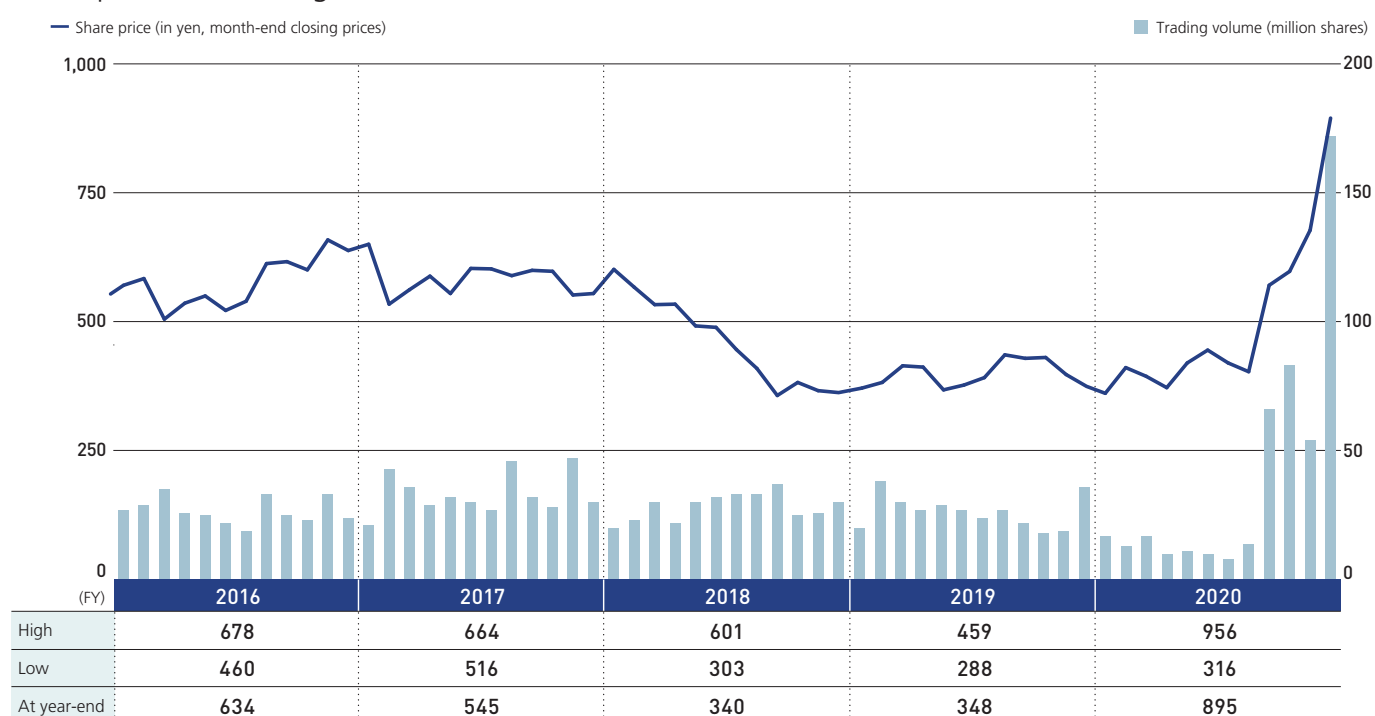
Name of shareholder	Number of shares held (Thousands of shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	15,136	9.0
Custody Bank of Japan, Ltd. (Trust Account)	8,344	5.0
MUFG Bank, Ltd.	5,291	3.1
STATE STREET BANK AND TRUST COMPANY 505019	3,990	2.4
THE BANK OF NEW YORK 133972	3,534	2.1
Hitachi Zosen Employee Shareholding Association	2,708	1.6
Custody Bank of Japan, Ltd. (Trust Account 5)	2,420	1.4
STATE STREET BANK WEST CLIENT - TREATY 505234	2,364	1.4
Sompo Japan Insurance Inc.	2,358	1.4
Custody Bank of Japan, Ltd. (Trust Account 6)	2,154	1.3

(Note)The holding ratio does not include treasury stock (1,678,837 shares).

Shareholder information

Business year	April 1 to March 31
Annual General Meeting of Shareholders	Late June
Final date for voting right registration	March 31
Dividend record date(term-end)	March 31
Dividend record date(interim)	September 30
Public notices	Via Company's website https://www.hitachizosen.co.jp/ir/publication.html
Share trading unit	100 shares
Shareholder registry administrator and special account custodian	Mitsubishi UFJ Trust and Banking Corporation 4-5, Marunouchi 1-chome, Chiyoda-ku, Tokyo
Stock listing	Tokyo Stock Exchange

Share price and trading volume



Corporate Information

Corporate data

Date of founding	April 1, 1881
Date of establishment	May 29, 1934
Representative	Sadao Mino President and Chief Operating Officer
Capital*	45,442,365,005 yen
Number of employees*	11,089 (consolidated) / 4,105 (non-consolidated)
Business	Design, construction and manufacture of energy-from-waste plants, desalination plants, water and sewage treatment plants, marine diesel engines, press machines, process equipment, precision machinery, bridges, hydraulic gates, shield tunneling machines, and equipment for use in disaster prevention/mitigation
Number of Group companies*	134(115 consolidated subsidiaries and 19 affiliates)

* As of March 31, 2021

Issue of the Integrated Report 2021

Most thankfully, the Hitachi Zosen Group has marked the 140th anniversary of our founding.

Based on the technological capabilities that we have nurtured so far, our delivery track record, and our ties with local communities and society, as indicated in our long-term vision, the Hitz 2030 Vision, we aim to become a solution partner that contributes to the realization of a sustainable, safe, and secure society. We believe that doing our utmost to tackle and solve customer and market issues will lead to the strengthening of our earning power as well.

In this Integrated Report 2021, we have endeavored to explain the direction of our businesses from the perspective of not only the Sustainable Development Goals but also environmental, social, and governance factors and our response to climate change, which are prominent requirements of the market these days.

It is our hope that this report will enable our shareholders, investors, and numerous other stakeholders to deepen their understanding of the Hitachi Zosen Group.





Hitachi Zosen Corporation

<https://www.hitachizosen.co.jp/english/>

Head Office

7-89, Nankokita 1-chome, Suminoe-ku, Osaka 559-8559, Japan

Phone: +81-6-6569-0001 Fax: +81-6-6569-0002

Tokyo Head Office

15th Floor, Omori Bellport D-Wing, 26-3, Minamioi 6-chome,
Shinagawa-ku, Tokyo 140-0013, Japan

Phone: +81-3-6404-0800 Fax: +81-3-6404-0809

Environmental Databook

<https://www.hitachizosen.co.jp/ir/data/annual.html>

Investor Relations Information

<https://www.hitachizosen.co.jp/english/ir/>

Corporate Information

<https://www.hitachizosen.co.jp/english/>



Corporate Web Site "Sustainability"

<https://www.hitachizosen.co.jp/english/sustainability/>



YouTube

Hitachi Zosen Group Channel

