Hitz
Hitachi Zosen



Technology for People, the Earth, and the Future

Hitz

Integrated Report 2018

Hitachi Zosen Group

Contents

Editorial policy

With effect from the current fiscal year, the Hitachi Zosen Group has begun 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 for detailed information, including numerical data, regarding the measures taken by the Group to prevent or minimize environmental degradation. For financial information and further details of our other corporate activities, please visit the Group's website.

➤ Environmental Databook
http://www.hitachizosen.co.jp/csr/report.html

➤ Investor Relations
http://www.hitachizosen.co.jp/english/ir/

➤ Corporate Information
http://www.hitachizosen.co.jp/english/

A video introducing the Group can be viewed on YouTube (on the Hitachi Zosen Group official channel) at the QR Code shown at right.

1. Introduction to the Group (long version)
2. Introduction to the Group (short version)
3. Corporate History
The above three videos are available in Japanese, English, and Chinese.

Forward-looking statements

This Integrated Report contains forward-looking statements that reflect judgments based on information available at the time of writing. Consequently, such statements are subject to a number of risks reflecting the uncertainties involved in the Group's business environment, and investors are warned that these statements may differ significantly from actual results. Risks and uncertainties that may affect end-of-term business performance include, but are not limited to, the economic environment surrounding the Group's operations, and fluctuations in exchange rates, among others.

Inheriting a Willingness to Take on All Challenges

The Hitachi Zosen Group's more than 130-year history began on April 1, 1881 with the founding of Osaka Iron Works by British entrepreneur Edward Hazlett Hunter, who had recognized the future growth potential of Japan's shipping industry and set up the new company to engage in shipbuilding. At that time, the majority of Japan's major shipyards had started up in business thanks to the provision of government surplus land and other materials. In contrast, Osaka Iron Works was a shipyard established solely by an individual foreign entrepreneur, and thus a risky undertaking.

The willingness to take on all challenges demonstrated by this enterprise has been passed on from one generation of employees to the next throughout the 130-year history of Hitachi Zosen Group, and this mindset has served as the driving force of the evolution of our field of business operations during periods when the business and economic environments have been going through dramatic changes. Today, too, within our standards of business behavior, we uphold the injunction to "strive boldly to achieve success." All our executives and other employees are the heirs to this corporate tradition, and from here onward, they will continue striving to enhance the Group's enterprise value.

Our founder, Edward Hazlett Hunter (1843-1917)
British entrepreneur; arrived in Japan in 1865; contributed to Japan's modernization through the development of industries, notably shipbuilding.

Hitz Value

Corporate philosophy

We create value useful to society with technology and sincerity to contribute to a prosperous future.

Our management stance

Stakeholder satisfaction
- Enhancing employee satisfaction
- Enhancing customer satisfaction
- Enhancing shareholder satisfaction

Attitude towards work
- Making safety the first priority
- Thorough implementation of compliance
- Always pursuing quality

Standards of business behavior

- Strive boldly to achieve success
- Communicate with sincerity
- Learn widely, think deeply

Our nickname – "Hitz"

In 2002—about 120 years after the founding of our predecessor company—Hitachi Zosen divested its shipbuilding operations, finally disassociating itself from what had been its core business throughout its history. At that juncture, we decided not to change our corporate name, but we also adopted a nickname—"Hitz." Apart from being a portmanteau word combining the first elements of both "Hitachi" and "Zosen," the final "z" also incorporates "hit" (as in "hit products") and "zenith," meaning the highest point, or peak, indicating that we aim to reach the peak of quality in our product manufacturing.

A History of Creating New Value

Business growth originating from shipbuilding technologies

Breaking new ground with technologies derived from shipbuilding technologies

Social needs

Increasing need to trade with foreign countries through growing international ties after Meiji Restoration

1881
Started shipbuilding business

With a high level of technological competence and willingness to take on every challenge, we have led the growth of the domestic shipbuilding industry by building Japan's first steel-hulled ship and tanker. In 1957, we launched 240,000 gross tons of new ships (26 vessels), ranking second in the world.

Basic technologies developed
Welding, structure, machine elements, fluids, materials, control, electricity
+
Engineering/manufacturing technologies
① ② ③

① Apply plumbing/cabling technologies

② Apply internal device manufacturing technologies

③ Apply hull manufacturing technologies

Industrial development in Southeast Asia

1956
Japan's first full-scale plant export after WWII (sugar plant in Pyinmana, Burma*1)

*1 Currently Myanmar

Developing chemical industry

1920s
Started process equipment business using plateworking technologies (e.g., marine boilers, tanks)

Ships growing in size

1950
Introduced marine diesel engine technology (B&W Ltd.*2, Denmark)

*2 Currently MAN Energy Solutions SE

From wooden to steel bridges

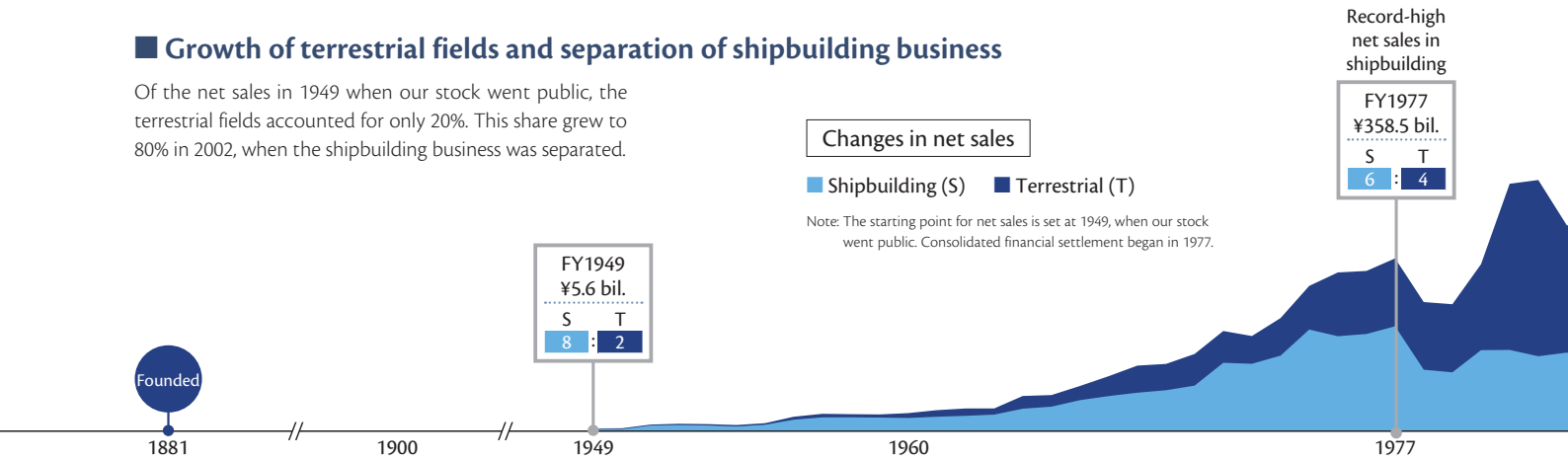
1900
Started bridge business (Hokuriku Nanao Railway)

Growing demand for hydropower generation

1923
Started hydraulic gate business

Growth of terrestrial fields and separation of shipbuilding business

Of the net sales in 1949 when our stock went public, the terrestrial fields accounted for only 20%. This share grew to 80% in 2002, when the shipbuilding business was separated.



Social trends

1955: Rapid economic growth period began
1956: Tonnage of newly launched Japanese ships ranked first in the world
1967: Basic Act for Environmental Pollution Control enacted
1968: Air Pollution Control Act enacted
1971: Environment Agency established
1973: First Oil Crisis

1900 –
Ventured into terrestrial fields using shipbuilding technologies

In 1900, started bridge and cast-iron pipe manufacturing and moved into terrestrial fields for business diversification, leveraging shipbuilding technologies applicable to steel structures and machinery production.

1949 –
Enhanced technological competence and broke new ground

Established a large technical research institute to technologically catch up with Western countries and develop new technologies after WWII. Reinforced terrestrial fields by working on developing original technologies and proactively introducing Western technologies.

1960
Took on challenges as an environmental pioneer

Introduced the EfW plant technology of Von Roll Environmental Technology Ltd.*3 with superior environmental performance at the request of Osaka City, which valued our technological competence as it was under pressure to deal with increasing waste and mitigate serious air pollution caused by its incineration.

*3 Currently Hitachi Zosen Inova

The Hitachi Zosen Group has continuously tackled social issues, which change with the changing times, and opened new terrestrial business fields based on the shipbuilding technologies that it has developed since its foundation. With our technologies and sincerity, we will continuously create value helpful for society, and contribute to creating a prosperous future.

Increasing waste, worsening air pollution

1965
Japan's first Energy-from-Waste (EfW) plant delivered (Nishiyodo Plant, Osaka)

Growing demand for water & power in ME

1979
First unit of desalination plant delivered (Saudi Saline Water Conversion Corporation)

Wave of motorization

1955
Introduced press machine technology for auto production (Clearing, U.S.A.)

Increasing nuclear power plants

1978
First nuclear casks delivered (for power company)

Growing demand for sewerage development

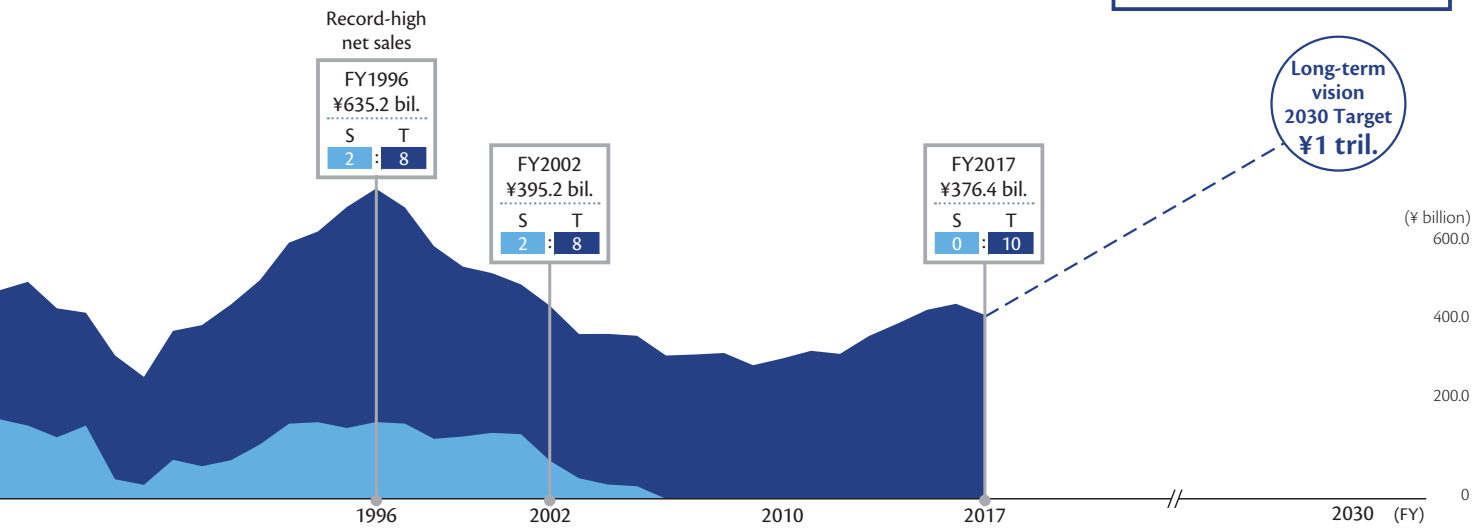
1967
First shield-tunneling machine delivered (Nissan Construction Co., Ltd., Yokohama City's sewerage installation)

Growing awareness of disaster prevention

2013
First flap-gate type seawall against flood disaster delivered

Current business segments

- Environmental Systems & Industrial Plants
- Machinery
- Infrastructure



1985: Plaza Accord
Worsening shipbuilding recession
1992: Earth Summit held
1995: Great Hanshin-Awaji Earthquake
1997: Kyoto Protocol adopted
2002: Korea ranked first in the world in tonnage of ships newly produced
2010: Korea & China accounted for 70% of total tonnage of ships newly produced
2011: Great East Japan Earthquake
2015: Paris Agreement adopted
Sustainable Development Goals (SDGs) adopted at the United Nations Summit

2002
Separated shipbuilding business

Integrated our shipbuilding business with NKK Corporation and transferred it to Universal Shipbuilding Corporation*4 in anticipation of intensifying future international competition with the rise of Korean and Chinese companies. Separated the original shipbuilding business.

2010 –
Aspired to global leadership with EfW plants

Acquired Inova*3 with a good track record in building many EfW plants mainly in Europe to gain access to the global market by sharing expertise, experience, and know-how with the subsidiary.

2017 –
Tackling energy and water challenges

Started a long-term vision, Hitz 2030 Vision, to become a provider of solutions for the creation of a recycling-oriented society addressing social issues related to energy and water.

*4 Currently Japan Marine United Corporation

The Value Creation Process

Goal of long-term vision—Hitz 2030 Vision

Solution provider for creation of recycling-oriented society

Social issues

World

Worsening environmental pollution
- Increasing waste
- Water crisis
- Air pollution
- Global warming

Shortage of food, water and energy
- Population growth and urbanization in emerging and developing countries
- Changing energy demand structure
- Insufficient social and industrial infrastructures

Abnormal weather, natural hazards
- Storm surges, tsunamis
- Massive earthquakes
- Typhoons, heavy rains
- Droughts, desertification

Japan
- Secure, stable supply and efficient use of energy
- Super-aging population
- Declining population, labor shortages
- Deteriorating social/ industrial infrastructures
- Preparedness for natural hazards

Major management resources

Human capital

Highly environmentally conscious personnel with a willingness to take on every challenge and a high level of technological competence.
- The Group has 10,377 employees.

Intellectual capital

Technological competence developed since its establishment and continuous challenges to new technologies
Intra-Group cross-organizational research and development system
Active open innovation

Business model

Three strengths

Technological competence to address issues

Extensive record of domestic/overseas completed orders

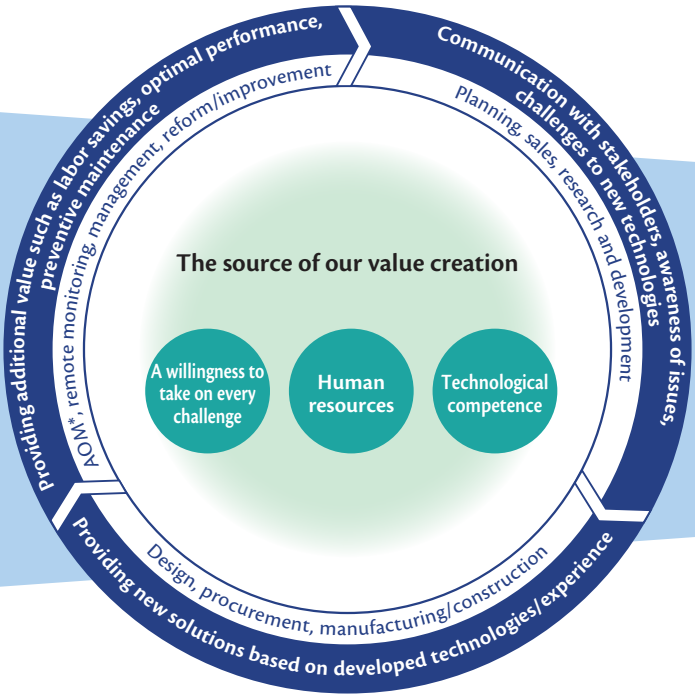
Reinforced relationship with customers / society based on trust

These three strengths are valuable assets we have accumulated since the company was founded. Enhancing technological competence increases orders received. Increased completed orders reinforce the relationship with customers and society. Consequently, they bring about technological innovation to address new issues.

Hitz Value

Hitz 2030 Vision: long term vision

Change & Growth: medium-term management plan



Corporate governance

*After-sales service, Operation and Maintenance

At the Hitachi Zosen Group, we address social issues by drawing on the sources of our value creation—willingness to take on every challenge, human resources, and technological competence—and by leveraging our management resources and our three strengths.

Social and relationship capital

Relationship of trust built on 137 years of experience (customers, business partners, communities)

Financial capital

- Shareholders' equity: ¥116.9 billion
- Shareholders' equity ratio: 29.8%

Manufactured capital

Production system focused on products individually designed and manufactured to accommodate diversified needs

Natural capital

Wind, biomass, solar power, seas, minerals, water, energy

Output (major solutions)

Environmental conservation on a global scale

Environmental Systems & Industrial Plants segment

- Energy-from-Waste (EfW) plants
- Biomass power plants
- Desalination plants
- Water and sewage treatment plants

Build social/industrial infrastructures for a safe and comfortable life

Machinery segment

- Marine diesel engines
- Press machines (mainly for auto-related sectors)
- Process equipment (mainly for petrochemical-related sectors)
- Precision machinery (mainly for electronics, food, medical-related sectors)

Infrastructure segment

- Bridges
- Hydraulic gates
- Shield tunneling machines
- Disaster prevention/mitigation equipment (frap-gate type seawalls against flood disaster)

Value to be created

- Safe, stable, and appropriate waste treatment
- Decreased marine pollution risks
- Reduced greenhouse gas emissions
- Decreased air pollution
- Stable water supply
- Improved quality of life and safety
- Generation of renewable energy
- Enhanced social/industrial infrastructures
- Reduced flooding
- Labor savings and longer life for social/industrial infrastructures through utilization of AI, IoT, and other advanced technology.

Contribution to SDGs

The Sustainable Development Goals (SDGs) are global goals adopted at the United Nations Summit in 2015, for the period from 2016 to 2030, aimed at achieving a better and more sustainable future for all. We will contribute to achieving the SDGs by creating value through our business.

Putting All Our Efforts into Value Creation

Leveraging advanced technology, enhancing infrastructure value

The Hitachi Zosen Group will seek to leverage advanced technology, expand its business domain from the traditional business model centering on designing, manufacturing, and construction in all business segments, provide customers with additional value, and enhance its corporate value.

We have been enhancing After-sales services, Operation, and Maintenance (AOM) by maximizing the use of advanced technologies including IoT, big data, and AI to ensure that the facilities, infrastructure equipment, and machinery, etc. we deliver can be safely, stably, and efficiently used by customers over a long period of time, as well as to provide new additional value including preventive maintenance.

The Remote Monitoring and Operational Support Center, designed to remotely monitor Energy-from-Waste (EfW) plants and other power generation facilities, was set up on the head office premises in 2011. Since then, the Group has remotely monitored and rendered operational assistance to more than 30 facilities/plants in Japan with the aim of ensuring more stable and safer operation by further enhancing the sophistication of the use of data through the collection, accumulation, analysis, and visualization of operational data, etc. and upgrading and expanding services to customers.

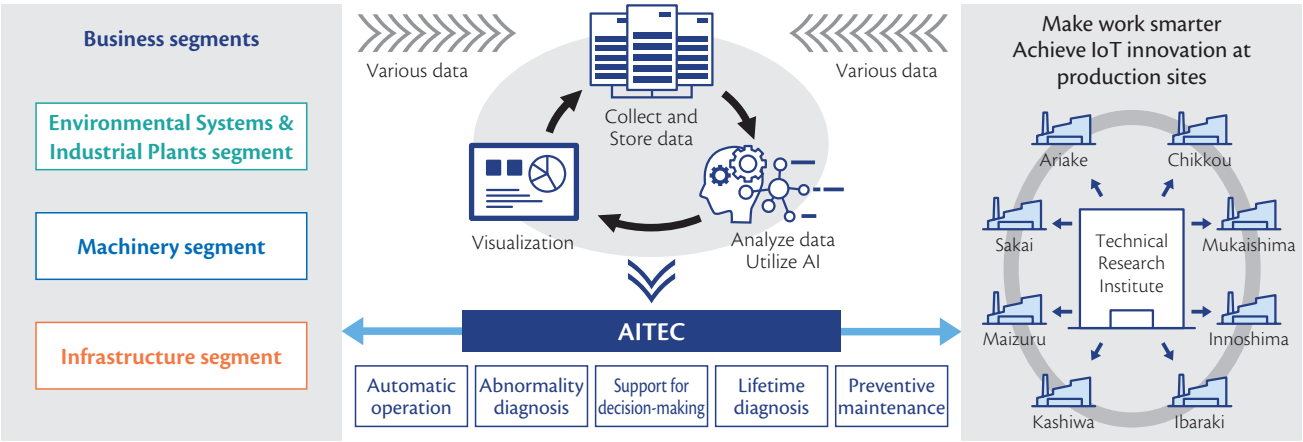
The recent exponential progress of advanced technology including IoT, big data, and AI has expanded the scope of their use. In order to reinforce these efforts, the Company is building the Hitz Advanced Information Technology Center (AITEC) (scheduled to begin operation in October 2018).

Maximizing the use of advanced technology through the AITEC will allow us to expand the application of advanced technology not only to power generation facilities, but also to the Group's existing and new business segments as we put all our efforts into new value creation and business/service creation. The facility has an area for co-creation with other business entities and academic research institutions to facilitate innovations and accelerate development.

The Hitz AI Lab has been established in the Technical Research Institute to develop AI engineers, spreading training opportunities on a Group-wide basis in cooperation with the AITEC in the future.

Name	Hitz Advanced Information Technology Center (AITEC)
Site	Located on the premises of the Head Office
Building outline	Two stories with gross floor area of approx. 1,700 m^2
Construction cost	Approx. ¥1.0 billion
Construction period	December 2017 to September 2018 (Scheduled to begin operation in October 2018)

Image of Functioning Hitz Advanced Information Technology Center (AITEC)



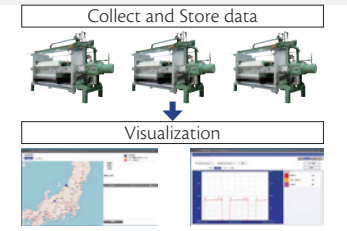
Environmental Systems & Industrial Plants segment — Using big data in EfW

In general, EfW plants are fueled by waste, the nature of which is not always homogeneous, and the state of combustion varies. Sophisticated control is important for the plants to mitigate the load on the equipment and to ensure steady power generation output by maintaining the state of combustion. Therefore, their operators must have advanced knowledge and experience. Securing human resources and providing training are required. Meanwhile, there is a growing need for the privatization of operation and the longer use or useful life of plants through efficient use from conventional maintenance to simply maintaining their functions among financially-struggling understaffed local government customers.

In addition to the previous effort to develop and introduce various systems for saving labor, the Hitachi Zosen Group has been working on establishing a new optimal operation management system using big data. We will engage in saving labor and preventive maintenance by predicting the state of combustion after 10 to 30 minutes and optimizing the operation parameters by analyzing the enormous amount of data collected up to now through our unique system, which is one of the best in the industry. We will also seek to achieve more sophisticated remote monitoring, entirely automated plants, and reductions in operational cost, and gain larger domestic and overseas shares in the management and operation of EfW plants in the future.

Machinery segment — Filter press data accumulation platform construction and remote monitoring service

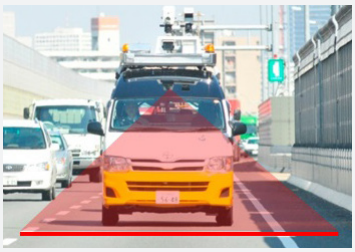
The Company's filter presses, which are used for solid-liquid separation in wastewater treatment and production processes in various industries, have a history of more than 60 years and an industry-leading share with more than 4,500 units sold in total. Since fiscal 2017, we have installed data collection terminals in our delivered filter presses and have deployed full-scale remote monitoring with the accumulation and visualization of operational data, alert information, etc. We will seek to enhance our services—including preventive maintenance and more efficient operation—for the benefit of customers.



Infrastructure segment — Using AI technology for pavement inspection and diagnosis of road bridges

The Hitachi Zosen Group and Hanshin Expressway Engineering Company Limited have jointly developed a pavement crack detection system, which automatically detects cracks on pavement by applying image recognition technology to photographed images of the road surface.

Conventionally, cracks, potholes, and other damage on road surfaces have been detected from images photographed by a road surface monitoring car. However, this method has posed some issues, such as the time and cost required to organize and process a massive amount of images, and the individual differences of opinions that arise from one person to another due to visual inspections. Thus, with the use of AI technology, a pavement crack detection system that automatically detects cracks on pavement from photographed images of road surfaces has been developed, and it has been verified to be capable of cutting the work time to approximately one-fifth of the usual time. We will keep working on improving the ability of AI to enable more sophisticated inspection and diagnosis.



Road surface monitoring car photographing road conditions

Message from the Chairman & President

Takashi Tanisho
Representative Director,
Chairman & President

Since the founding in 1881 of our forerunner company—Osaka Iron Works—the Hitachi Zosen Group has focused its efforts on using technology to find solutions to social issues. Currently, we are working to forge a new path forward under our Hitz 2030 Vision, a long-term corporate vision that delineates the sort of entity we wish the Group to be in the year 2030, when it reaches the milestone of 150 years of existence.

In 1881, Osaka Iron Works—which was to become the forerunner of Hitachi Zosen—was founded by E.H. Hunter of Great Britain and commenced operations in the shipbuilding business. At that time, the majority of Japan's major shipyards were owned by or affiliated to one or other of the *zaibatsu* (financial or business conglomerates), and had started up in business thanks to the provision of government surplus land and other materials. In contrast, Osaka Iron Works did not enjoy such official backing, and was established solely by an individual foreign entrepreneur. The new company immediately began to forge a path toward the future through the use of new technologies in industries and markets that were also new, racking up various achievements including the building Japan's first steel-hulled ship and also the first tanker in Japan. In 2002, the Hitachi Zosen Group divested itself of its shipbuilding business in order to stabilize its revenue stream, but today, the Group continues to engage in a wide range of businesses in which it applies technologies developed in its original business line of shipbuilding. These business operations evolved out of the Group's commitment to using its technological know-how in the search for solutions to problems facing society.

In April 2017 we commenced both our Hitz 2030 Vision long-term business vision and our Change & Growth medium-term management plan. By the year 2030 we aim to become a provider of solutions for the creation of a recycling-oriented society, in which role we will tackle social issues, primarily through our core operational areas involved with the natural environment, focused on energy and water. The management and employees of the Hitachi Zosen Group are working as one to achieve the concrete realization of our long-term vision.

Looking back at fiscal 2017, and talking points

The 2017 business term was notable for our first receipt of orders for two newly-developed products employing proprietary technology—a marine diesel engine equipped with an SCR (selective catalytic reduction) system, which offers the advantage of much lower NOx emissions, and a seabed-mounted flap-gate type seawall to protect against storm surges and tsunami. Despite this, however, our projections showed that profits for fiscal 2017 (ending March 31, 2018) would fall far short of our start-of-term forecasts, and in February 2018 we revised downward our forecasts for the term. The main factor behind this was a major deterioration in profitability on construction work by our Swiss subsidiary Hitachi Zosen Inova AG (hereunder "Inova") as a result of rising costs. This development will continue to have some repercussions on the Group's business performance over the near future, but as revenue from other projects will compensate for the shortfall involved, this issue is not projected to affect business performance for fiscal 2018 and beyond.

Inova is principally engaged in EPC operations (engineering, procurement, and construction) involving the Group's mainline businesses of Energy-from-Waste (EfW) plants and biogas power plants, and from its base in Switzerland it conducts business operations mainly in the rest of Europe as well as the Middle East and North America. The recent sharp decrease in profitability has resulted from a number of factors, including overoptimistic cost estimates on receipt of orders amid intensifying market competition in Europe, difficulties at construction sites due to a shortage of skilled manpower, subsequent slow progress in construction, inadequate intra-Group communication, and others. Above all, however, we recognize that insufficient governance by Hitachi Zosen as the parent company was a major contributory factor. With respect to planned M&A, Hitachi Zosen is now placing great focus not only on surveys and evaluation prior to the M&A, but also on post-merger integration. This process was not, however, fully operational at the time we acquired Inova and incorporated it as a subsidiary. As a result, the management of Inova was allowed a large proportion of total responsibility for operational control, and it is this that led to the deterioration in profitability. As remedial measures, we have dispatched an executive from the parent company to act as the new chairman of Inova, and have appointed a new CEO, among other changes as part of measures to reform the company's corporate governance system and exert stronger management control. We have also established a new department dedicated to project process management, and have dispatched experienced middle-management staff with ample engineering experience to serve in it. Going forward, we will take measures to further strengthen risk management and work to prevent the recurrence of such an adverse development.

Notwithstanding this difficult profitability situation, the order intake by the Group has been rising since fiscal 2017. This is thanks to our conclusion with Japanese local governments of numerous long-term (roughly 20-year) contracts for the operation of EfW plant businesses, which is our particular area of strength in the Japanese market. This market reached saturation state several years ago, and we had anticipated difficulty in winning new orders. As time passed, however, strong underlying needs in this field began to reveal themselves for the rebuilding of superannuated facilities as well as for the privatization of EfW plant operation against the backdrop of shortages of manpower and materials. For the Hitachi Zosen Group, which possesses industry-leading technologies as well as management services that make full use of ICT, AI and other cutting-edge tools, the current business environment will continue to present an important and not-to-be-missed opportunity for steady growth over the coming years.

State of progress under the Group's medium-term management plan

Our current medium-term management plan, which commenced in fiscal 2017, lays down three basic strategies. The first strategy is to restructure our business foundation and improve productivity, and here we have recorded progress, with all business divisions expanding their operations in all geographical areas and business fields, and increased use of ICT. The second strategy is to maximize the Hitachi Zosen Group's comprehensive strengths, to which purpose we have been examining options for forming business clusters, and have been reexamining our methods of management of Group on a consolidated basis. The full-scale start of measures under this strategy will begin during fiscal 2018, and it will be some time before we see any concrete results. Finally, the third strategy involves the promotion of portfolio management, under which heading we have been reexamining our criteria for new investment decisions in the areas of M&A and entry into new business fields. With regard to decision-making on such issues as whether to take measures to improve the earnings of underperforming operations or to withdraw from or divest those business lines, we have already begun to evaluate businesses within a specific timeframe.

The medium- to long-term business environment, and current measures

We believe that there are enormous potential needs on overseas markets for the products of the Group's Environmental Systems & Industrial Plants segment (EfW plant and water treatment facilities, etc.) and Infrastructure segment (bridges, hydraulic gates, shield tunneling machines, etc.). At present, the urbanization process, in which populations are tending to concentrate in and around cities, is proceeding at a rapid pace throughout the world. If urbanization continues in regions such as Southeast Asia, the Middle East, and Africa, where populations are forecast to increase, this will lead to the emergence of various needs in areas of life directly related to the Group's business activities. These needs will include solutions to shortages of energy and water, to increased amounts of household garbage and industrial waste, to pollution of water sources, and to the need for the construction of and maintenance of transportation infrastructure such as elevated railroads and highways, as well as road tunnels and subway systems. These developments will constitute a major business opportunity for the Group.

Inova and Osmoflo

Amid this situation, to be able to steadily turn more and more such business opportunities into reality, it is vital that all the companies of the Hitachi Zosen Group—both within Japan and overseas—work together to maximally leverage synergy by bringing their individual management resources to the table and collaborating to realize mutual enhancement of their business competitiveness. Among these companies, Inova and the Australian enterprise Osmoflo (which was incorporated as a subsidiary of Hitachi Zosen in February 2017) specialize in the fields of energy and water.

Hitachi Zosen's involvement in the EfW plant business began in 1960 with the signing of a licensing agreement with Von Roll Environmental Technology Ltd. (the precursor to Inova) under which we commenced employing the company's technology relating to EfW plants capable of efficiently generating electric power while simultaneously making a valuable contribution to the natural environment. In 1965 we completed construction of Japan's first EfW plant. With the incorporation of Inova as a subsidiary in 2010, the Group became one of the world's leading enterprises in the EfW plant business in terms of the number of plants constructed and total business scale. Currently, the Group's operations cover a large part of the globe, Hitachi Zosen being responsible for operations in Japan and the rest of East Asia as well as Southeast Asia while Inova covers business in Europe, Russia, Australia, and the Americas, with the two companies cooperating in the Indian and Middle Eastern markets. The volume of waste handled by the EfW facilities constructed by Inova (principally in Europe) is at least ten times larger than the average volume of waste handled by facilities in Japan. For this reason, we are receiving design assistance from Inova in relation to large-scale facilities in China for which the parent company has received orders. In these ways, we have been making full use of the respective strengths of the two companies to suit the particular requirements of each geographical area and each project. With regard to differences in business domain between the two companies, whereas Hitachi Zosen enjoys adequate revenue from "After-sales services, Operation, and Maintenance" (AOM) and other post-completion services, which we refer to as "stable business", Inova's business model is focused on EPC (engineering, procurement, and construction). From here on, we plan to provide Inova with the know-how in stable business that Hitachi Zosen has built up over the years, enabling us to raise our market share in the AOM field.

Meanwhile, from its base in Australia, Osmoflo is engaged in the desalination and water treatment businesses in the Middle East, South America, Southeast Asia and other regions. By making Osmoflo into a subsidiary, the Group has newly acquired the reverse osmosis process technology for use in the desalination business as well as the know-how needed to engage in the management, operation, and leasing of water treatment facilities. By combining these technologies and expertise with Hitachi Zosen's existing desalination technologies—such as our multi-stage flash method—and with our experience in the construction of large-scale desalination plants, principally in the Middle East, we plan to speed up the pace of our worldwide development of the water treatment business.

Leveraging IoT, ICT, and AI

The Hitachi Zosen Group has hitherto focused its business operations on the manufacture and construction of such "hardware" as EfW plants, industrial machinery, and infrastructure elements like bridges. Japan currently faces the problem of the aging of hard infrastructure components that were constructed or laid down during the period of high-paced economic growth, as well as subsequently. From here onward, the country will increasingly need improvements also in the "soft" elements (systems and organizations, etc.) that will enable this infrastructure to operate efficiently and safely, and for as long as possible, without excessive manpower requirements. In 2011 we set up the Remote Monitoring and Operational Support Center to support mainly the operations of EfW plants. The center collects and analyzes data on the operation of the plants, and converts it into easily visualized formats, facilitating more efficient power generation and stable plant operation. In fiscal 2017, in our Machinery and Infrastructure segments we commenced a remote monitoring service utilizing IoT and ICT systems and AI technology to monitor the condition of machinery and such infrastructure elements as bridges and elevated roadways. In October 2018 operations will begin at the Hitz Advanced Information Technology Center (AITEC), which will become the Group's primary base for remote monitoring, IoT operations, and analysis of big data. Regarding human resources development, in 2017 we opened the Hitz AI Laboratory within our Technical Research Institute with the aim of training staff in the specialist field of artificial intelligence, and in fiscal 2018 we will be extending such AI training schemes to the entire Group. By making even more active use of cutting-edge technology, from here on we plan to create new products and businesses in the soft infrastructure field, and all our operating divisions will provide services with a high level of added value.

Reinforcement of business base

Enhancing governance and strengthening risk management

A lack of adequate governance of Inova's management over a period of years was largely to blame for the company's poor business performance in fiscal 2017. Recognizing this situation, from fiscal 2018 onward we are reviewing the revenue management, information exchange, and personnel rotation systems and methods of all the Group's subsidiaries, branches and offices in Japan and overseas. We have already begun taking steps to improve the governance of the Group. Regarding risk management, it is essential to anticipate risks within the business process and to design measures to minimize the likelihood of the risks being actualized. Our existing system is not up to the task, and we must put a new and adequate system into operation across the whole Group in the near future. One measure we will be taking is to rethink and revise the role of the Group's Technical Research Institute within our risk management system. Hitherto, following the occurrence of some kind of malfunction or underperformance within the Group, the staff of our Technical Research Institute have analyzed the causative factors and designed solutions, but from here on they will also attempt to predict risks likely to be actualized, and apply technical solutions prior to their occurrence wherever possible. In this way, we should be able to avoid problems or at least minimize their impact. Additionally, in parallel with the upgrading of our basic administrative computer system which is currently underway, we will also undertake a review of our business processes and fully leverage the capabilities of the soon-to-be-opened AITEC to strengthen our risk management.

Promotion of Diversity Management

The diversity of the Group's human resources has been growing year by year due to our policy of actively hiring women and staff from overseas. Going forward, to further promote diversity management, it is vital that we help reform working practices with the aim of achieving a better work-life balance and raising productivity. This is connected with the review of our business processes mentioned above. Firstly, we have started reviewing our present business processes from the ground up, and have begun reducing unnecessary work procedures from fiscal 2018. With regard to working systems, we have newly introduced a work-from-home system, and started building a network of small satellite offices. By improving working practices, we aim to reduce working hours and thereby provide our employees with a better work-life balance, creating an overall working environment conducive to productive work by any person. In such ways, we hope to steadily realize progress in diversity management.

The source of our value creation

The Hitachi Zosen Group's long-term vision is to be a solution provider for the creation of a recycling-oriented society. This involves the provision by the Group of providing technical solutions to social problems—wherever feasible—on a global scale, and the Group regards this problem-solving approach as its corporate mission. Measures to solve social problems will also help contribute to achieving the UN's Sustainable Development Goals, and we believe that this will result in the creation of new value. To make this possible, rather than directly exporting the technology it has developed within the Japanese market, the Group must optimally leverage the strengths of its member companies in Japan and overseas, and must find effective combinations of price and performance that suit the particular needs of each country or region where it operates. In this way, we must ensure that our operations are firmly rooted in their local regions, and that they contribute to local production for local consumption. This will not involve simply expanding our business operations. It will also be important—as instanced by our environmental awareness education programs in Laos—to raise people's awareness of the importance of public health & hygiene measures, including appropriate ways of collecting and disposing of waste, so as to create a viable living environment.

The Hitachi Zosen Group's business operations are based on our "Hitz Value" concept, which incorporates our corporate philosophy, management stance, and standards of business behavior. And within each of these, there are the same three vital elements— the willingness to take on every challenge, human resources, and technological competence. We believe that these three elements have constituted the source of the Group's value creation up to now, and that they will continue to do so. We have only just begun to take steps to realize our long-term vision, but the entire Group—working as one—is exerting its utmost efforts toward that end. I hope that all our shareholders, investors, and other stakeholders will continue to give us their support.

Takashi Tanisho
Representative Director,
Chairman & President

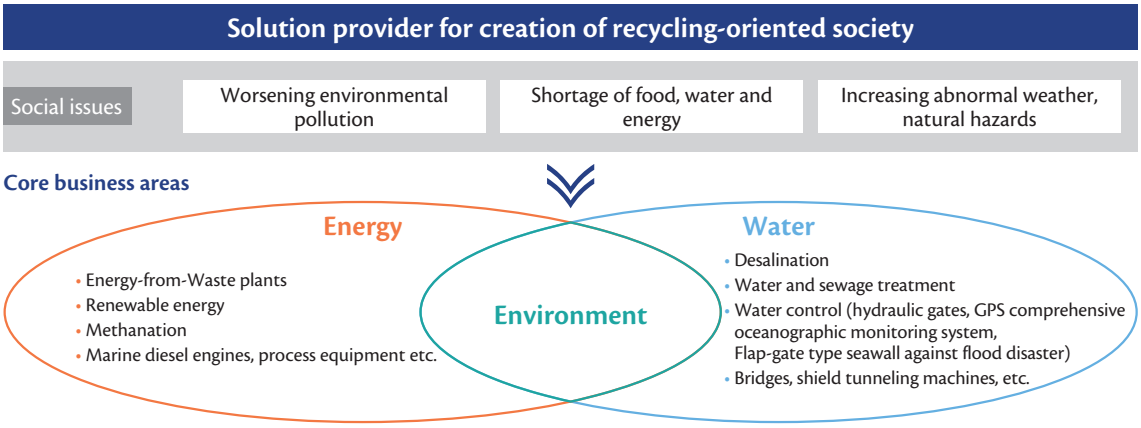
T. Tanisho

Long-Term Vision Hitz 2030 Vision

In 2017 the Hitachi Zosen Group established the Hitz 2030 Vision as its long-term vision for its future image in the year 2030. The Vision outlines a path toward the future in our business and sets specific goals for expanding our operations and enhancing profitability. Efforts to achieve these goals have already begun. We should anticipate major changes in our business environment before 2030 and may need to review our goals, strategies, etc. at certain intervals. Our aim is to become a profitable and sound company with public recognition, in addition to pursuing greater business scope. We will seek to share our image of the future through our long-term vision and improve communication with our stakeholders.

Goals and core business areas

The Hitachi Zosen Group aims to become a provider of solutions for the creation of a recycling-oriented society by the year 2030. Certain global social issues, environmental pollution, shortages of food, water, and energy, and abnormal weather and natural hazards are anticipated to become increasingly worse, and will strongly require the creation of a recycling-oriented society in the future. In this context, we set energy and water as our core business areas in the environmental field, and will work on enhancing profitability and expanding businesses by leveraging our developed technological competence, record of order deliveries, and relationship with customers and society.

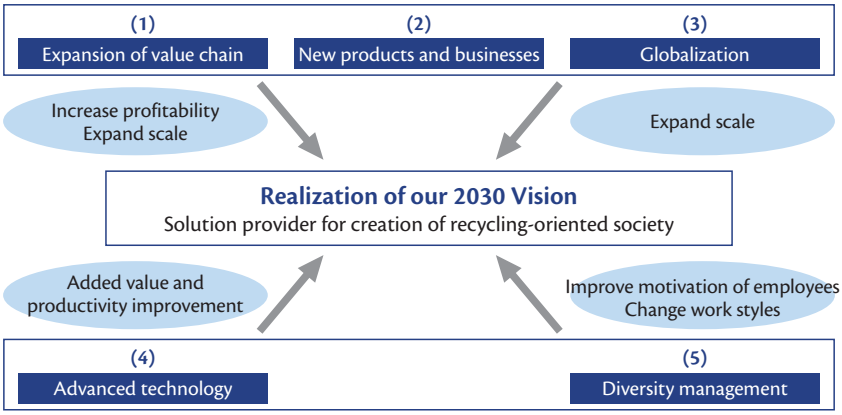


Efforts to realize the vision and numerical targets

The following five measures numbered (1) to (5) are being implemented to achieve the vision. We will strive to expand our business areas through the expansion of our value chain and the development of new products and businesses by focusing on energy and water in the environmental field. We will work on enhancing the sophistication of existing businesses by using advanced technology, offering new additional value, and increasing product efficiency.

Numerical targets are set: net sales of ¥1 trillion and operating income margin of 10% or more. Of the net sales of JPY1 trillion, we expect to generate 60 to 70% by growing existing business and 30 to 40% from new business and M&A. We will pursue a greater business scope after increasing the profitability of each business to generate an appropriate level of profits. We will seek to achieve an overseas sales ratio of 50% or more by promoting globalization.

To realize our 2030 Vision

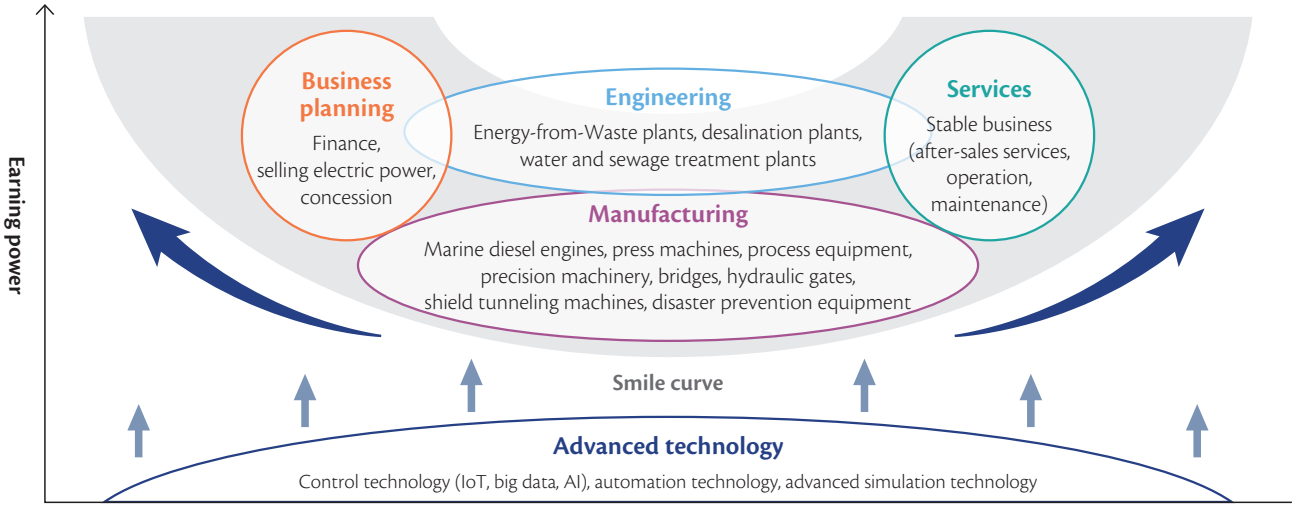


Numerical targets for FY2030

Net sales	¥1 trillion
Operating income margin	10% or more
Overseas sales ratio	50% or more
Shareholders' equity ratio	40% or more

Expansion of the Value Chain

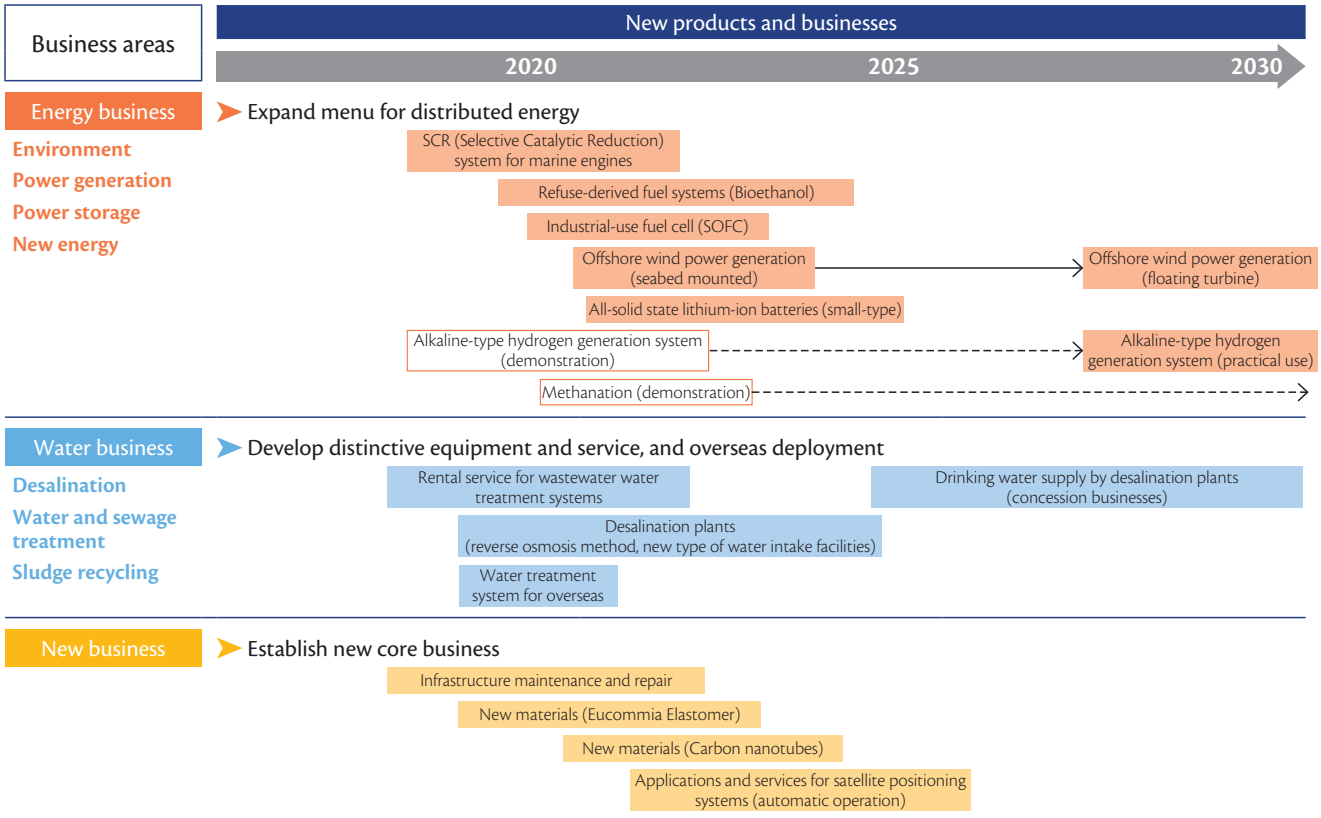
In the Group, we will expand the value chain to enhance our profitability. Our current main businesses—engineering and manufacturing—are positioned in midstream, positioned as low-profit businesses, in the smiling curve. In the future, we will seek to expand our value chain upstream toward business planning and downstream toward services—which are positioned as profitable businesses—as well as to raise the level of profitability of the entire Group by utilizing advanced technologies including big data and AI, on which the Group has proactively worked.



Schedule for developing new products and commercializing new business

New product launches and new business creation are divided into three categories: energy business, water business, and new business. R&D efforts have been made mainly for the products and businesses indicated below. In fiscal 2017, we won our first order for a seabed-mounted flap-gate type seawall, and orders for the selective catalytic reduction (SCR) system for marine engines gained momentum.

In the energy business area, partial business creation has begun in offshore wind power generation, and Eucommia Elastomer is a new material in the new businesses area. As for our approach to securing funding sources, improvement in operating cash flows will be given top priority, but external financing will be carried out as well.



Medium-Term Management Plan Change & Growth

Positioning of medium-term management plan

Change & Growth, a three-year medium-term plan starting from fiscal 2017, is positioned as the first step toward the realization of the long-term Hitz 2030 Vision. Measures are formulated by first setting goals for 2030 and then going back in time. This period will be our three years of laying a foundation for the future toward the year 2030, restructuring the business foundation and improving productivity, maximizing Group comprehensive strengths through the reinforcement of the consolidated management system, and promoting portfolio management.

Outline of the medium-term management plan

The "growth" part of Change & Growth signifies the Group's determination to restructure and enhance the productivity of its business foundation by executing various strategies and initiatives, including focusing resources on carefully selected businesses, developing a global platform, and maximizing the Group's comprehensive strengths, in tandem with steadily improving profitability and expanding the scale of business over the three-year period from fiscal 2017. This will mark the beginning of the Group's efforts to become a highly profitable company with public recognition by fiscal 2030.

"Change" embodies our strong aspiration to change our corporate culture in order to achieve growth. Changing our corporate culture is vital to ensuring that we continue to ambitiously expand our reach to new products and markets by honing our unique technological competence to meet customer needs.

In terms of management initiatives, in light of our reflections on our previous medium-term management plan, Hitz Vision II, we will focus on three basic strategies: (1) Restructure the business foundation and improve productivity, (2) Maximize Group comprehensive strengths, and (3) Promote portfolio management.

■ Basic strategies

Basic strategies (1)	Restructure business foundation and improve productivity	1. Business area expansion 2. Use ICT 3. Reinforce the structure of risk management 4. Take specific measures to increase profitability 5. Strengthen financial condition and increase investment capacity for growth
Basic strategies (2)	Maximize Hitz Group comprehensive strengths	1. Form business clusters and maximize synergy 2. Promote consolidated basis profit monitoring 3. HRD by job rotation
Basic strategies (3)	Promote portfolio management	1. Clarify position of each business by portfolio 2. Priority given to growing business and new business in resource allocation 3. Consider possibilities of revitalizing low-profit products

Numerical targets

We will steadily pursue the basic strategies to achieve the numerical targets for fiscal 2019, which is the last year of the medium-term management plan: order intake of ¥460.0 billion, net sales of ¥430.0 billion, operating income of ¥20.5 billion, ordinary income of ¥18.0 billion and net income of ¥10.0 billion. In fiscal 2017, the actual results fell well below the initial targets due to deteriorating profitability in the operations of Inova, an overseas Group company. The profits of the entire Group are expected to improve in and after fiscal 2018 because Inova has addressed reforms in line with the revival plan, which is beginning to yield results.

(¥ billion)	FY2017 Plan	FY2017 Result	FY2018 Initial plan	FY2018 Forecast*	FY2019 Initial plan
Order intake	400.0	400.4	430.0	430.0	460.0
Net sales	360.0	376.4	400.0	380.0	430.0
Operating income	12.5	5.9	16.5	12.5	20.5
Operating income margin	3.5	1.6	4.1	3.3	4.8

* Released in May 2018

Progress in the medium-term management plan

In the first year, we attained some progress in restructuring our business foundation and improving productivity, as shown in the table below, but found some issues in terms of governance over Inova. Countermeasures were taken, including a review of the system. In maximizing the Group's comprehensive strengths, we have held a series of discussions to promptly implement the business clusters according to business areas. In promoting portfolio management, focusing management resources on growing areas is underway as we pursue new business investments, capital investments, M&A, etc. by establishing criteria for investment decisions that take the cost of financing and returns from investment into account.

Basic strategy (1) Restructure business foundation and improve productivity

1. Business area expansion

In the engineering and manufacturing businesses, we have been pursuing measures to expand our value chain to include the service business and business investment, such as upstream business planning and downstream remote monitoring, operational assistance, and preventive maintenance of machinery and equipment, in addition to the usual design, manufacturing, and construction.

More P. 24 Segment Overview

2. Use ICT

Using ICT is indispensable to improving productivity in work where actual manufacturing is carried out. The entire Group, including individual manufacturing plants and research institutes, will seek to improve productivity by working on remote monitoring of production equipment, the introduction of a production management system, and a shift into smart factories. The Hitz Advanced Information Technology Center is under construction.

cf. P. 6 Putting All Our Efforts into Value Creation

3. Reinforce the structure of risk management

In Change & Growth, our focus is to reinforce the structure of risk management in overseas businesses. To accomplish this, Group-wide efforts have been made: dispatching executive officers to overseas affiliates; identifying risks by the Risk Examination Committee before accepting project orders to take action against, and have top management deliberate the identified risks; and establishing a follow-up framework after accepting orders.

cf. P. 23 Risk Management

4. Take specific measures to increase profitability

We have been working on increasing profitability through advantageous actions (e.g., developing technological advantage, enhanced solutions, new products, standardization, cost reduction) by analyzing the external environment and strengthening internal resources in each product.

5. Strengthen financial condition and increase investment capacity for growth

We have enhanced our financial strength through subordinated loans, expanded investment capacity for growth and reinforced tolerance for risks. A cash management system has been introduced for centralized management of the funds in the Group.

Countermeasures for Inova

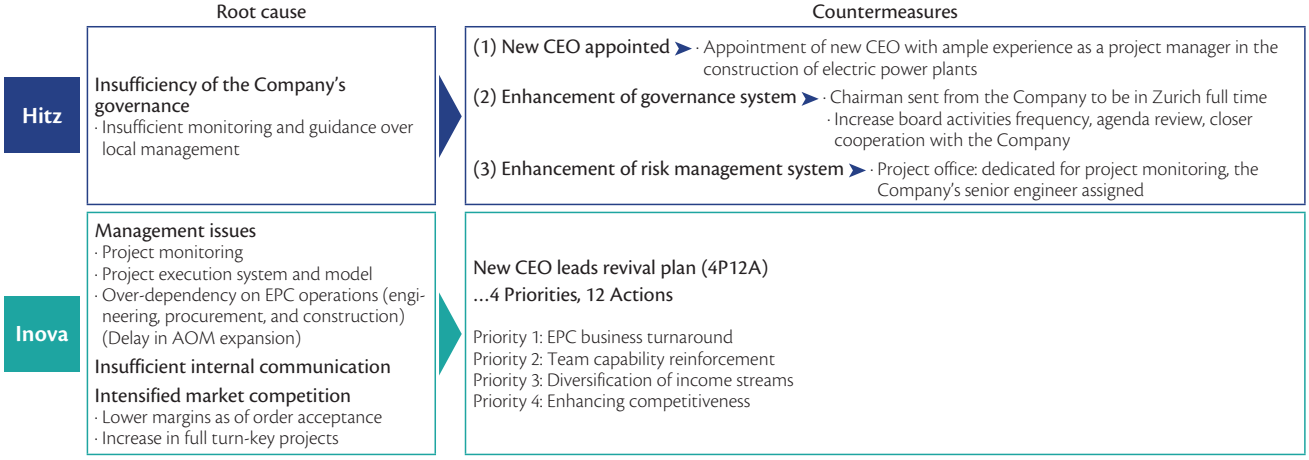
Inova saw poor performance in fiscal 2017 due to worsening profitability arising from an increase in work costs. We believe that this was caused by the Company's insufficient governance over Inova and by Inova's inadequate management.

The Company has implemented three countermeasures against these issues: (1) new CEO appointed, (2) enhancement of governance system, and (3) enhancement of risk management system.

Inova has addressed reforms in line with the revival plan under the new CEO, and it is beginning to yield results.

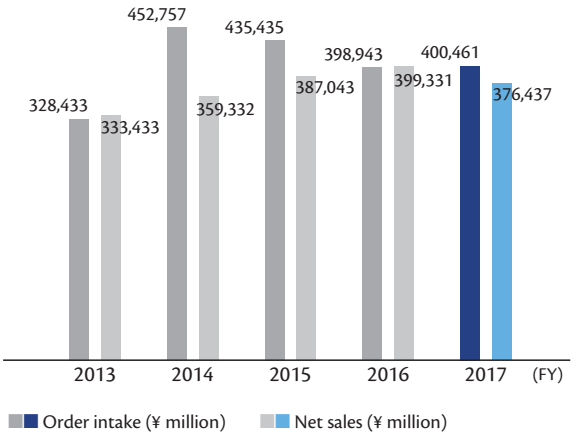
The Company has accumulated strengths in continuing operations including "After-sales services, Operation, and Maintenance" (AOM) in Japan while Inova has strengths in its track record, know-how, and network developed mainly in Europe. We will seek to generate more synergy and further improve corporate value by promoting technology and business development through the use of the strengths of the two companies.

■ Profit deterioration in Inova: cause and countermeasures

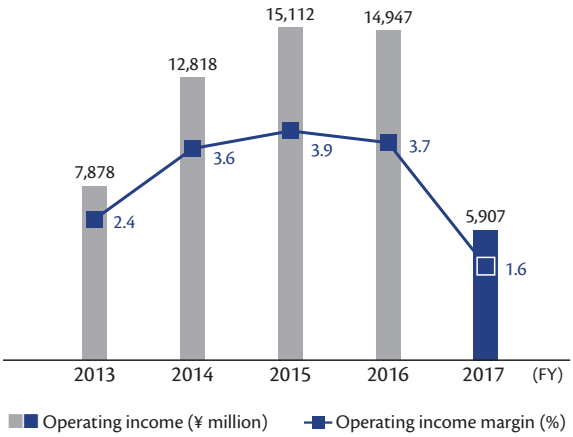


Financial and Non-Financial Highlights

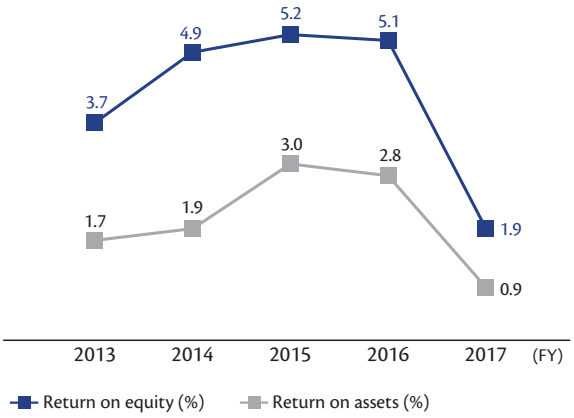
Order intake and net sales



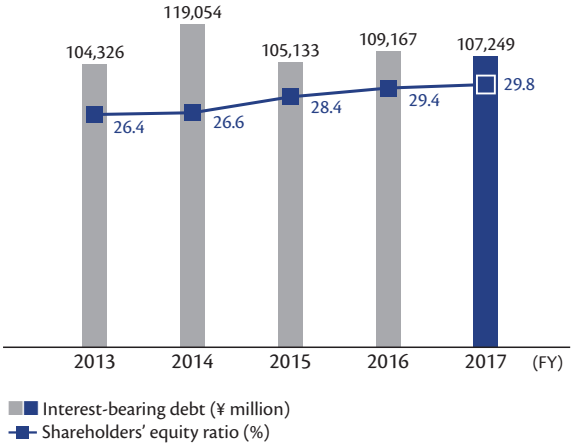
Operate income and operating income margin



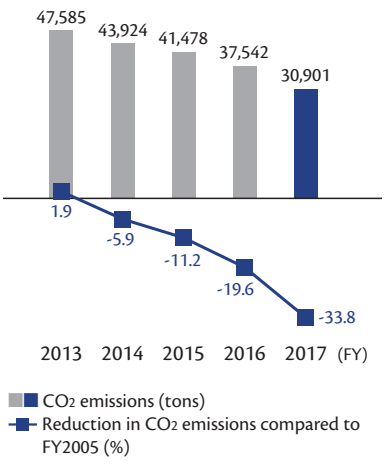
Return on equity and return on assets



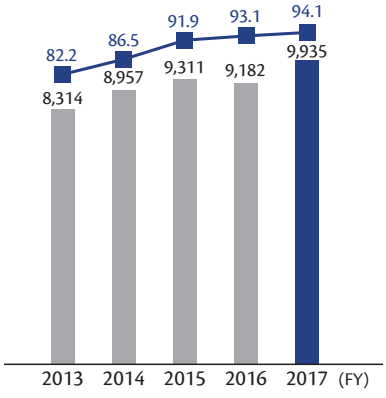
Interest-bearing debt and shareholders' equity ratio



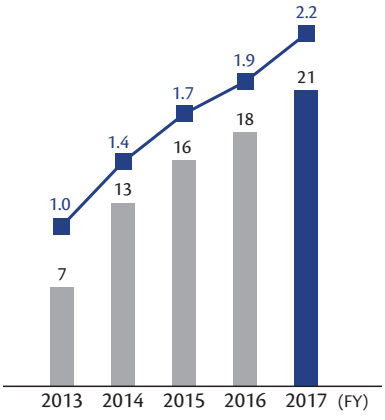
CO_2 emissions[*1] and reduction in CO_2 emissions compared to FY2005[*1, 2]



Amount of industrial waste[*3] and recycling rate[*3]



Number and ratio of female managers[*4]



(FY)

Financial highlights (¥ million)	2013	2014	2015	2016	2017
Operating results					
Order intake	328,433	452,757	435,435	398,943	400,461
Net sales	333,433	359,332	387,043	399,331	376,437
Overseas sales ratio (%)	34.8	34.0	33.3	32.8	27.2
Operating income	7,878	12,818	15,112	14,947	5,907
Operating income margin (%)	2.4	3.6	3.9	3.7	1.6
Ordinary income	6,220	7,568	12,272	11,225	3,365
Profit attributable to shareholders of Hitachi Zosen	3,719	5,100	5,848	5,864	2,171
Research and development expenses	6,285	6,181	6,526	7,089	7,411
Cash flows					
Cash flows from operating activities	299	9,085	8,147	17,304	-3,373
Cash flows from investing activities	-8,697	-14,680	-3,666	-6,998	-10,725
Cash flows from financing activities	-513	12,178	-15,948	-8,417	-4,018
Cash and cash equivalents at end of year	49,961	60,769	49,671	50,848	32,743
Financial position					
Total assets	379,414	408,803	401,648	393,587	391,860
Net assets	117,564	117,530	120,666	117,810	119,014
Interest-bearing debt	104,326	119,054	105,133	109,167	107,249
Per share data					
Net income (yen)	23.77	30.52	34.96	34.79	12.88
Net assets (yen)	641.16	651.24	677.24	685.83	693.53
Cash dividends (yen)	10.00	10.00	12.00	12.00	12.00
Dividend payout ratio (%)	42.1	32.8	34.3	34.5	93.2
Financial indicators					
Return on equity (%)	3.7	4.9	5.2	5.1	1.9
Return on assets (Ordinary income/Average total assets) (%)	1.7	1.9	3.0	2.8	0.9
Shareholders' equity ratio (%)	26.4	26.6	28.4	29.4	29.8
Debt-equity ratio (times)	1.0	1.1	0.9	0.9	0.9

(FY)

Non-financial highlights	2013	2014	2015	2016	2017
CO_2 emissions[*1] (tons)	47,585	43,924	41,478	37,542	30,901
Reduction in CO_2 emissions compared to FY2005[*1, 2] (%)	1.9	-5.9	-11.2	-19.6	-33.8
Amount of industrial waste reduced[*3]					
Waste volume (tons)	8,314	8,957	9,311	9,182	9,935
Recycling rate (%)	82.2	86.5	91.9	93.1	94.1
Number of companies (the Company, consolidated subsidiaries and affiliated companies using the equity method)	94	101	105	122	128
Number of employees	9,171	9,581	9,825	10,131	10,377
Ratio of female employees[*4] (%)	5.3	7.3	7.4	7.8	7.8
Ratio of female managers[*4] (%)	1.0	1.4	1.7	1.9	2.2
Frequency rate of accidents causing absence from work[*5] (%)	0.44	1.25	0.40	0.23	0.92

*1 Hitachi Zosen non-consolidated (mandated reporting items under the Act on the Rational Use of Energy)
*2 Calculated using standards for fiscal year ended March 31, 2017
*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 Hitachi Zosen non-consolidated
*5 (Number of fatalities and injuries due to industrial accidents requiring 1 day or more absence from work÷cumulative hours worked) x 1,000,000

Message from the Executive Financial Officer

Tatsuji Kamaya
Managing Director
General Manager of Corporate Planning Headquarters

Strengthening the Group's financial standing and promoting portfolio management

Evaluating our performance for the first year of the current medium-term management plan

As a first step toward the realization of the goals under our Hitz 2030 Vision long-term vision, we succeeded in reaching our first-year targets for both order intake and net sales under the current medium-term management plan—Change & Growth—which commenced in the fiscal 2017 business term. Turning to profits, on the other hand, we fell well short of our first-year targets, mainly as a combined result of the deterioration in profitability of construction projects undertaken by Inova of Switzerland, which is engaged in the Energy-from-Waste (EfW) plant business, and an increase in general administrative expenses stemming from the acquisition as a subsidiary of Osmoflo of Australia in February 2017.

We have determined that one of the most basic causes of the deterioration in the profitability of Inova's operations was a lack of adequate governance by Inova's parent company Hitachi Zosen, and for this reason we have laid down the promotion of consolidated basis profit monitoring as one of the core strategies within our medium-term management plan. It is extremely regrettable that our profit monitoring was insufficient in the case of overseas subsidiaries. Nonetheless, looking on the bright side, we have clearly identified the cause of the profit deterioration at Inova, and steps have already commenced to remedy this situation.

Measures to strengthen our financial standing

The average contract period from receipt of order to completion of the "heavy industry" business projects in which the Hitachi Zosen Group specializes is in the 18-month to two-year range, while some projects take up to five or six years. Moreover, the longer the project takes for completion, there is also a tendency for the range of risks to which a project may be subject to expand. At the Hitachi Zosen Group, we have passed through a period—beginning in the 1980s—during which our business performance was strongly impacted by external factors such as exchange rate fluctuations, and we are putting this experience to good use in crafting and implementing a variety of measures to strengthen the Group's financial standing.

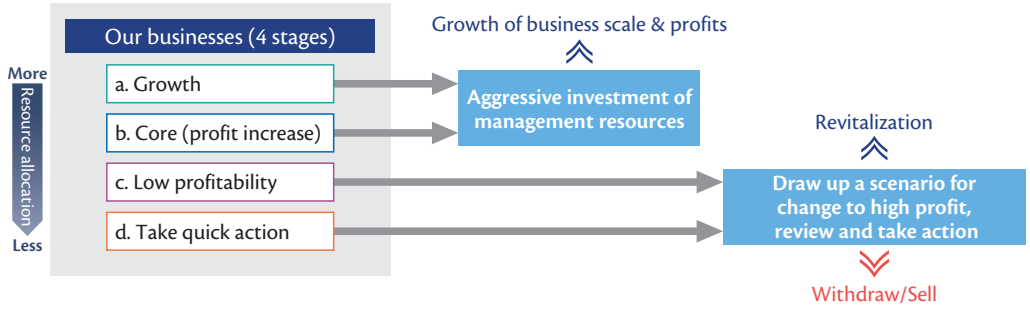
Specifically, the Group has acquired committed credit lines with its correspondent financial institutions totaling ¥30 billion, making it possible to raise funds promptly and efficiently when needed. Moreover, in May 2017 we raised ¥20 billion through the issuance of subordinated loans. Due to the outlook for an improvement in the financial standing of Hitachi Zosen thanks to these and other measures, the Japan Credit Rating Agency, Ltd. upgraded the Company's rating to BBB+. In addition, the Company's shareholders' equity ratio on a consolidated basis as of March 31, 2018 stood at 29.8 %, representing a year-on-year improvement for the fourth consecutive year.

Promoting portfolio management

To strengthen the Group's financial standing by means of improvements to its business operations requires, above all else, raising earning capacity. While it is important to expand the sphere of our business operations, the key to success lies in our ability to raise the earning capacity of our existing business lines. We are currently engaged in efforts to raise the value-added of all the Group's operational lines and improve productivity through the incorporation of IoT, ICT, and AI technologies and systems. Our core financial strategy consists of using such measures to raise earning capacity, increase cash flows from operating activities, and provide a greater reserve of funds for investment.

We are also currently fully engaged in taking measures to promote portfolio management, which is another of the strategies at the core of our medium-term management plan. We first divide our ongoing and future businesses into four stages (growth, core, low profitability, and take quick action) according to earning capacity, and depending on the positioning of each business, we then divide them into two categories: businesses into which we plan to allocate management resources aggressively, and businesses where we plan to undertake structural reform aimed at realizing an earnings recovery. While investing in those businesses that we feel have growth potential, we will consider withdrawal from or the sale of those operations that are not part of our core group of businesses or those that have remained stagnant after the elapse of a predetermined span of time.

Basic business stance



Position	Action
Growth/Core	Aggressive investment (development, capital investment, M&A etc.)
Low profitability, take quick action	Find out if it can be pulled out of the cycle of low growth and low profit; promote selection and concentration (continue operations or withdraw/sell)
New businesses	Evaluate business viability and promote selection and concentration (commercialization, withdrawal/sale)

Aggressive investment in businesses in growth and core categories

As part of our policy of portfolio management promotion, we are investing heavily in business operations whose earnings are thought likely to grow. We project a cumulative total of investments of ¥100 billion over the three-year span of our current Change & Growth medium-term management plan. This breaks down into ¥30 billion investment in R&D, ¥40 billion in plant and equipment, and ¥30 billion in M&A and others. Investment targets both in Japan and overseas will be carefully examined. Looking at specific overseas investments, we are currently investing in a methane fermentation power-generation business in California, and we expect the EfW market in the United States, which has not yet reached maturity, to expand in the near future. In the Japanese market, we have invested ¥1 billion in the construction of the Hitz Advanced Information Technology Center, and this facility will begin fully fledged operations in October 2018. This center will play the role of our core facility for the use of ICT, and will be a base for the expansion of businesses that optimally leverage the Group's areas of strength. Among the investments in the aforementioned projects, funds required for R&D and capital investment will be budgeted within the scope of cash flows from operating activities, while funds required for investment in business operations and M&A will also be supplied partly by external procurement on top of cash flows from operating activities. During the previous medium-term management plan—Hitz Vision II (FY2014-2016)—we invested ¥68.2 billion in R&D expenses, capital investment and M&A etc., and as such, under the current plan, we will identify priorities and allocate management resources to businesses that will contribute toward future earnings.

At the same time, we are also focusing efforts on strengthening our risk management. Regarding acquisitions of overseas companies, since 2010 we have acquired Inova of Switzerland, NAC of the United States, Cumberland of the UAE, and Osmoflo of Australia, each purchase having been made in line with specific objectives. Henceforward, we intend to lay down a fully functioning system of governance for our overseas subsidiaries and to reinforce our risk management system, including dispatching executive officers from the parent company, regularly exchanging opinions with the overseas subsidiaries' managements, and establishing a shared set of management policies.

Shareholder returns, and dialog with shareholders and investors

We paid a dividend of ¥12 per share on the basis of the fiscal 2017 settlement of accounts: this was the same dividend as paid for the previous year. With regard to shareholder returns, we are focusing our efforts on making possible an increase in dividend payments by securing higher profits from existing business operations. The deterioration of Inova's earnings for fiscal 2017 dealt a heavy blow to Hitachi Zosen's consolidated business performance, and we fully admit our failings in this regard. We intend to strengthen our countermeasures against the materialization of risk such as the aforementioned risks relating to overseas operations, as well as other risks to which the Group as a whole is subject, and we hope to enhance shareholder returns by ensuring a stable but steadily increasing net income for each term.

Additionally, we will seek to implement fully adequate information disclosure to our shareholders and investors so that they will gain a deeper understanding of the Hitachi Zosen Group's management policies and business plans and other essential information.

Scale of investment of management resources

(¥ billion)	Hitz Vision II 3 years (FY2014-2016)		Change & Growth 3 years (FY2017-2019)
	Plan	Actual	Plan
R&D expenses	30.0	19.6	30.0
Capital investment	30.0	28.0	40.0
M&A & others	40.0	20.6	30.0
Total	100.0	68.2	100.0

Risk Management

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 risks recognized and managed by the Company

Type of risk	Potential effect	Our response
Risks potentially arising during normal business activities		
① Violations of law	Risks occur from ignorance of laws, regulations, and socially-accepted norms as well as from a lack of willingness to obey 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, 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. One of these measures, the prevention of Antimonopoly Act violations, is outlined in the Proposals from the Committee for Verification of the Antimonopoly Act Compliance and Proposals and the Company's approach (Corporate website: What's New, November 30, 2011), and a continuing internal education program ensures the prevention of non-compliance incidents. More P. 34 Corporate Governance
② 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 an effort to protect the environment in and around its business sites as well as the local communities in which they operate. 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 plants and Group companies promotes measures to protect the local environment through its Business Site Environmental Preservation Committee, following the aforesaid basic policies. In addition, we strive to act in line with global environmental protection activities, such as protecting the ozone layer, helping prevent or mitigate global warming, and recycling and reducing waste. More P. 45 Environmental Initiatives
③ 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 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. 40 Human Resources
④ 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 making every effort to maintain the confidentiality, integrity, and availability of our information assets by implementing various preventive measures as appropriate.
⑤ Deterioration of profitability of individual business projects	Any risk to an individual project that was unforeseen at the time an order is accepted can have adverse effects on business results by severely affecting their profitability.	In accepting an order for a business project that contains more than a certain level of risk due to the contract price, the destination, or the adoption of a new technology or business model, the Risk Management Group of the Corporate Planning Department, which is a department common to all Group companies, identifies and evaluates the risks inherent in the technological and commercial conditions of the contract, and examines workaround measures in advance. A Risk Examination Committee is organized, if necessary, to measure the level of risk from various aspects. The results are reported to a decision-making committee, which will make the final decision on acceptance of the order. After an order is accepted, the Project Management Group of the Corporate Planning Department monitors the project on a monthly basis to minimize variance between targets and actual results.
Risks that cannot be managed by conventional systems		
⑥ 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 in place, and carry out inspections and training to respond to such a disaster. We also maintain emergency communication systems.

Segment Overview

Businesses of Hitachi Zosen Group

The Hitachi Zosen Group has developed its businesses in three segments: Machinery, Infrastructure, and Environmental Systems & Industrial Plants, which is our core segment focusing on the engineering, procurement, and construction (EPC) and after-sales services, operation, and maintenance (AOM) of Energy-from-Waste (EfW) plants. We have been addressing various social issues in countries around the world through the provision of products and services.

Major lines of business

Environmental Systems & Industrial Plants

This segment focuses on the EPC of EfW plants and stable business and builds various water-related facilities, including sludge recycling centers and desalination plants, and energy-related facilities, including biomass 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 a 24/7 remote monitoring system as well as technology and optimal operation management for longer use or longer useful life of facilities and equipment. In EfW plants, we have won after-sales service contracts for more than 140 facilities, more than 50 contracts for operational services, and more than 30 contracts for comprehensive operational services.

2017 Net sales: ¥231.8 billion

Net sales composition

- EPC (newly constructed plant) 42%
- Stable business 58%

Net sales composition by region

- Japan 73%
- Overseas 27%

Machinery

With a wide variety of product families including marine diesel engines, press machines for automobiles, pressure vessels for petrochemical plants and other process equipment, and various types of precision machinery and hydrogen generation systems, we tackle the problems of our customers in various industries, such as mitigating environmental burdens and streamlining manufacturing processes for higher efficiency, and provide consistent support services ranging from development to servicing.

2017 Net sales: ¥100.6 billion

Net sales composition

- Marine diesel engines 20%
- Press machines 24%
- Process equipment 14%
- Precision machinery 27%
- Other 15%

Net sales composition by region

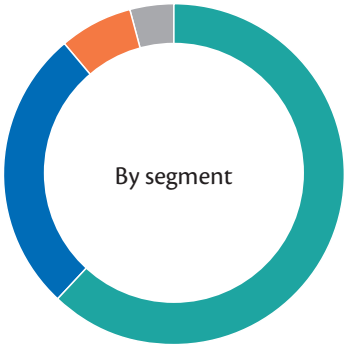
- Japan 61%
- Overseas 39%

Infrastructure

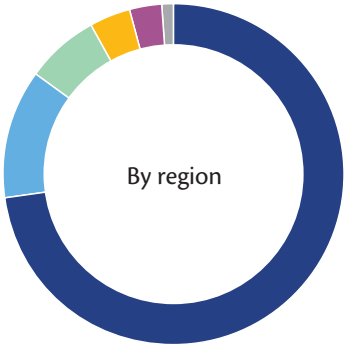
We have a more than 100-year history and track record in building bridges and hydraulic gates for dams and rivers, and have worked on extending their useful life through monitoring, maintenance, repair, and seismic strengthening. A wide range of infrastructure elements have been developed with our cutting-edge technology and development capabilities, including shield tunneling machines for construction of underground motorways and subway tracks, and flap-gate type seawalls against flood disaster due to tsunamis or storm surges.

In fiscal 2017, net sales in the Infrastructure segment were ¥28.2 billion, driven by the bridge building business. In terms of net sales by region, more than 90% was from Japan. Our future challenge is to develop overseas operations.

FY2017 Net sales composition



Environmental Systems & Industrial Plants	62%
Machinery	27%
Infrastructure	7%
Other	4%



Japan	73%
Europe	12%
Asia	7%
Middle East	4%
North America	3%
Other	1%

● EfW plants

● Biomass plants

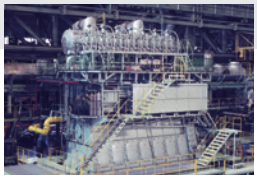
● Biogas plants

● Desalination plants

● Water and sewage treatment plants

● Sludge recycling centers

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



● Marine diesel engines

● SCR systems for marine engines

● Press machines

● Pressure vessels

● Vacuum valves

● Filter presses

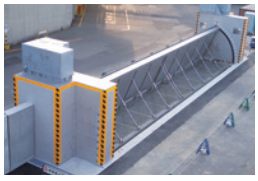
- Deck machinery for ships
- Boilers
- Nuclear fuel cycling related equipment (casks and canisters)
- Various types of precision machinery
- Various types of industrial equipment, etc.

● Bridges

● Hydraulic gates

● Large marine structures

● Steel stacks



● Flap-gate type seawall against flood disaster

● Shield tunneling machines

- Marine civil engineering
- GPS remote monitoring system
- GPS marine buoys
- GPS comprehensive oceanographic monitoring system
- Electric discharge impulse crushing system
- Maintenance technology, earthquake-resistant technologies, etc.

Environmental Systems & Industrial Plants

We will contribute to the creation of a recycling-oriented society on a global basis through our EfW plant development business, which has the best track record in the world, and our water and energy businesses.

Kazuhisa Yamamoto
Director
General Manager,
Environment Business Headquarters

Social issues and needs, and the value we provide

Social issues and needs

- Increasing waste, increasing water demand, deteriorating water environment associated with growing global population
- Global warming associated with CO_2 increase

Value provided through major products and services

- Safe, stable, and sanitary waste treatment, water supply
- Provide renewable energy, reduce CO_2 emissions through energy recovery

Performance overview

Order intake amounted to ¥257.2 billion, an increase of ¥16.6 billion from the previous fiscal year as we received many orders for the EfW plant construction and operation business, long-term operation business, and key facility upgrade work in Japan, and received an order overseas for the construction of an EfW plant in Turkey for the first time in the Group's history.

Net sales were ¥231.8 billion, a decrease of ¥22.8 billion from the previous fiscal year due to the drop in the posted sales amount of the large-scale desalination plant for Qatar, despite the completion of EfW plant construction projects in Japan and overseas.

Operating income was ¥1.3 billion, a decrease of ¥10.0 billion from the previous fiscal year because of a deterioration in profitability arising from the increased costs of overseas projects.

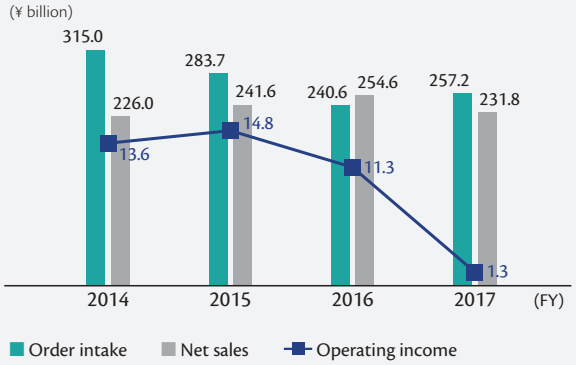
Goals for Hitz 2030 Vision

In the EfW plant construction and operation business, the domestic EPC (newly constructed plant) market is expected to reach a saturation point while overseas markets are anticipated to grow, especially in Southeast Asia, due to population growth and economic development. We will aim to grow the business by maintaining our current business model in Japan, clearly separating overseas market territories between the Company and Inova, and developing integrated global business strategies. Our overseas presence will be pursued in the AOM business as well. In Japan, we will seek to expand our business into waste collection and transportation services and develop preventive maintenance technology by ICT.

In the water treatment business, the domestic market will plateau. We will aim to win more orders by differentiating ourselves through value-added technology, such as generating renewable energy and phosphorus recovery from sludge and human waste. Meanwhile, the clean water and desalination business is expected to grow due to the scarcity of water resources in overseas markets. We will expand the water supply business in China and Southeast Asia by combining the reverse osmosis desalination technology and leasing business expertise owned by Osmoflo, which was acquired in February 2017, with the Company's fiber filtration and water intake technologies.

In the energy business, renewable energy is expected to account for a greater share of the energy mix over the long term, offering strong prospects for growth in the biomass power generation market. We will focus on winning orders for projects eligible for the feed-in tariff (FIT) system, as we work to develop private power generation projects centered on biomass energy.

Changes in financial results




Suginami Incineration Plant, Clean Authority of Tokyo


EfW plant for Ireland


Akita Biogas Power Station


Solid oxide fuel cell (SOFC) power system for commercial and industrial use

Progress and issues of the medium-term management plan

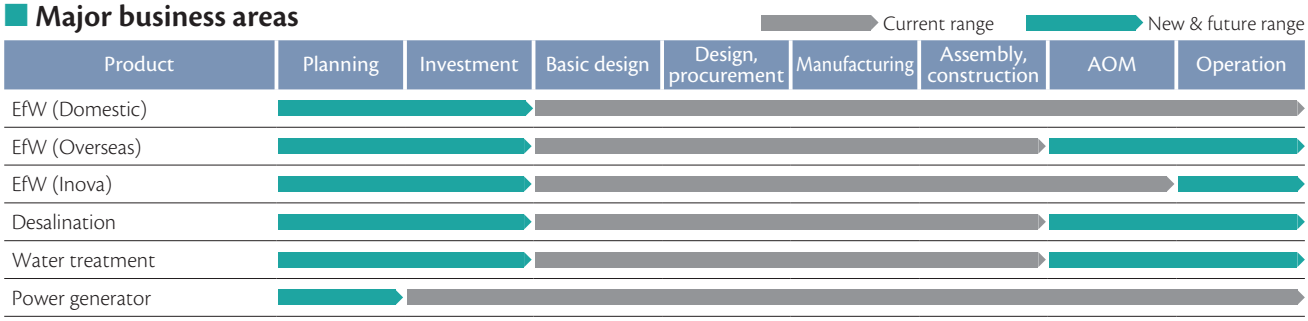
In the EfW plant construction and operation business, we aim to boost our share by meeting the increasing demand for design-build-operation (public-build and private-operation) projects in Japan. Differentiation from our competitors is ongoing as we contribute to the creation of a recycling-oriented society through high-efficiency energy recovery systems, and provide stable and safe facility operation using optimal operation management systems.

In overseas markets, our position as the global leader in the EfW plant development market will be solidified as we steadily carry out the management reorganization at Inova. Regarding the technical aspect, we will further reinforce the partnership between the two companies in standardizing the combustion equipment and jointly developing new technologies. Inova has invested in businesses in the United States and Sweden and started operating a biogas power plant on its own to diversify its revenue streams.

In the water treatment business, Osmoflo serves as the hub for our global operational presence. Measures for business expansion are under discussion, including selling equipment to China, Southeast Asia, and elsewhere as well as participating in public-private partnership (PPP) projects. In Japan, the groundwork for our entry into the water and sewage system operation business is being laid.

In the energy business, Akita Biogas Power Station was completed and started generating power. Creation of new businesses for FIT-based power sources centered on biomass is under discussion. The solid oxide fuel cell (SOFC) is being subjected to a demonstration experiment to accelerate its release to the market. Moreover, in the power producer and supplier (PPS) business, we will seek to secure distributed generation by suggesting local production for local consumption of power in newly built EfW plants, and to grow the PPS business by highlighting our track record in reducing CO_2 emissions through power procurement from renewable energy.

Major business areas



Machinery

Based on the manufacturing experience we have accumulated over the years, we aim to become the world's leading manufacturer contributing the environment and safety in the marine diesel engine, press machine, process equipment, and precision machinery fields.

Tadashi Shibayama
Director
General Manager,
Machinery Business Headquarters

Social issues and needs, and the value we provide

Social issues and needs

- Reduction of NOx, SOx and CO_2 emitted from ships
- Food shortages
- Environmental pollution (disposal of liquid waste such as sterilants)
- Food safety and security

Value provided through major products and services

- Conservation of the global environment (SCR systems for marine engines, two-stroke dual fuel engines for marine application)
- Contribution to alleviating food shortages by supporting the production of fertilizers to grow food (pressure vessels for fertilizer plants)
- Reduction of environmental impacts (electron beam sterilization system)
- Food safety and security, such as supporting food factories in quality control (e.g., food defense & management recording system)

Performance overview

Order intake amounted to ¥98.4 billion, a decrease of ¥8.5 billion from the previous fiscal year due to a decline in orders for marine diesel engines and process equipment, which more than offset the receipt of a series of orders for SCR systems for marine engines and an increase in orders for vacuum valves.

Net sales were ¥100.6 billion, a decrease of ¥3.1 billion from the previous fiscal year due to lower sales of marine diesel engines and process equipment, although precision machinery grew significantly, driven by vacuum valves. We also posted sales of various press machines for automotive companies, marine diesel engines for domestic and overseas shipyards, pressure vessels for fertilizer plants, and others.

Operating income was ¥2.5 billion, an increase of ¥0.3 billion from the previous fiscal year, thanks to an increase in precision machinery, which more than offset a decrease in presses caused by intensified price competition.

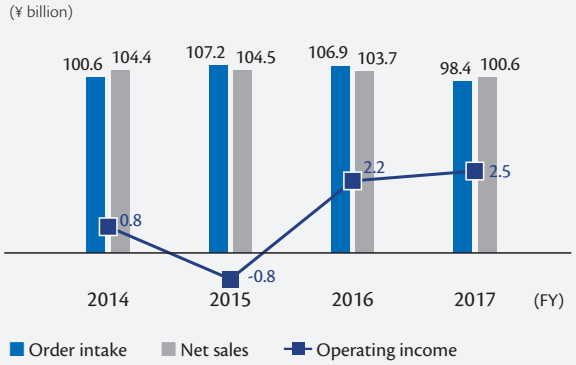
Goals for Hitz 2030 Vision

We aim to become the world's leading manufacturer contributing to the environment and to safety in each product of the Machinery segment, based on the manufacturing experience we have accumulated over the years. More specifically, we will seek to grow solution-based services, including after-sales services, by harnessing ICT, and to create and grow new businesses including methanation.

Targeted Directions

1. **ICT-oriented leading manufacturer in terms of productivity, quality, and delivery**
   We aim to become an ICT-oriented leading manufacturer and to pursue further automation in each market in the automobile, shipbuilding, semiconductor, and electronic control industries. We also seek to become a leading manufacturer in terms of productivity, quality, and delivery in the individual manufacturing fields.
2. **Global enterprise contributing to environmental improvement and providing safety and security**
   We aim to become a global enterprise that helps to improve the global environment (for example, by reducing NOx, SOx, and CO_2 emissions) and that provides safety and security in the food and pharmaceutical sectors.
3. **Expansion of ICT-driven solution-based services including after-sales services**
   We will expand solution-based services while growing after-sales services for stable profits by harnessing ICT, rather than just manufacturing.
4. **Creation and growth of new businesses**
   We will expand the scale of business operations by creating and growing new businesses including methanation.

Changes in financial results



Marine diesel engine equipped with SCR system

Progress and issues of the medium-term management plan

We will further focus on expanding the domestic and overseas after-sales service businesses by leveraging our extensive track record in order deliveries. To enhance and expand our business operations and increase our profitability, we are making efforts in the following areas.

1. Marine diesel engines

Orders for SCR systems for marine engines gained momentum as we started shipping the units, which are to be mounted on marine engines, in addition to stand-alone units. We have been working on building a production structure for dual fuel engines, establishing diagnostic and evaluation technologies, and increasing after-sales service sites. In terms of earnings, we have not reached profitability, but will continuously pursue improvement by eliminating problems and reducing costs.

2. Press machines

Our technological and development competence has been enhanced to respond to changes in the industry, such as new materials to reduce vehicle weight. Productivity has improved as capital spending furthered automation and unmanned operation.

3. Process equipment

Improvement in productivity has been pursued through the introduction and development of automated facilities. In terms of sales, we seek to: enhance our marketing capacity through building overseas sales networks; launch newly designed metal casks and concrete casks on the domestic market; and grow the overseas cask and canister business.

4. Precision machinery

Our vacuum equipment, handling machines, and polishing machines have been directed to the booming organic electro-luminescence (OEL), semiconductor, flat-panel display (FPD), and future flexible printed circuit (FPC) markets. In particular, our vacuum valve business has been responding to vigorous demand for semiconductors and OEL.

Our aim is to win more orders for filling and packaging systems and plastic extrusion system for the food and pharmaceutical industries by applying, refining, and combining proprietary technologies. We have been reinforcing after-sales services by leveraging our extensive track record in order deliveries.

As for electronic boards and units, we seek to win more long-term and steady repeat orders for electronic boards and units to meet customer needs by enhancing sophistication and adding high value to Group products, as well as by participating in internal development and basic plans. In the inspection and measurement systems field, businesses driven by software and services are developing.

5. Other

In anticipation of the spread of renewable energy, we are working on In anticipation of the spread of renewable energy, we are working on expanding our sales of megawatt-scale systems for on-site hydrogen generation by water electrolysis, and on developing methanators.

Regarding our filter presses, which account for the largest share in Japan, we have developed smaller models for the wastewater treatment field to expand the market, and have been leveraging our extensive track record in order deliveries to reinforce after-sales services using IoT and big data.

Major business areas

Current range New & future range

Product	Planning	Investment	Basic design	Design, procurement	Manufacturing	Assembly, construction	AOM	Operation
Marine diesel engines				■	■	■	■	
Press machines			■	■	■	■	■	
Process equipment	■	■	■	■	■	■	■	
Nuclear fuel recycling related equipment	■	■	■	■	■	■	■	■
Precision machinery			■	■	■	■	■	

Infrastructure

We will contribute to building a sustainable disaster-prevention and disaster-mitigation society by addressing the development of infrastructure elements through our steel structure and disaster prevention businesses and our shield tunneling machine business.

Munekazu Shima
Executive Officer
General Manager,
Infrastructure Business Headquarters

Social issues and needs, and the value we provide

Social issues and needs

- Domestic infrastructure improvement and measures against aging
- Prevention of inundation damage due to tsunamis, storm surges, or floods
- Traffic congestion alleviation, urban traffic improvement, urban development, rainwater measures

Value provided through major products and services

- Build and improve infrastructure using state-of-the-art technology, such as new construction and upgrading of bridges, dams, and hydraulic gates for rivers, seismic strengthening, and maintenance and repair
- Reduce both the risk of operators' damage from disasters and damage from inundation by using non-powered (i.e. do not require human operation) self-closing flap-gate type seawalls against flood disaster.
- Contribute to building road/railroad tunnels and improving utility tunnels and underground flows by manufacturing shield tunneling machines

Performance overview

The segment-wide order intake amounted to ¥31.4 billion, a decrease of ¥1.8 billion from the previous fiscal year due to a decrease in orders for large shield tunneling machines affected by the downturn in domestic demand. Nonetheless, we won an order for the first unit of the seabed-mounted flap-gate type seawall for Iwate Prefecture, in addition to a number of orders for the construction of new bridges from the Ministry of Land, Infrastructure, Transport and Tourism as well as from local governments.

Net sales were ¥28.2 billion, a decrease of ¥1.0 billion from the previous fiscal year due to the decrease in sales of marine structures.

Operating income was ¥1.4 billion, an increase of ¥0.4 billion from the previous fiscal year as earnings from each type of equipment improved through cost reductions in individual construction.

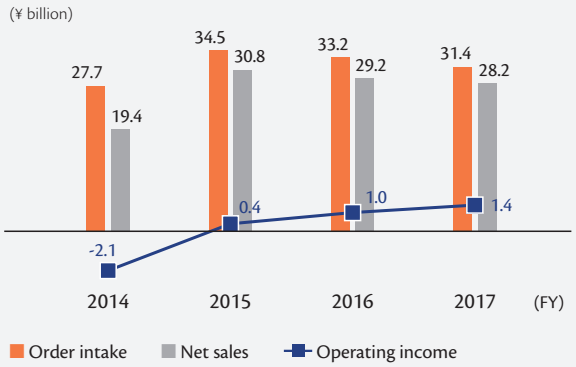
Goals for Hitz 2030 Vision

In our steel structure and disaster prevention businesses, we will seek to win more orders for EPC projects by expanding our project scope and service areas through accumulating experience in official development assistance (ODA) projects in addition to the stable domestic demand; and upgrading the foundation for overseas operations. In maintenance and repair operations, we will reinforce intra-group cooperation and pursue partnerships, mergers and acquisitions, and development of new technologies with players in other sectors to secure more orders. The expansion of domestic and overseas operations will be pursued for seabed-mounted flap-gate type seawalls as our proprietary technology.

In the shield tunneling machine business, we will seek to expand overseas operations by: leveraging our high level of technological competence and quality to become a leading supplier in Asia; and seeking to deliver orders not only in the United States, where we have an established track record, but also in Europe, the Middle East, and South America. Another future goal is to exponentially expand our business scale as we consider mergers with and acquisitions of industry peers, manufacturers of back-end or peripheral equipment, and tunnel construction companies in Japan and overseas.

In wind power generation, we are capable of providing a whole set of services including feasibility studies on the creation of wind power generation businesses, EPC, manufacture of floating structures, and operation and maintenance of power plants. Our aim is to expand the onshore and offshore wind power generation business.

Changes in financial results



Katashinagawa Bridge (Kan-Etsu Expressway)

Barge-type floating body of the next-generation floating offshore wind power generation system

Tsuruda Dam (floating temporary closing facility)

Seabed-mounted flap-gate type seawall (demonstration machine)

Progress and issues of the medium-term management plan

In the steel structure and disaster prevention businesses, we will seek to enhance the overseas operations and maintenance fields as growth sectors in order to grow the business. In overseas operations, our track record is being developed with orders first for hydraulic gates and then for bridges as we improve our overseas foundation. In maintenance operations, our efforts have been reinforced through intra-group cooperation. Bridges are our main focus, as shown in the joint effort with Hanshin Expressway Engineering Company Limited to develop an automatic pavement crack detection system. As for new products, regarding our seabed-mounted flap-gate type seawall, we have won an order for the first unit from Iwate Prefecture, and will strive to establish a business for this product in the future.

In the shield tunneling machine business, special procurements for the Tokyo Olympic and Paralympic Games have slowed down. However, large-scale projects are expected, including widening of on-ramps for the Tokyo Outer Ring Road, the Linear Chuo Shinkansen, and road tunnels in the Kansai District. In overseas operations, we will proactively seek out projects in Thailand, Vietnam and other parts of Southeast Asia, North America, Taiwan, and India. Projects with challenging construction conditions are anticipated to increase in the future. We will facilitate the development of technologies to accommodate customer needs, such as those for longer distances, deeper tunnels, cutting through obstacles, forward probing, and feedback on operations using log data. In terms of large or special machines as our area of specialty, we will continue seeking to win orders.

In the wind power generation business, we have the best manufacturing track record in Japan as our third floating structure for floating offshore power generation is completed. Since this business is currently at the stage of a business survey/demonstration experiment, we will seek to put it to practical use as soon as possible.

Major business areas

Current range → New & future range

Product	Planning	Investment	Basic design	Design, procurement	Manufacturing	Assembly, construction	AOM	Operation
Steel structures/bridges			→	→	→	→	→	
Shield tunneling machines			→	→	→	→	→	

Overseas Operations

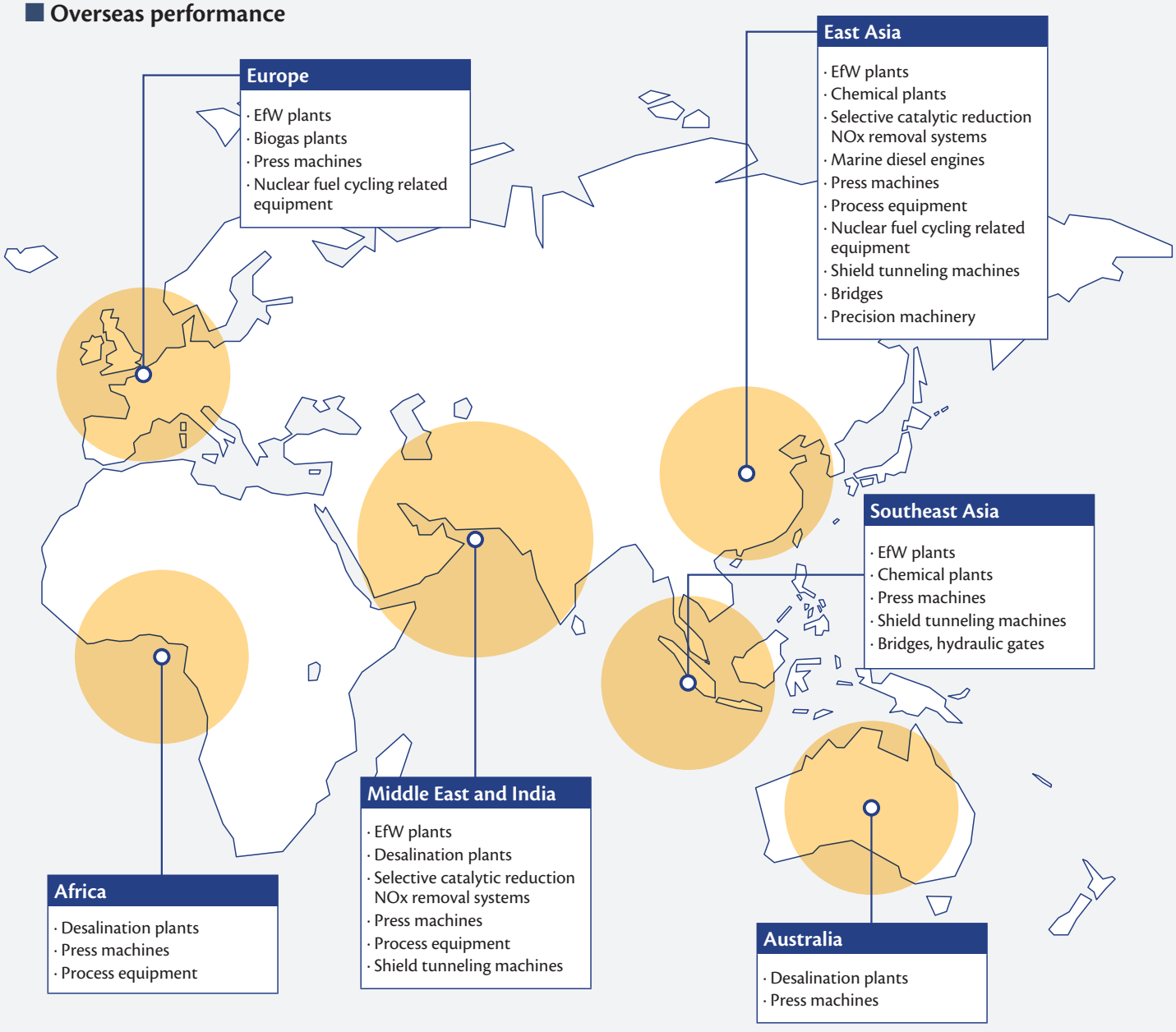
In 1951, when shipbuilding was its main business, the Group won an order from the United States for a tanker as the first ship in private export trade after the end of World War II, and gained access to overseas markets as a pioneer of ship exports. In 1956, we completed a sugar plant in Burma (currently Myanmar) as the first plant export.

In order to address the environmental concerns, water shortages, and other problems that global society encounters, our current overseas operations are geared toward energy, focusing on the Energy-from-Waste (EfW) plant construction and operating business, and water, centering on the desalination plant business.

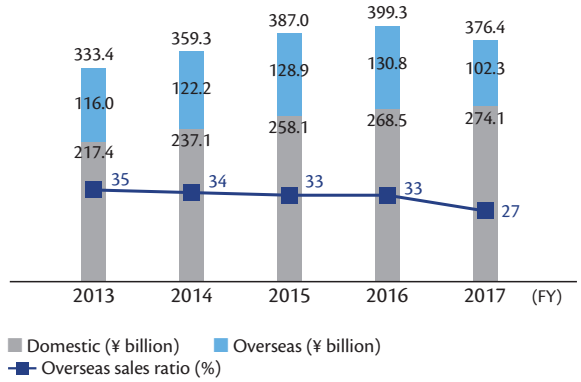
Some major overseas group companies play key roles in growing our overseas operations. Inova strives to expand its business into new markets with EfW and biogas plants. Osmoflo works jointly with the Company on a large desalination plant project using the reverse osmosis method.

We seek to expand our geographical coverage and business lines in order to achieve an overseas sales ratio of at least 50% in 2030 while using our technological competence and extensive experience to maintain a sustainable global environment.

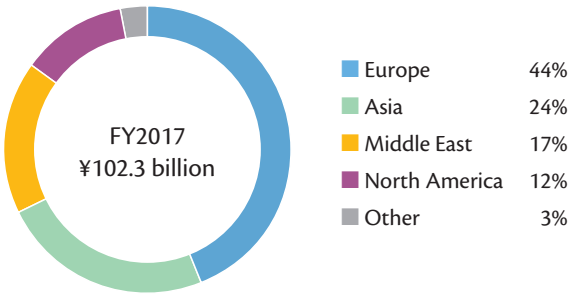
Overseas performance

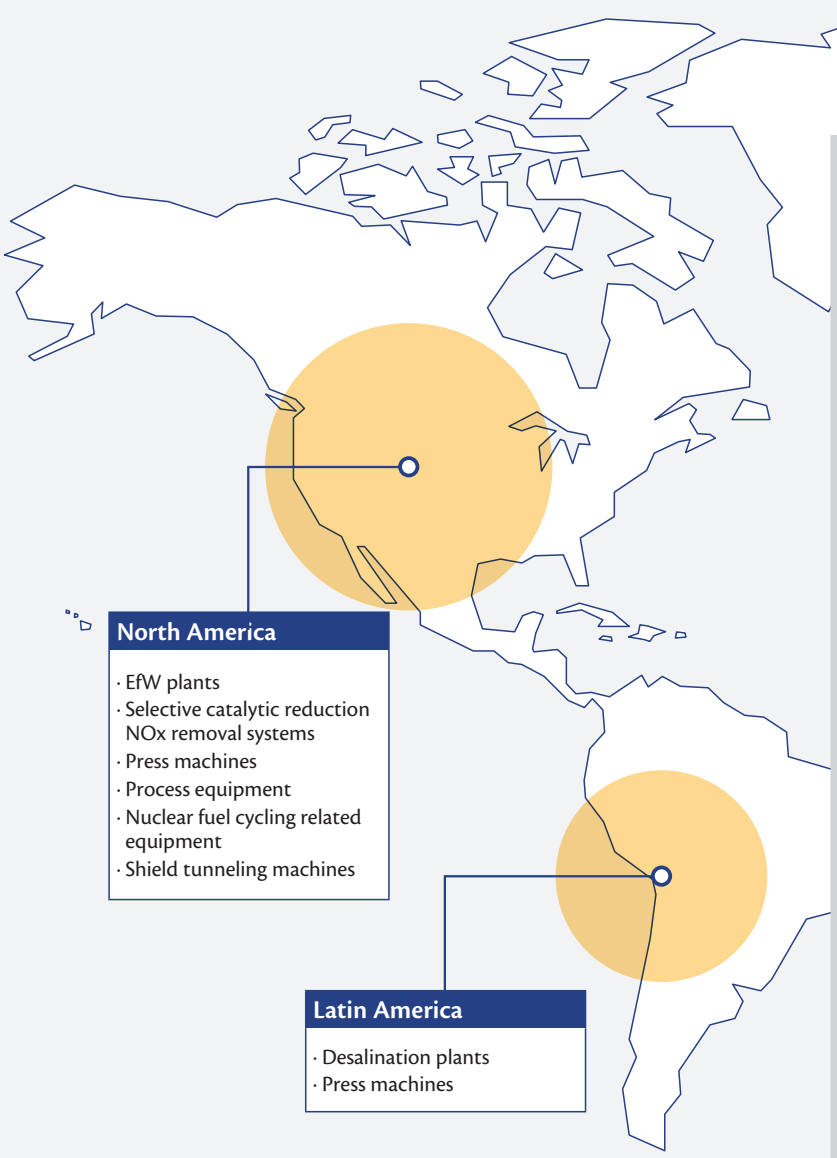


Net sales (domestic/overseas) and overseas sales ratio



Overseas sales composition by region





North America

- EfW plants
- Selective catalytic reduction NOx removal systems
- Press machines
- Process equipment
- Nuclear fuel cycling related equipment
- Shield tunneling machines

Latin America

- Desalination plants
- Press machines

Overview of NAC

Name	NAC International Inc.
Headquartered in	Atlanta, U.S.A.
Number of employees	62 (as of March 31, 2018)
Major business lines	Spent nuclear fuel storage, transportation

Overview of Inova

Name	Hitachi Zosen Inova AG
Headquartered in	Zurich, Switzerland
Number of employees	728 (consolidated, as of March 31, 2018)
Major business lines	EfW plant construction

Overview of Osmoflo

Name	Osmoflo Holdings Pty Ltd
Headquartered in	Adelaide, Australia
Number of employees	223 (consolidated, as of March 31, 2018)
Major business lines	Desalination and industrial water treatment

Corporate Governance

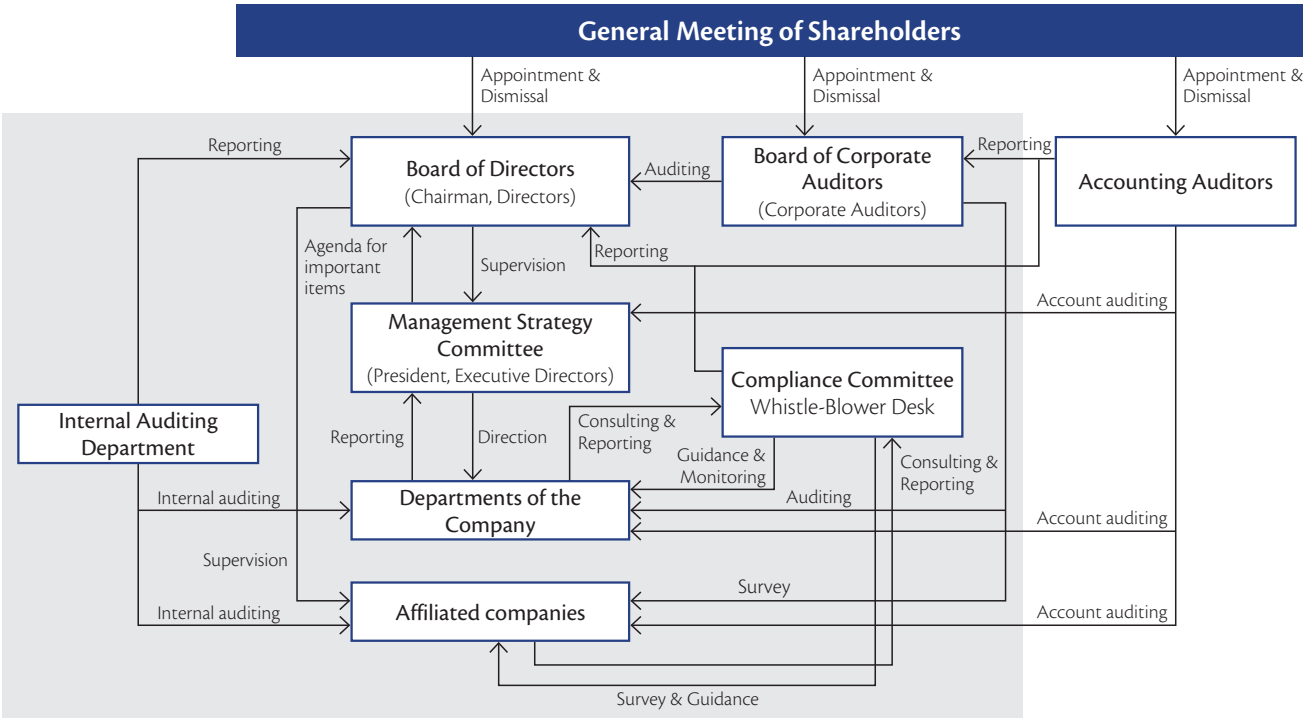
Guided by our corporate philosophy outlined in our Hitz Value, and recognizing that it is imperative for sustainable growth and for an increase in the corporate value of the Company over the medium-to-long term to conscientiously meet the expectations of all stakeholders—including shareholders, customers, suppliers, local communities, and our employees—and to ensure the soundness, transparency, and efficiency of management, we have adopted the basic approach of focusing on enhancement of corporate governance as our priority management issue.

Corporate governance system

The Company has adopted a system of governance based on the audit and supervisory system. The Board of Directors consists of ten directors and four auditors. They not only conduct matters stipulated by law but also make key decisions relating to basic management policy and strategies as well as other important matters, and supervise the execution of business. In addition, our governance system is designed to ensure timely and appropriate decision-making as to management with the Management Strategy Committee, comprised of executive directors and executive officers, which examines basic strategies and important matters relating to the management and operation of the business. Any matters that are particularly important must be discussed at the Management Strategy Committee prior to further discussion and decision-making by the Board of Directors. Furthermore, under the executive officer system, we delegate part of the director's executive functions to executive officers in order to both strengthen the supervisory functions of the directors and ensure the timeliness of the execution of our business.

In order to reinforce the monitoring and supervision functions of its management, the Company has three outside directors among its ten directors. Of four corporate auditors, two are appointed from outside. We ensure the effectiveness of monitoring and supervision by having the Board of Directors engage in vigorous discussions before making decisions with due respect to opinions and suggestions made by the outside directors and auditors from their neutral perspective.

The Board of Directors holds regular board meetings once a month, as well as extraordinary meetings when necessary, to decide important matters and supervise the execution of business. The Board also decides on the basic policy regarding improvements to internal control systems, with revision of the basic policy when necessary, and monitors the implementation of internal control. The Management Strategy Committee usually meets twice a month to discuss important management matters. Corporate auditors attend the meetings of the Board of Directors and the Management Strategy Committee to supervise the execution of duties by the directors and executive officers by providing their opinions from neutral perspectives. They also hold meetings of the Board of Corporate Auditors in order to consolidate the audit opinions of the auditors. In addition, the corporate auditors monitor and verify the implementation and operation of internal control systems and take necessary action such as providing the directors and executive officers with advice and recommendations.



Effectiveness assessment of the Board of Directors

We carry out an annual assessment of the effectiveness of the Board of Directors consistent with our belief that the identification of issues relating to the functions and operation of the Board of Directors and proactive improvements thereof will help strengthen corporate governance, which, in turn, will lead to increased corporate value.

With respect to the 2017 effectiveness assessment, the Board of Directors evaluated itself from the viewpoints of the role, structure, operation, and state of discussions based on self-evaluation and opinions of each of the directors and corporate auditors as well as dialogues held with the outside directors and auditors.

The results of the assessment confirmed that the Board of Directors was functioning effectively, even though improvements to methods of operation are needed in terms of securing adequate discussion time for important agenda items, such as a review of medium-term management plan or projects with considerable management risk in order to reinforce the Board's supervisory functions.

Compensation for Directors

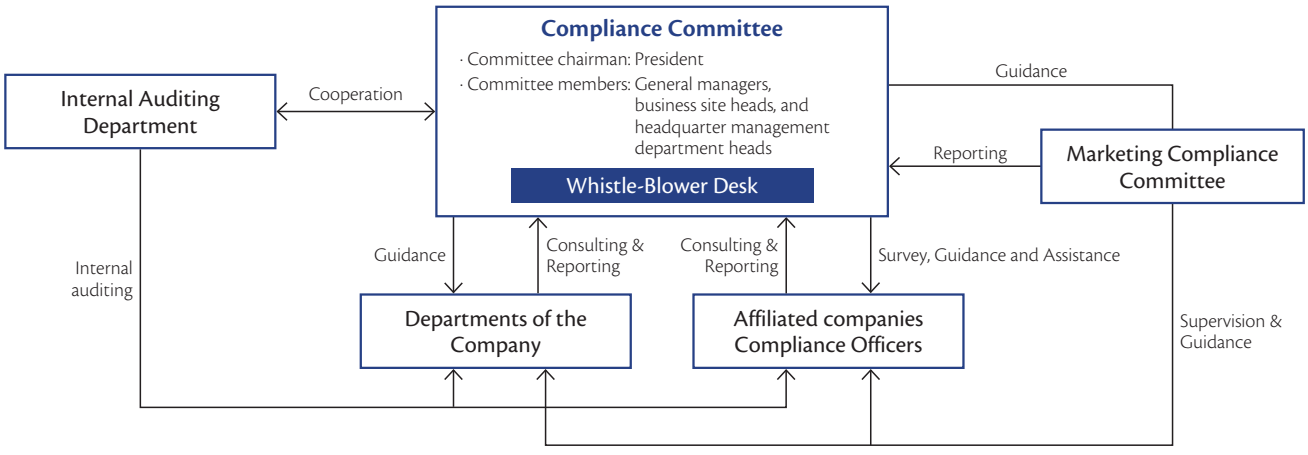
Compensation for directors consists of fixed remuneration and performance-linked bonuses. The amount of compensation is determined individually within the scope of the total amount adopted by a resolution of the General Meeting of Shareholders.

The amount of fixed remuneration to be paid is determined by officer position. The amount of performance-linked bonus is calculated on the basis of performance indicators approved by the Board of Directors and decided finally by the President, who is delegated by the Board of Directors, after due consideration of its appropriateness based on the opinions of the outside directors.

Outside directors receive fixed remuneration only in order to maintain their independence. For the same reason, corporate auditors also receive fixed remuneration only. The individual amounts are determined by the auditors according to the duties of each auditor within the scope of the total amount determined by a resolution of the General Meeting of Shareholders.

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 and e-learning and other means provide enlightenment education so as to ensure increased compliance-consciousness and the upholding of corporate ethics. Our whistle-blowing system enables employees to consult with or report to an independent entity outside the Company in order to provide quick and effective responses to violation of law through prevention and early detection.



Board of Directors and Corporate Auditors (as of June 26, 2018)

Directors

Representative Director, Chairman and President
Takashi Tanisho

Apr. 1973 Joined the Company
Jun. 2010 Director, the Company
Jun. 2010 Responsible for Precision Machinery Headquarters, General Manager of Precision Machinery Headquarters, and General Manager of Chikkou Works, the Company
Apr. 2012 Managing Director, the Company
Apr. 2012 Responsible for Business & Product Development Headquarters and Precision Machinery Headquarters, and General Manager of Business & Product Development Headquarters, 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 (current position)

Vice Chairman
Hidenobu Fujii

Apr. 1979 Joined The Sanwa Bank, Limited
Jun. 2006 Executive Officer, The Bank of Tokyo-Mitsubishi UFJ, Ltd.
May 2009 Managing Executive Officer, The Bank of Tokyo-Mitsubishi UFJ, Ltd.
Jun. 2010 Managing Director, The Bank of Tokyo-Mitsubishi UFJ, Ltd.
Jun. 2013 President, Mitsubishi UFJ Research and Consulting Co., Ltd.
Jun. 2017 Vice-Chairman, the Company (current position)

Representative Director, Executive Vice President
Sadao Mino

Apr. 1982 Joined the Company
Apr. 2011 Executive Officer, the Company
Jan. 2013 General Manager of Engineering Business Division, Environment, Energy & Plant Headquarters, the Company
Apr. 2013 Managing Executive Officer, 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 (current position)
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 (current position)

Managing Director
Toshiyuki Shiraki

Apr. 1984 Joined the Company
Apr. 2012 General Manager of Overseas Project Execution Dept., Environmental Systems EPC Business Unit, Environmental Systems & Solutions Division, Engineering Headquarters, the Company
Apr. 2013 Executive Officer, the Company
Apr. 2015 General Manager of Business Planning Headquarters, the Company
Apr. 2016 Managing Executive Officer, 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 (current position)

Managing Director
Tatsuji Kamaya

Apr. 1984 Joined the Company
May 1990 Hitachi Zosen Singapore (Pte.) Ltd. (Secondment)
Apr. 2012 General Manager of Corporate Planning Dept., the Company
Apr. 2014 Executive Officer, the Company
Apr. 2015 Deputy General Manager of Environment Business Headquarters, the Company
Apr. 2017 Managing Executive Officer, 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 (current position)
Apr. 2018 Managing Director, the Company (current position)

Director
Tadashi Shibayama

Apr. 1982 Joined the Company
Sep. 1992 Hitachi Zosen U.S.A. Ltd. (Secondment)
Apr. 2012 Executive Officer, the Company
Jan. 2013 General Manager of Environmental Systems & Plant Sales Division, Environment, Energy & Plant Headquarters, the Company
Apr. 2015 Deputy General Manager of Infrastructure Business Headquarters, the Company
Apr. 2016 General Manager of Wind Power Business Promotion Office, the Company
Apr. 2017 Managing Executive Officer, the Company
Apr. 2017 General Manager of Machinery Business Headquarters, the Company (current position)
Jun. 2017 Director, the Company (current position)

Director
Kazuhisa Yamamoto

Apr. 1982 Joined the Company
Apr. 2012 General Manager of Domestic Project Execution Dept., Environmental Systems EPC Business Unit, Environmental Systems & Solutions Division, Engineering Headquarters, the Company
Apr. 2014 Executive Officer, the Company
Apr. 2015 General Manager of Environmental EPC Business Unit, the Company
Apr. 2017 Managing Executive Officer, the Company
Apr. 2017 General Manager of Environment Business Headquarters, the Company (current position)
Jun. 2017 Director, the Company (current position)

Outside Director
Chiaki Ito

Apr. 1970 Joined Fujitsu Limited
Jun. 2006 Corporate Senior Executive Vice President and Representative Director, Fujitsu Limited
Jun. 2008 Vice Chairman and Director, Fujitsu Limited
Apr. 2010 Chairman and Representative Director, FUJITSU RESEARCH INSTITUTE
Jun. 2013 Outside Director, the Company (current position)
Jun. 2015 Outside Director, Zensho Holdings Co., Ltd. (current position)
Jun. 2015 Outside Director, OBIC Business Consultants Co., Ltd. (current position)

Outside Director
Kazuko Takamatsu

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 (current position)
May 2015 Outside Director, Dexerials Corporation (current position)
Jun. 2015 Outside Director, the Company (current position)

Outside Director
Richard R. Lury

May 1974 Admitted to the bar of the State of New York
Sep. 1989 Partner, Kelley Drye & Warren LLP
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)

Corporate Auditors

Full-time Corporate Auditor
Koji Abo

Apr. 1973 Joined the Company
Dec. 2005 General Manager of Legal & Intellectual Property Dept., the Company
Apr. 2009 Executive Officer, the Company
Apr. 2011 Managing Executive Officer, the Company
Jun. 2012 Managing Director, the Company
Jun. 2012 Responsible for Legal & Intellectual Property Dept., General Affairs & Human Resources Dept. and Environmental Management & Safety Dept., the Company
Apr. 2015 General Manager of General Administration Headquarters, the Company
Jun. 2015 Full-time Corporate Auditor, the Company (current position)

Full-time Corporate Auditor
Masayuki Morikata

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)

Outside Corporate Auditor
Yoshihiro Doi

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. (current position)
Jun. 2017 Outside Corporate Auditor, the Company (current position)

Outside Corporate Auditor
Kenichi Takashima

Sep. 1976 Joined Honda Motor Co., Ltd.
Sep. 1979 Vice President (CFO), Honda Deutschland GmbH
Jun. 1996 General Manager of Finance Division, Honda Motor Co., Ltd.
Jun. 1998 Director and General Manager of Accounting Division, Honda Motor Co., Ltd.
Jun. 2000 Corporate Auditor (full time), Honda Motor Co., Ltd.
Apr. 2010 Full-time Auditor, Government Pension Investment Fund, Japan
Jun. 2014 Outside Corporate Auditor, the Company (current position)
May 2015 Outside Director, MAXVALU CHUBU CO., LTD. (current position)

Messages from Outside Directors

Toward a working environment that optimally leverages diverse individual talents

Kazuko Takamatsu
Outside Director

The changing face of the board of directors

My first impression of Hitachi Zosen was that it seemed to be a serious, no-nonsense enterprise. It is now my fourth year with the company, and my opinion remains unchanged. At Sony Corporation, where I worked for many years, the focus of efforts was principally on the entertainment sector, which is oriented toward individuals, and it was vital to develop and manufacture fun, attractive products that were as compact and lightweight as possible. The business sector of Hitachi Zosen is very different. Here, the most important task is to provide support for industrial activities and for society as a whole, by creating the infrastructure elements required by the Company's clients, who consist of local governments and business corporations. I have been deepening my understanding of Hitachi Zosen's business operations by taking advantage of the many opportunities afforded me to take tours of the Company's plants and construction sites. Against this background, I believe that one of my responsibilities has been to give my opinions—coming as I do from a completely different background—regarding the corporate culture that Hitachi Zosen has built up over its long history. The Hitachi Zosen board of directors boasts a high proportion of outside directors, all of whom possess different areas of specialty, giving the board the potential for a diversity of opinion. Discussions at board meetings have become more lively compared with the situation when I first joined the board, and I believe it is fair to say that the current atmosphere allows a frank exchange of opinions. At the present time, it seems to me that the board is in a transitional period as the Company moves to reform its structure, and I think that it will be necessary to change the functions of the board of directors by increasing management transparency still further.

Diversity management issues

I am currently engaged in awareness training and support activities relating to the promotion of workforce diversity, work-style reform, and prevention of harassment in the workplace. For this reason, in addition to offering advice relating to issues and talking points around the fields in which Hitachi Zosen operates, I am also trying to improve the working environment by giving lectures, seminars, and so on to management-level and general employees alike. The Company has a diversity management system fully in place, and further progress is ongoing. However, the fact remains that the workplace is still overwhelmingly male-dominated. In these circumstances, to help female staff make more of a contribution, we must train them so that they have the same potential for the Company as its male staff. However, the male management-level staff, who have reached their present positions after many years of following a work-centered set of values, do not sufficiently possess the skills required to pass on to female staff—who have to bear home responsibilities alongside workplace responsibilities—the sort of experience they have acquired themselves. I believe that unless we can change the attitudes of such male management staff, female staff will not be able to make a full contribution to the Company.

Diversity that respects individuality

The Hitachi Zosen Group is currently pursuing expansion in overseas markets, and an understanding of the concept of diversity is vital for successfully implementing M&As or collaborative ventures with overseas companies. The tradition within Japanese business corporations is to train employees to think of themselves as members of the group, and to react almost identically. While there are advantages to this approach, there is also a danger of being bound into a stereotype. For an enterprise to seek to grow by expanding its business operations into another country—where the legal system, the culture, and the very way of thinking are different—it must value the differing opinions of each individual. Without this, in my opinion, it cannot survive. Hitachi Zosen offers society vital elements of the infrastructure without which it cannot function, and proposes solutions to various social problems. This is a role that one can justifiably take pride in being part of. From here onward, I hope to continue contributing, in a variety of situations, to the creation and maintenance of a working environment where employees—without whom the business could not exist—are able to both fully display their individuality and take pride in their capabilities.

Embracing change for higher corporate value

Richard R. Lury
Outside Director

Toward stronger corporate governance

In general, apart from creating and maintaining effective governance mechanisms, the main focus of business corporations' governance efforts ought to consist of addressing rules and regulations laid down by independent institutions. In Japan, the application of a corporate governance code commenced in 2015. I believe there are two separate elements involved here: on the one hand, complying with this code, and on the other hand, constructing a governance system based at the fundamental level on an understanding of the background to the code. Regarding the composition of the board of directors of Hitachi Zosen, progress is being made in diversifying the types of persons appointed as outside directors, but at the same time, much remains to be done to provide greater opportunities for the promotion of female staff and non-Japanese staff to management-level and executive positions. Regarding the effectiveness of the board of directors, since I assumed my present post two years ago we have seen some improvement in the liveliness of debate, but it still remains insufficient. It is my belief that procedures for pro forma approvals should be simplified, allowing more time to be allotted to discussions of important issues such as medium- to long-term strategies and business risks. Additionally, it is vital to realize sustained profit growth so as to deliver enhanced returns to the Company's shareholders. As a lawyer, I have worked for many years in the field of international corporate legal affairs. Being always mindful of the need for Hitachi Zosen to approach global legal standards as closely as feasible, I hope to leverage my experience by actively making proposals from the standpoint of the Company's shareholders.

Group governance with a prime focus on balance

Worsening earnings of Hitachi Zosen Inova AG negatively affected the Group's business performance for fiscal 2017. After a thorough review of this issue, it was found that one of the main contributory factors was inadequate governance by Hitachi Zosen. In response, in its role as the parent company, Hitachi Zosen took the appropriate measures, which included replacing the CEO of Inova. In my opinion, the business recovery plan drawn up by Inova's new CEO is well thought-out. As is the case in many Japanese companies, there are traditional and conservative aspects in the way that Hitachi Zosen is operated, but the Company seems to be gradually widening its perspectives, and as a result, change is occurring. However, in the event that Hitachi Zosen engages in M&A overseas, after constructing an effective system enabling governance of an overseas subsidiary by the parent company, it will be essential to ensure that the parent does not attempt to control everything, but that it delegates the appropriate authority, allowing day-to-day decisions to be made on the ground. Such an approach would, in my opinion, achieve an optimal balance. I am sure that the lessons learned from the recent experience with Inova will be put to good use in Hitachi Zosen's future overseas development.

Enhancing corporate value

The Hitachi Zosen Group possesses superior technologies and sound business operations. For example, the Group has already made many contributions toward the achievement of the Sustainable Development Goals (SDGs) laid down by the United Nations, and the Group's long-term vision is in conformity with the SDGs. That is to say, the Group's operations meet needs on a global scale. Amid this situation, our top priority is to find ways to make each of those operations profitable. To achieve the goal under its long-term vision of recording an operating income margin of 10% or more by fiscal 2030, Hitachi Zosen must take positive steps to transform its structure into one capable of generating profits. And the first task we must tackle is to select the most promising business operations and focus resources on them. While this is also one of the Company's targets under its medium-term management plan, we must approach this task with a greater sense of urgency than hitherto. By embracing this change, I believe that Hitachi Zosen will be able to pave the way to enhanced corporate value.

Human Resources

We are working to foster a corporate culture in which to enhance the strength of our diverse employees and enable the creation of new value. We are continuing to build a workplace and develop human resources that make it possible for the Company and individual employees to grow together.

Shoichi Morimoto
Managing Executive Officer
General Manager, General Administration Headquarters

Human resources development

Human resources development is recognized as a key issue in the continuing development and growth of the Hitachi Zosen Group. It is positioned as one of the priority strategies in our medium-term management plan, Change & Growth, and we are working to develop human resources on a planned, continuous, and long-term basis. The 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. All employees are given OJT training by a workplace trainer during their first two years with the Group. In the third year, with the support of their department head, they will set a career plan that will guide them toward their ideal future. They will attend the Hitz Seminar (91 classes) in which they learn the human, conceptual, and technical skills to support their career development. In addition, the Group offers opportunities for self-enlightenment through programs, such as study exchanges within Japan and accreditation incentives, as well as internal language courses (12 classes in English and Chinese). In order to create a workplace environment in which everyone is equal and respects one another, the Group provides company-wide human rights education on a regular basis.

Development of global human resources

For the development of global business, we implemented an overseas training assignment program in fiscal 2011 under which young employees are assigned to overseas offices and affiliates with the intention of providing practical on-site training in other departments, as well as improving their language skills and expanding their international perspectives through cross-cultural experience.

We also implemented a program in fiscal 2013 that assigns young employees to various overseas representative offices on a rotational basis. To develop global personnel who will work in the areas of business expansion and new market development overseas in the future, young employees with up to ten years of service are assigned positions in charge of work in the offices of our overseas representatives or local affiliates for a term of generally three years under this program, where they gain experience in a wide scope of duties.

Promotion of training for technical personnel

Technical personnel are people who possess specialized skills and work mainly in manufacturing functions. In order to facilitate skill transfers and increase work-site competencies for the purpose of quick training and improving the skills of young technicians, we provide Group-wide basic skill training, planned guidance for development of highly skilled technical personnel (development of skill maps), and training for newly-appointed supervisors. The Hitz Training Center that opened at Ariake Works in March, 2011 functions as an educational center for technical personnel of the Hitachi Zosen Group by providing basic skill training camps for new technical personnel (April to June) and training programs in advanced skills, safety, and supervision for mid-level personnel.

Fostering of the management sense

To accelerate our efforts to increase the competence and problem-solving skills of management, we conduct workshops for top-level management as well as provide administrative personnel with internal workshops, participation in workshops outside the Company, and lectures by outside instructors.

Initiative	Content	Implementation
Executive workshops	Organized for the purpose of deepening mutual understanding and building relationships that are amenable to earnest dialogues so as to unite all executive officers on the management team.	30 persons (1.5 days)
Senior management solution finding workshop (Hitz Ichinokai)	A place for senior executives to explore the future vision of the Company and discuss strategies to achieve it. Thorough discussions are held from the perspectives of the management of all Group companies.	24 persons (Held ten times)

Utilizing diverse personnel

Since the inception of a group to empower women in 2008, diversity has been one of our key measures, and includes setting numerical hiring targets for women and non-Japanese people. To this end, we established the Diversity Promotion Office in 2015, and, in response to the message from the President seeking impetus for diversity management, laid out an action plan featuring eight categories. These are identified as organization and culture, work style, gender, nationality, age, disability, childcare, and nursing care. We strongly believe corporate activities carried out by people who respect diverse values will strengthen the unity of the Group and create new corporate value.

Securing and utilizing human resources

In order to maintain and enhance core technology and skills, respond to globalization, and continue to create new value, we recruit new college graduates every year. In April, 2018 we hired 171 graduates based on our mandate to recruit from diverse faculties and our hiring targets for women and non-Japanese staff, and as part of our effort to secure diverse human resources. We endeavor to assign them to appropriate positions once they start, work using a comprehensive assessment of individual aspirations and aptitudes through a department rotation system, open job postings, and personal career plan consultations. We also recruit mid-career people as well as yet-to-be-employed recent graduates for various types of work who, as a work-ready force, contribute their expertise and experience.

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

		Joined April, 2016	Joined April, 2017	Joined April, 2018
New non-Japanese hires		8%	8%	13%
New female hires	Administrative	37%	35%	41%
	Technical	4%	7%	12%

Promoting the success of women

In recognition of our work in response to the President's message declaring the empowerment of women in October, 2008, Hitachi Zosen received the Kurumin accreditation in 2013 and 2015 under the Act on Advancement of Measures to Support Raising Next-Generation Children. Following the enforcement of the Act on Promotion of Women's Participation and Advancement in the Workplace, we implemented various measures to advance the participation of women, such as the development and announcement of an action plan with numerical targets, promoting diversity through the recruitment and managerial development of women, and supporting continuous career building. As a result, we received the Eruboshi (2nd level) accreditation in June, 2018. We are committed to continue with our efforts aimed at receiving the highest Eruboshi rating (3rd level).

Kurumin

Eruboshi

Work-style reform and work-life balance

Work-style reform at the Hitachi Zosen Group envisions increased productivity and better work-life balance through a reduction of long work hours. To this end, we are implementing a number of measures aimed at creating a workplace where every employee can perform at his/her best and the Group and its people can grow together.

The measures aimed at achieving flexible work styles include a variety of programs, such as the telecommuting program and satellite office system, which started in April, 2018, discretionary labor systems, and super-flextime systems. These are all implemented in conjunction with the introduction of no-overtime days and planned taking of annual vacation days in an effort to reduce total work hours.

Measures aimed at helping to accommodate both work and childcare/nursing care include the enrichment of various programs, such as the extension of childcare leave to up to three years, a shorter work-hour program and hourly paid-leave system intended for employees facing childcare and nursing care responsibilities, and the reduced workdays system to accommodate employees' nursing care needs. Furthermore, we organize work-style reform promotion workshops for managerial personnel to increase awareness of the need for efficient work habits and work-life balance.

Practicing health guidance and mental health care

To maintain the health of personnel and prevent diseases, we implement regular health examinations and stress checks, as well as a health checks by physicians for those who work excessive hours. These measures are part of our health guidance and mental health program (which includes mental health seminars and professional counseling services).

Preventing occupational accidents

Under the basic policy of "Safety first and a compassionate, pleasant workplace for everyone," and under the leadership of managers and supervisors, we are enhancing workplace competence built on realistic scenarios, actual goods, and realistic situations through an education scheme with experimental morning meetings and a simulation of the actual experience of feeling the presence of danger. We aim to achieve a "zero-accident workplace" through uncompromising and strict management, as well as compassionate guidance that motivates workers.

Research & Development

At the Hitachi Zosen Group, we develop innovative technologies and products in anticipation of future market needs in line with our corporate philosophy, which states "We create value useful to society with technology and sincerity to contribute to a prosperous future."

Toshiyuki Shiraki
Managing Director
General Manager, Business Planning &
Technology Development Headquarters

Direction of R&D

Since its inception in 1881, Hitachi Zosen has overcome many challenges by constantly tackling new technologies to grow the Company. Our scope of business has also evolved over time. The technological competencies thus built up have given us a strong competitive edge that supports the growth of our business today, and we have brought technological innovation to various fields that are helping solve many social problems. At present, we envisage four megatrends in future market needs—environmental protection, energy-water-food chain, increasing urbanization, and technological advancement. We have selected the fields of energy-from-waste, water-related work, resources and energy, social infrastructure, disaster prevention, food security, and functional materials as the areas in which to apply the resources currently in our possession, and are working on developing related technologies. At the development theme formulation stage, we examine not only technical aspects, but also applicable products and businesses as well as market sizes so that we start undertaking development work with projects that have the highest commercial potential.

Structure of R&D

Our R&D system consists of the Business Planning and Technological Development Headquarters, which is the core department for technological development responsible for long-term R&D activities that generate future business; and the Business & Product Development Centers in each of the business headquarters of the Environment Business, Machinery Business, and Infrastructure Business, which work as organizations to accelerate commercialization of products and businesses. The Business & Product Development Centers carry out short-term activities to upgrade existing products and implement the results in business. They also tackle medium- to long-term development themes that are in the process of product development as structured projects aimed at early commercialization. Furthermore, we also actively work together with the Group members in Japan and overseas for technological development and joint development that is mutually beneficial to our businesses.

R&D spending

R&D expenses in fiscal 2017 were ¥7.4 billion, and the R&D expenses to net sales ratio stood at 2.0%. At the beginning of fiscal year 2018, R&D personnel consisted of 212 staff at the Business Planning and Technological Development Headquarters and 55 staff at the central development centers. Of these, seven were non-Japanese staff (3 Chinese, 2 Indonesians, 1 Indian, and 1 Vietnamese), and 18 were female staff. We will continue to further diversify our personnel in order to drive our efforts toward innovation.

Open innovation activities

Through collaboration with universities, research institutions, and venture businesses in Japan and overseas and the early implementation of business strategies with our business partners, we actively promote the reduction of development time and acceleration of commercialization. Regarding the new material Eucommia elastomer, which we are developing into a new business line, we established the Hitz (Bio) Research Alliance Laboratory at Osaka University, where we are interacting and exchanging information with the Chinese Academy of Forestry in relation to improved breeding methods and the genetic analysis of Eucommia ulmoides biomass.

■ R&D spending

	FY2016 Actual	FY2017 Actual	FY2018 Budget
R&D expenses (¥ billion)	7.1	7.4	9.5
R&D expenses to net sales ratio (%)	1.8	2.0	2.5

Efforts toward solving social issues

➤ SCR systems for marine engines

Social issues

Exhaust gas from ships has become a social issue in terms of preventing ocean air pollution. The International Maritime Organization, which addresses various maritime issues under the UN, implemented the Tier III NOx Regulation in 2016, which required ships to reduce nitrogen oxide (NOx) emissions during navigation by 80% from the 2000 level. As this requirement is applicable to all newly-built large ships (equipped with 130-kw or larger diesel engines) which navigate through areas subject to the regulation, manufacturers of large marine engines must address the new regulations.

Solution

The SCR system for marine engines developed by Hitachi Zosen is a NOx removal system specially designed for marine engines to comply with the Tier III NOx Regulation. We have been manufacturing and marketing marine diesel engines since 1950, and NOx removal systems for industrial plants since 1973. We produce our own NOx removal catalysts, the core technology for the NOx removal system, making us the only company in the world capable of integrated production of marine diesel engines, NOx removal systems, and NOx removal catalysts. We are the first company in the world to start promoting the development of marine SCR systems by bringing our knowledge of these products together. In 2011, we successfully carried out a demonstration of the world's first on-board system. With recognition of the effectiveness of the system, we received our first order in February 2017, and we continue to receive orders for the system today. We will expand the marine business with the SCR system at its core by continuing the development of the marine machinery SCR system for smaller sizes and higher performance.

Conceptual image of SCR system and marine diesel engine

Our first marine diesel engine equipped with SCR system

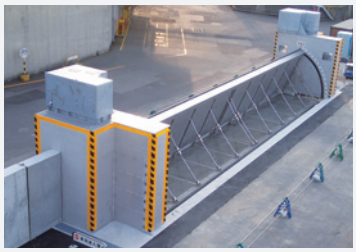
➤ Flap-gate type seawall against flood disaster

Social issues

There is a pressing need in Japan to mitigate the impact of natural disasters on communities, as the country is prone to tsunamis, storm surges, and flooding due to heavy rain. Conventional seawall systems face issues such as difficulty sealing the openings, the inability of movable facilities to function properly in the event of a disaster due to damage to movable parts, and the dangers to operators of the facilities. It is imperative to adopt facilities that will function properly and contribute to preventing or mitigating disasters.

Solution

Research and development of flap-gate type seawalls against flood disasters started in 2003 as a tsunami countermeasure facility for application to harbors. Building on the knowledge we have accumulated over the years from our hydraulic gate business, which started in 1923, we worked on developing a system focused on assured operability in the event of a disaster, and established a technology that enables the gates to be closed without the need for external power input or human intervention. Using this technology, we have developed and successfully delivered in large numbers, land-mounted flap-gate type seawalls against flood disaster—each one suited for a particular location—including a type that can be mounted on the entrance of a building or the wall of a factory. We also received the first order for our seabed-mounted flap-gate type seawall in fiscal 2017, to be used as a tsunami-countermeasure in harbors, leading successfully to its use as an unconventional seawall system. We are committed to the continued development of disaster prevention and mitigation systems that meet the needs of our customers.



Land-mounted flap-gate type seawall against flood disaster

In-wall installation flap-gate type seawall against flood disaster

Intellectual Property

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. Moreover, to keep up with the globalization of our business, we work to strengthen close collaboration with patent offices abroad to acquire the international rights for our intellectual property.

Acquiring intellectual property rights

Intellectual property rights are extremely important for implementation of the three basic strategies outlined in the medium-term management plan "Change & Growth". At the Hitachi Zosen Group, we have established a Legal & Intellectual Property Department through which we support 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.

In fiscal 2017, we acquired 85 patents in Japan and a total of 60 in the United States, China, and Europe.

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.

Intellectual property management

The Legal & Intellectual Property Department plays a core role in the Hitachi Zosen Group's intellectual property strategies. The department promotes a wide range of intellectual property activities, including functions such 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.

Each unit of our Business Planning and Technological Development Headquarters has an officer in charge of promoting intellectual property activities. These officers intensively coordinate activities such as discovering patent possibilities and facilitating patent applications in collaboration with the Legal & Intellectual Property Department.

In addition, we strive to nurture an intellectual property-oriented corporate culture by holding seminars on intellectual property for each employee level, from new hires 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/IoT to facilitate the use of ICT.

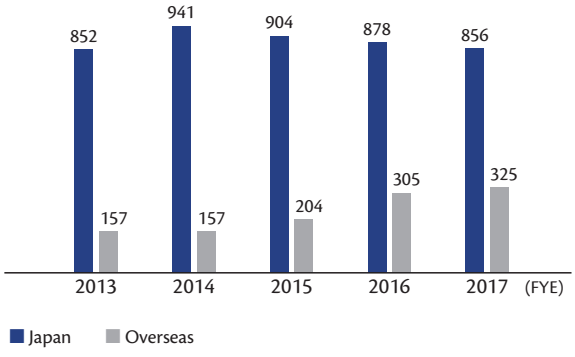
To encourage the inventive activities of employees and reward them for the value of their inventions, we have established awards for the application/registration of patents and their practical applications, which are selected in accordance with our patent regulations and the judging criteria for practical applications. Recipients of practical application awards are evaluated and rewarded fairly.

As of the end of fiscal 2017, Hitachi Zosen held 856 patents in Japan and 325 overseas (see the chart below). The number of patents held at the end of 2013 was 852 in Japan and 157 overseas. While the number in Japan has changed little over the past five years, the more than two-fold increase in overseas patents indicates that our efforts to acquire patents overseas are beginning to bear fruit.

The Company also held 86 design rights in Japan and 47 overseas as well as 163 trademark rights in Japan and 43 overseas.

As of the end of fiscal 2017, neither Hitachi Zosen nor any member of the Group was involved in litigation relating to intellectual property rights.

Number of patents held



Environmental Initiatives

Medium-term targets and progress

The Hitachi Zosen Group has been working on environmental protection measures through its offices, plants, and regional communities since the 1970s. In 1992, we laid down the Basic Environmental Protection Policy and Action Guidelines. Based on the policy and guidelines, our Environmental Protection Promotion Committee developed action guidelines into a specific action plan called the Hitachi Zosen Environmental Protection Promotion Plan. In addition to conventional efforts to protect regional environments, we have expanded our activities to include ozone layer protection, global warming prevention, and recycling and reduction of waste. We also promote our environmental activities by setting key action targets and goals and following up on the actual performance.

Achievements under the Hitachi Zosen Environmental Protection Promotion Plan

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

Measures		Medium-term targets	Results of fiscal 2017 activities	Assessment
Environmental management	Build an environmental management system	· Acquire ISO 14001 certification for all business sites (manufacturing departments) · Implement environmental audits	· Environmental audits of plants conducted by a regional environmental protection technical committee · Internal audits conducted by internal auditors at business sites · External environmental audits conducted by a third party	◎
	Promote "Green procurement"	—	· Promoted purchasing of products with a low environmental impact · Promoted central online purchasing of environmentally friendly products	◎
Reduce environmental burden of business activities	Reduce use of ozone-depleting substances	Properly dispose of equipment that uses fluorocarbons and properly manage such equipment to prevent fluorocarbon leaks in line with the Act for Rationalized Use and Proper Management of Fluorocarbons	Upgraded equipment that uses fluorocarbons	◎
	Reduce CO_2 emissions	Medium-term target: 2.8% decrease in FY2016 vs. FY2005 Long-term target: 3.8% decrease in FY2020 vs. FY2005	Cut by 33.8% vs. FY2005	◎
	Reduce waste (excluding valuable materials)	10% decrease in FY2020 vs. FY2000	Cut by 22.9% vs. FY2000	◎
	Curb landfill waste	70% decrease in FY2020 vs. FY2000	Cut by 73.4% vs. FY2000	◎
Contribute to protection of the regional environment	Ensure robust environmental protection at business sites	—	· Complied with environmental protection laws and regulations · Took environmental initiatives based on agreements with regional communities, and independently based on our business sites' plans	◎
	Contribute to regional communities	—	Participated in environmental protection campaigns by government bodies, regional communities, etc.	◎

Environmental risk management

To reduce the environmental risks of our business activities with respect to the emission of pollutants into the environment, individual offices and plants 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.

Communication with Stakeholders

In the Hitz Value—the Hitachi Zosen Group's statement of its management stance—we position stakeholder satisfaction as one of our primary goals. We believe it is important to build better relationships with our stakeholders by means of dialogue conducted with sincerity, which is a core element in our standards of business behavior.

Shareholders and investors

In addition to sending an explanation booklet to individual shareholders, we also conduct presentations at the General Meeting of Shareholders to earn their better understanding of the Hitachi Zosen Group. To increase opportunities for dialogue and deepen understanding of the Group, we organized the first manufacturing plant tour for our shareholders in fiscal 2017, which was well-received. For analysts and institutional investors in Japan, we hold twice-a-year financial results briefings in Tokyo, and also frequently hold individual meetings. The President makes personal visits to overseas institutional investors, mainly in Europe and North America, to engage in dialogue on financial results and management plans. We are striving for steady increases in our corporate value by sharing opinions and requests received from our shareholders and investors through these dialogues with our directors, and reflecting them in management.

Activities

Briefing of financial results (at conference venues)	Twice
Briefing of financial results (via conference calls)	Once (starting with the third quarter results of FY2017)
Individual meetings with analysts/ institutional investors	As necessary/96 meetings
Visit to overseas institutional investors	Twice/27 institutions
Plant tour for shareholders	4 times/124 participants

Shareholders touring our plant

Employees

At the Hitachi Zosen Group, we believe that our employees are the source of our value creation in striving for consistent enhancement of corporate value, and therefore we are working to improve their job satisfaction. To deepen mutual understanding between the management team and employees, the President regularly visits our offices and plants around the country and actively engages in dialogue with young employees. We also carry out attitude surveys of our employees on a regular basis and reflect the results in our efforts to build a rewarding workplace environment.

Customers

The Group works to improve its products and services by carrying out customer questionnaires. In addition, as part of our disaster prevention awareness activities, we invite customers to our Hitz Disaster Prevention Solution Laboratory (at Sakai Works) where they can view our anti-disaster technologies, such as our flap-gate type seawall against flood disaster, designed to prevent damage from tsunamis and storm surges, and take part in an emergency evacuation simulation. The laboratory has received more than 4,000 visitors during the three years since its opening in March, 2014.

Suppliers

The Hitachi Zosen Group's business relies on the cooperation of a large number of suppliers who provide us with high-quality products and services. We work together on technological development and quality improvements to achieve growth for us all. As the Group focuses on environmentally-conscious business activities, we ask our suppliers for their understanding and cooperation with our environmental conservation activities.

Local communities

The Group respects local cultures and customs within Japan as well as overseas, and engages in various activities rooted in local communities so as to harmonize our operations with their needs. As part of our educational activities, we conduct special science classes for elementary school children and provide career advice and encouragement to female high school students. We also work to promote environmental awareness through our exhibits for children at a permanent booth at the Osaka Science & Technology Center. As for local events, we co-host the Ariake Family Festa at our Ariake Works and the Maizuru Friendship Festival at our Maizuru Works in collaboration with local businesses. We also sponsor local festivals and participate in them as we wish to develop stronger ties with the communities in which we operate.

Exhibit booth for children

Participating in a local festival

Educational assistance activities in Laos

Laos and Hitachi Zosen

In 2015, the city of Vientiane, the capital of Laos, generated 300 tons of domestic waste every day. Only 30 percent of this waste was collected, almost all which was finally disposed at a landfill site. The waste in the landfill was not covered with soil, which created sanitation issues and the need for waste reduction. In response to this situation, we carried out an investigation in fiscal 2015 jointly with the city of Kyoto and others as part of a project commissioned by the Ministry of the Environment, and began planning the construction of an organic waste-based methane fermentation plant and a biogas distribution business. In December, 2016 we entered into a comprehensive cooperation agreement with the Ministry of Energy and Mines of Laos on environmental protection and the development and commercialization of green energy, and began planning a project to develop environmentally-conscious energy sources and to install related facilities, as well as for the adoption of green energy in Laos.

Entering into a comprehensive cooperation agreement

Overview of Laos

Population	Approx. 6.68 million*
Nominal GDP per capita	$2,542*
Real GDP growth	6.8%*
Compulsory education	Elementary school - Grades 1 to 5 Middle school - Grades 6 to 9
Compulsory subjects	Native language (Lao), arithmetic, arts, physical education, music; Environmental education not included

* Source: Website of Japan External Trade Organization (JETRO)

Environmental awareness activities at elementary schools

To help create business models in emerging countries, we carry out volunteer activities to promote environmental awareness. For three years, beginning in fiscal year 2015, our employees conducted environmental awareness education activities in Laos in collaboration with the city of Kyoto and the Global Environmental Center Foundation. In the belief that, to solve Vientiane's waste disposal issues, it was vital for the people in Laos to be aware of the value of a sanitary environment and the importance of proper waste disposal, our employees gave classes on environmental awareness at four elementary schools in Vientiane. Specifically, they prepared for use in the lessons an illustrated book using an anthropomorphic banana peel "character," to teach the danger of environmental contamination by landfill and the need to recycle resources. Their efforts were so well received that they revised the book and developed a teacher's guide with the cooperation of the local administration and schools for local teachers to use in their classes. The illustrated book is still in use in classes at four schools, and it is planned to distribute them to a hundred elementary schools in the city. Through these efforts, we will continue to enhance our corporate value by gathering information regarding local issues and situations and creating business opportunities for building a sustainable society in local communities. Furthermore, we intend to introduce these environmental awareness activities in other emerging countries over time.

Trial lesson by our employees

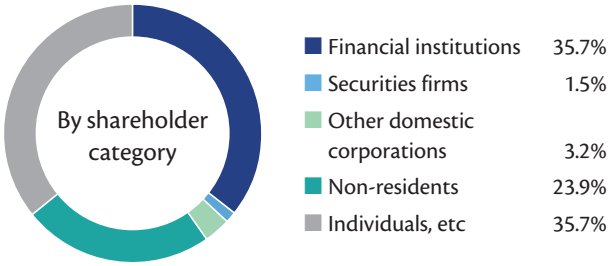
Elementary school class taught by local teacher

Investor Information (as of March 31, 2018)

Stock data

Number of shares authorized:	400,000,000
Number of shares issued:	170,214,843
Number of shareholders:	80,560

Distribution of shareholdings



Major shareholders

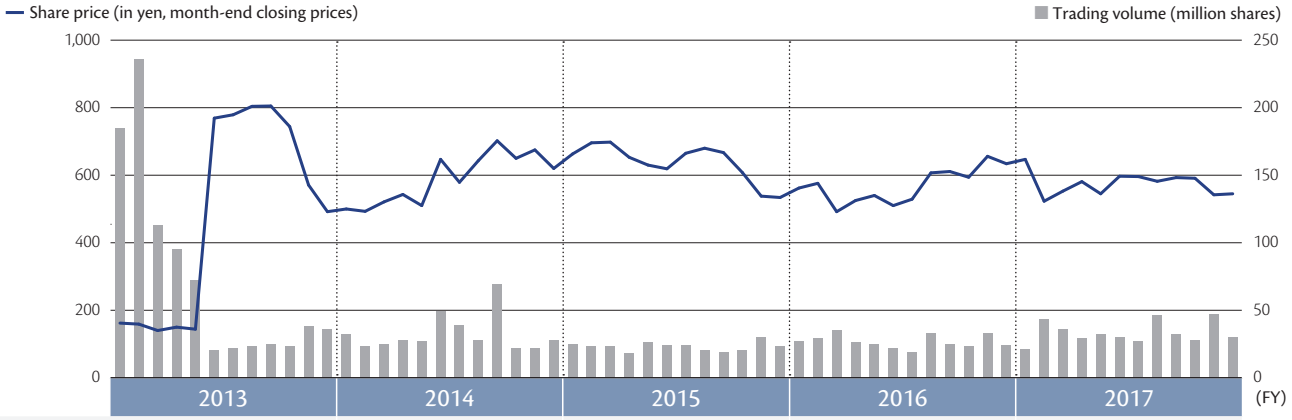
Name of shareholder	Number of shares held (Thousands of shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	13,114	7.8
Japan Trustee Services Bank, Ltd. (Trust Account)	10,729	6.4
Japan Trustee Services Bank, Ltd. (Trust Account 9)	6,257	3.7
GOLDMAN SACHS INTERNATIONAL	5,543	3.3
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	5,291	3.1
Japan Trustee Services Bank, Ltd. (Trust Account 5)	3,028	1.8
DFA INTL SMALL CAP VALUE PORTFOLIO	2,923	1.7
BNY GCM CLIENT ACCOUNT JPRD AC ISG (FE-AC)	2,514	1.5
THE BANK OF NEW YORK 133972	2,501	1.5
Sompo Japan Nipponkoa Insurance Inc.	2,358	1.4

Notes 1: The holdings ratio does not include treasury stock.
Notes 2: The Bank of Tokyo-Mitsubishi UFJ, Ltd. has changed its trade name to MUFG Bank, Ltd. effective April 1, 2018.

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 http://www.hitachizosen.co.jp/
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



	2013	2014	2015	2016	2017
High	(197) 863	785	747	678	664
Low	(130) 455	455	477	460	516
At year-end	492	620	534	634	545

Notes 3: On October 1, 2013, as Hitachi Zosen Corporation implemented a share consolidation with a ratio of five shares to one, the share price before the share consolidation and the share price after the consolidation, as shown in parentheses, have been recorded as our share price high and low during fiscal 2013.

Corporate Information (as of March, 2018)

Corporate data

Date of founding	April 1, 1881
Date of establishment	May 29, 1934
Representative	Takashi Tanisho Representative Director, Chairman & President
Capital	45,442,365,005 yen
Number of employees	10,377 (consolidated) / 4,034 (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	128

Regarding the drafting of the 2018 Integrated Report

The Hitachi Zosen Group has drawn up the present Integrated Report in place of the annual report that we have issued hitherto. The Integrated Report contains both financial and non-financial information, and provides an overview of the Group's medium- to long-term activities.

Under the Hitachi Zosen Group's long-term vision, we aim to become a provider of solutions for the creation of a recycling-oriented society. The present report was drawn up with a particular focus on value creation for the purpose of providing solutions to social issues through the Group's core environmental businesses involving energy and water. It is our sincere hope that this report will give our shareholders, investors, and other stakeholders an understanding of the Hitachi Zosen Group.

Hitz
Hitachi Zosen

Hitachi Zosen Corporation

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This report is printed on FSC-certified paper using the waterless printing process and soy ink.

Printed in Japan P5-2018