

Hitachi Zosen Corporation

Annual Report 2017



# **Hitz Value**

(Corporate philosophy, management stance, and standards of business behavior)

Hitachi Zosen will continue to adhere to the basis of its activities, the Hitz Value—comprising our corporate philosophy, management stance, and standards of business behavior—in efforts to acquire the technologies and problem-solving abilities needed to contribute to society and to seek further growth as a group.

# Corporate philosophy

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

# Our management stance

[Satisfaction of our stakeholders]

- · 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

# Message from the President

The Hitachi Zosen Group seeks to be a highly profitable company that is publicly recognized. In fiscal 2017, the Group announced a new long-term vision for mapping out the ideal image of the Hitachi Zosen Group in 2030, when it will celebrate the 150th anniversary of the Company's founding, and started a medium-term management plan extending from fiscal 2017 to fiscal 2019.

The corporate philosophy of the Hitachi Zosen Group is to "create value useful to society with technology and sincerity to contribute to a prosperous future." Based on the framework of this corporate philosophy, the Group will promote management reform, aiming to become a global corporate group while enhancing the technological capabilities needed to contribute to society, and define the related fields of energy and water as its core businesses.

The Group has inherited the spirit of tackling challenges possessed by E.H. Hunter, who in 1881 founded Hitachi Zosen's predecessor, Osaka Iron Works, and acted in this spirit for over 130 years. Moreover, the Group will also emphasize job satisfaction among employees, and work for the improvement of customer and shareholder satisfaction, while meeting the needs of society by developing technologies and products that satisfy its customers.

Representative Director, Chairman & President T. Taish

# Financial and Non-Financial Highlights

[Financial Highlights] (Millions of yen)	2010	2011	2012	
Operating results				
Order intake	246,067	289,714	382,848	
Net sales	287,196	303,036	296,792	
Operating income	13,359	11,367	11,362	
Profit attributable to shareholders of Hitachi Zosen	9,675	9,319	7,411	
Cash flows				
Cash flows from operating activities	17,136	14,650	9,649	
Cash flows from investing activities	(3,217)	(4,628)	(13,488)	
Cash flows from financing activities	(9,630)	1,083	(7,818)	
Cash and cash equivalents at end of year	55,915	66,609	56,413	
Financial position				
Total assets	380,249	375,788	366,347	
Net assets	101,969	111,047	115,126	
Interest-bearing debt	104,598	107,650	102,643	
Per share data* (Yen)				
Net income — Basic	12.19	11.74	46.78	
Net income — Diluted	10.74	10.67	44.78	
Shareholder's equity per share	109.75	120.07	627.85	
Cash dividends	2.00	2.00	2.00	
Financial indicators				
Shareholders' equity to total assets (%)	22.9	25.4	26.9	

<sup>\*</sup> Per share data (net income and net assets) was calculated based the five-to-one consolidation of common stocks that was effective October 1, 2013 and occurred at the beginning of the fiscal year ended March 31, 2013.

[Non-Financial Highlights]	2010	2011	2012	
CO <sub>2</sub> emissions (tons)	43,979	46,218	43,758	
Reduction in CO <sub>2</sub> emissions compared to FY2005* (%)	(5.8)	(1.0)	(6.3)	
Amount of waste reduced				
Waste volume (tons)	11,810	11,150	8,120	
Recycling rate (%)	86.0	87.6	82.0	
Number of companies per region (companies)				
Number of all companies (consolidated subsidiaries, non-affiliated companies using the equity method, affiliated companies using the equity method)	77	79	89	
Japan	65	61	65	
Europe (EU, Middle East, Africa)	4	4	5	
Asia-Pacific (India, Southeast Asia, Australia)	1	3	5	
East Asia (China, Taiwan, South Korea)	3	6	8	
Americas (U.S., Mexico, South America)	4	5	6	
Number of employees (people)	8,528	8,846	9,039	

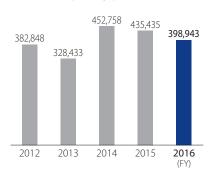
 $<sup>^{\</sup>ast}$  Calculated using standards for fiscal year ended March 31, 2017

8,433 3,433 7,879 3,720	2014 452,758 359,332 12,819 5,100	2015 435,435 387,043 15,112 5,848	398,943 399,331 14,947 5,864
3,433 7,879 3,720	359,332 12,819	387,043 15,112	399,331 14,947
3,433 7,879 3,720	359,332 12,819	387,043 15,112	399,331 14,947
7,879	12,819	15,112	14,947
3,720			
	5,100	5,848	5,864
200			
300			
300	9,086	8,147	17,304
8,697)	(14,680)	(3,666)	(6,998)
(514)	12,178	(15,948)	(8,417)
9,961	60,770	49,671	50,848
9,414	408,803	401,648	393,474
7,565	117,531	120,666	117,817
4,327	119,189	105,133	109,167
23.77	30.52	34.96	34.79
_	_	_	_
41.16	651.24	677.24	686.38
10.00	10.00	12.00	12.00
26.4	26.6	28.4	29.4
	(514) 9,961 9,414 7,565 4,327 	(514) 12,178 9,961 60,770 9,414 408,803 7,565 117,531 4,327 119,189 23.77 30.52 — — — — — — — — — — — — — — — — — — —	(514)     12,178     (15,948)       9,961     60,770     49,671       9,414     408,803     401,648       7,565     117,531     120,666       4,327     119,189     105,133       23.77     30.52     34.96       -     -     -       41.16     651.24     677.24       10.00     10.00     12.00

2013	2014	2015	2016
47,585	43,924	41,478	38,092
1.9	(5.9)	(11.2)	(18.5)
8,314	8,957	9,311	9,182
82.2	86.5	91.9	93.1
93	100	104	121
66	65	68	70
5	9	10	11
7	9	10	20
9	10	9	9
6	7	7	11
9,171	9,581	9,825	10,131
-		-	

# Order intake

Order intake (Millions of yen)

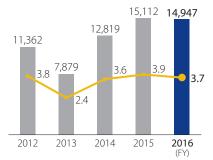


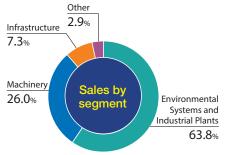
# Net sales & Overseas sales ratio

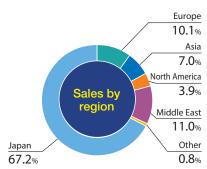


# Operating income & Operating income to net sales

Operating income (Millions of yen)
Operating income to net sales (%)







# Our history is one of being a provider of solutions for the realization of a recycling-oriented society

Osaka Iron Works is reorganized as a joint-stock company

1881 E.H. Hunter, of England, founded Osaka Iron Works (proprietorship)

Osaka Iron Works era (1881-)

▼1900 Bridge building business started



# Osaka Iron Works Ltd. era (1914–)

▼1923 Started producing hydraulic gates production started



▼1930 Started the process equipment business Company name is changed to Hitachi Zosen Corporation

# Hitachi Zosen Corporation era

Passing through the Peak Era for Shipbuilding and Shifting from Shipbuilding to Land

#### **V**1950

A license is concluded with B&W Ltd. (current name: MAN Diesel & Turbo SE) for a diesel engine

▼1951 The first B&W marine diesel engine is completed



## **▼**1957

Hitachi Zosen delivers its first mechanical press machine

## **V**1960

A license is concluded with Von Roll Environmental Technology Ltd. (current name: Hitachi Zosen Inova AG) for a De Roll-type refuse incineration plant

# Editorial Policy

At the Hitachi Zosen Group, our goal is to leverage the expertise in manufacturing and engineering we have built up during more than 130 years to develop our businesses in the Environmental Systems and Industrial Plants Business, Machinery Business, and Infrastructure Business fields.

In addition to the conventional composition centered on an outline of the Group's businesses, we have comprehensively edited this report, including the new three-year medium-term management plan "Change & Growth," which starts the new long-term "Hitz 2030 Vision" reaching from 2017 to 2030, initiatives concerned with the environment, and initiatives directed at our stakeholders.

The Hitachi Zosen Group strives to communicate a variety of information to further enhance corporate value, and we therefore hope that this report will enable many of our stakeholders to deepen their understanding of the Group.

## Forward-looking statements

This Annual 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 Company's business environment, and investors are warned that these statements may differ significantly from actual results.

#### 2002

Integrated shipbuilding business with NKK Corporation and launched Universal Shipbuilding Corporation (current name: Japan Marine United Corporation)

The Hitz brand name goes into use

#### 2009

Ten Group companies are absorbed

#### 2010

Acquired European refuse incineration plant maker AE&E Inova (current name: Hitachi Zosen Inova)

#### 2013

Acquired cask and canister manufacturer NAC International Inc.

#### 2014

Acquired Daiki Ataka Engineering Co., Ltd.

#### 2017

Acquired water treatment business company Osmoflo Group

1981

Hitachi Zosen celebrates its 100th anniversary

# Newly emerged Hitachi Zosen Corporation era (2002-)

Moved Away from Shipbuilding,Now the World's Top EfW Manufacturer

Net sales in 2030 JPY1 trillion

# (1943 -)

#### **▼**1965

Delivered the first mechanical incineration plant with a power generation facility manufactured in Japan



# **▼**1967

Started shield tunneling machine production

## **V**1971

Completed its first desalination plant

# **▼**1974

Delivered its first flue gas removal equipment

# **V**2014

Acquired the world's first SCR system for marine engines from MAN Diesel & Turbo



#### **V**2014

Japan IBM started building the latest optimal operations management systems (completely automated through ICT and big data) for EfW plants



## **V**2015

Successfully harvested rice using an autonomously operating robot tractor through a quasi-zenith satellite in Australia

#### **V**2015

Completed our large-capacity desalination plant for Qatar



## **V**2015

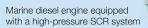
Successfully tested remote incinerator systems over one month for an EfW plant we developed at Nishiharima Clean Center

# **V**2016

Received an order to build in the U.K. a large-scale EfW plant that will have the greatest disposal volume per incinerator in the Hitachi Zosen Group

#### **V**2017

Received the first order for a high-pressure SCR system for marine engines in response to Tier III NOx emission standards



# **V**2017

Delivered one of Japan's largest land-mounted flap-gate type seawalls that was 20 meters at it widest for the Shikoku Regional Development Bureau



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# **New Long-Term Vision**

# "Hitz 2030 Vision"

—Initiatives to bring sales to JPY1 trillion—

Looking to 2030, the Hitachi Zosen Group aspires to be a solution provider to create a recycling society.

Core Business Areas for 2030

# **Be Solution Provider to Create Recycling Society**

Social Challenges

Increasing Environmental Pollution

Food, Water and Energy Shortage Abnormal Weather, Natural Hazards



Core Business Areas

# **Energy**

- Energy from Waste (EfW)
- Renewable Energy
- Methanation
- · Marine engines, process equipment etc.

# **Environment**

# Water

- Desalination, Water Supply
- Sewage Treatment, Excreta Treatment
- Water Control
- (Hydraulic gates, Wave Meters, Flap-Gates)
- Bridges, Shield tunneling machines etc.

# Core Competences of Hitz Group

- (1) Abundant delivery record (Expansive knowledge based on experience)
- (2) Technological competences (Engineering+Manufacturing)
- (3) Deep connections with customers

Going forward, responding to global environmental issues like global warming and environmental pollution, as well as securing food, water and energy sources enabling coexistence among humankind are expected to become challenges worldwide.

Creating a recycling society that reclaims and reuses resources and otherwise reduces its environmental footprint is vital for sustainable development, which can make everyone's everyday life safer and more secure from the present to future generations while maintaining humankind's standards of living.

We will reinforce as core business areas our operations in the environmental domains of energy and water where we can leverage our strengths, so as to provide an abundance of solutions and forge a recycling-oriented society.

In the energy business, we will engage in renewable energy power generation operations offering low CO<sub>2</sub> emissions. That includes Energy-from-Waste (EfW) plants that utilize municipal solid waste, as well as methane fermentation, woody biomass, and offshore wind power generation. We will also leverage electricity obtained to expand hydrogen-related business and help prevent global warming.



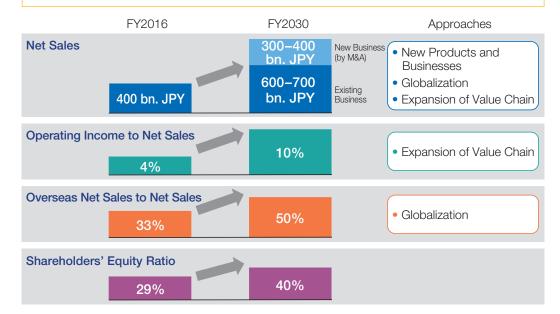
In the water-related business, we will handle everything from planning, design, construction, maintenance, and operations related to sewage treatment systems for purifying and recycling industrial effluent and urban sewage, waterworks to supply water for daily life, and desalination plants that produce fresh water from seawater.

In this way, we will help to build a recycling-oriented society.



Numerical Targets





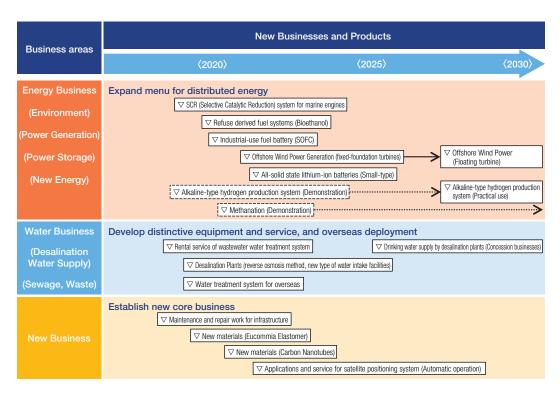
The Hitachi Zosen Group's vision for 2030 is to be a solution provider to create a recycling society. We are setting out to expand our business scope and bolster our earnings capacity, targeting net sales of JPY1 trillion and an operating margin of 10% or higher. Additionally, we are becoming more global and strengthening our financial standing, aiming to raise our overseas sales ratio to 50% and shareholders' equity ratio to 40%.

To Accomplish Our 2030 Vision



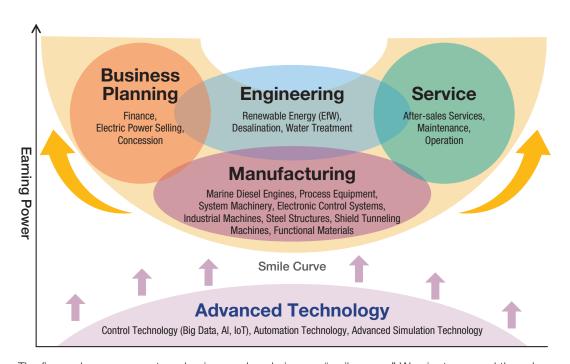
Of net sales of JPY1 trillion, we intend to generate 60–70% by growing existing business and the remaining 30–40% through new products and operations as well as M&A. To achieve these targets, the Hitachi Zosen Group will focus on developing new products and new businesses, globalizing operations, and expanding the value chain.

New Businesses and Products



The Hitachi Zosen Group's schedule for developing new products and commercializing new business through fiscal 2030 is shown above. In addition to our core business areas in energy and water, we have added new businesses as a third category.

Expansion of the Value Chain



The figure above maps out our business value chain on a "smile curve." We aim to expand the value chain out from our core "engineering" and "manufacturing" businesses in the center of the curve to the highly profitable "business planning" and "services" categories located on the sides of the curve. We also look to leverage big data, Al and other advanced technology to shore up overall profitability, while standing apart from the competition.

# New Medium-Term Management Plan "Change & Growth"

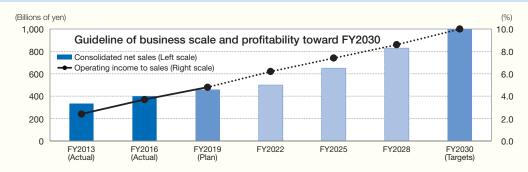
# Positioning of the New Medium-Term Management Plan "Change & Growth"

# The first step to grow for achieving "Hitz 2030 Vision" (maintenance of business foundations)

(Billions of ven)

	FY2013 Actual	FY2016 Actual	FY2019 Targets	FY2030 Targets
Order intake	328.4	398.9	460.0	Business
Net sales	333.4	399.3	430.0	Scale: 1 trillion
Operating income (Ratio)	7.8 (2.4%)	14.9 (3.7%)	20.5 (4.8%)	More than 10%
ROE	3.7%	5.1%	7.7%	
Number of employees	9,171	10,131	11,300	

- Basic strategies for New Mid-Term Management Plan "Change & Growth"
- 1. To restructure the business foundation and improve productivity
- 2. To maximize Hitz Group comprehensive strengths
- 3. Promote Portfolio Management



In May 2017, the Hitachi Zosen Group announced its new medium-term management plan "Change & Growth," covering the three-year period starting in fiscal 2017.

The "Growth" part of "Change & Growth" signifies the Group's determination to restructure and enhance 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.

Meanwhile, the "Change" part of "Change & Growth" 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 capabilities 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.

# Numerical Targets (Consolidated)

(Billions of yen)

		"Hitz Vision II" (Actual)			"Change & Growth" (Plan)			n)
	FY2014	FY2015	FY2016	3 years total	FY2017	FY2018	FY2019	3 years total
Order intake	452.7	435.4	398.9	1,287.0	400.0	430.0	460.0	1,290.0
Net sales	359.3	387.0	399.3	1,145.6	360.0	400.0	430.0	1,190.0
Operating income (Ratio)	12.8 (3.6%)	15.1 (3.9%)	14.9 (3.7%)	42.8 (3.8%)	12.5 (3.5%)	16.5 (4.1%)	20.5 (4.8%)	49.5 (4.2%)
Ordinary income (Ratio)	7.5 (2.1%)	12.2 (3.2%)	11.2 (2.8%)	30.9 (2.7%)	10.0 (2.8%)	14.0 (3.5%)	18.0 (4.2%)	42.0 (3.5%)
Net income	5.1	5.8	5.8	16.7	6.5	8.0	10.0	24.5
Interest-bearing debt	119.0	105.1	109.2	_	110.0	105.0	100.0	_
Shareholders' equity ratio (incl. subordinated loan)	26.6%	28.4%	29.4%	_	30.0% (32.4%)	30.5% (32.7%)	31.0% (33.3%)	_
ROE	4.9%	5.2%	5.1%	_	5.5%	6.5%	7.7%	_

Looking at the numerical targets of the new medium-term management plan "Change & Growth," we would like to go over our numerical targets for fiscal 2019, the plan's final fiscal year.

First is order intake. In the market for the construction of new waste incineration facilities in Japan in the Environmental Systems and Industrial Plants segment, we expect to continue to win 3 or 4 new projects per year, based on steady growth in projected capacity of 3,000 to 4,000 tons per year. In the European market, Hitachi Zosen Inova AG (Inova) will continue to win around 2 or 3 large-scale waste incineration plant projects per year, and will focus on developing emerging markets and the AOM business (after-sales services, operation and maintenance). In the markets of China, Southeast Asia and India, Hitachi Zosen and Inova will collaborate depending on the project to expand orders, along with actively pursuing ongoing businesses. In addition, in the Machinery and Infrastructure segments, the Group will work to win more orders through such means as expanding business areas. Based on the foregoing measures, the Group plans to take its first steps toward numerical targets for fiscal 2030 by achieving an order intake of ¥460.0 billion in fiscal 2019.

On the sales and earnings fronts, sales in fiscal 2017 are forecast to decline following a peak in sales from construction of overseas desalination plants and upgrade work on waste incineration facilities in Japan in fiscal 2016. Thereafter, the Group will target net sales of ¥430.0 billion and operating income of ¥20.5 billion in fiscal 2019 through measures including restoring the business performance of Inova, capturing synergies in the water business, and implementing cost reductions and structural reforms in the Machinery and Infrastructure segments.

# New Medium-Term Management Plan "Change & Growth"

# **Basic Strategies**

Basic Strategy 1

# Restructure business foundation and improve productivity

- 1. Business areas 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 Strategy 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 Strategy 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

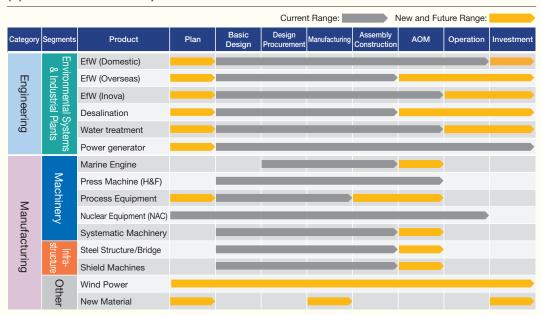
Under the new medium-term management plan, "Change & Growth," the Hitachi Zosen Group has embraced three basic strategies.

These strategies will be explained in detail on the following pages. The three basic strategies are: (1) Restructure the business foundation and improve productivity by using ICT and expanding business areas; (2) Maximize Hitz Group comprehensive strengths by formulating business clusters; and (3) Promote portfolio management to achieve a highly profitable business structure.

Going forward, the Group aims to define business units (business clusters) based on the business cluster framework.

# Basic Strategy 1 Restructure Business Foundation and Improve Productivity

# (1) Business areas expansion



The Hitachi Zosen Group has adopted engineering and manufacturing as its business foundation. However, there are many products where the scope of the Group's activities is limited to conventional design, manufacturing and construction, primarily in the manufacturing divisions.

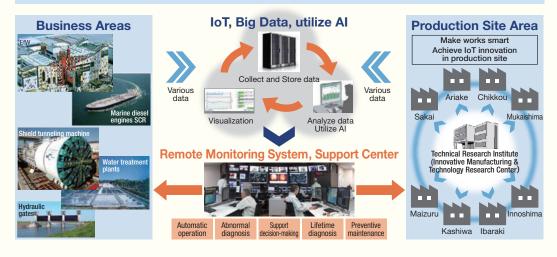
Under the new medium-term management plan "Change & Growth," we will analyze Hitachi Zosen's strengths in each product, and will expand business opportunities by extending profitable value chains from upstream business planning to downstream servicing plus business investment. By increasing the ratio of sales from "soft" service-oriented areas, the Group will work to establish a stable profit structure.

# (2) Use ICT

■ Productivity improvement

■ Expansion of AOM business

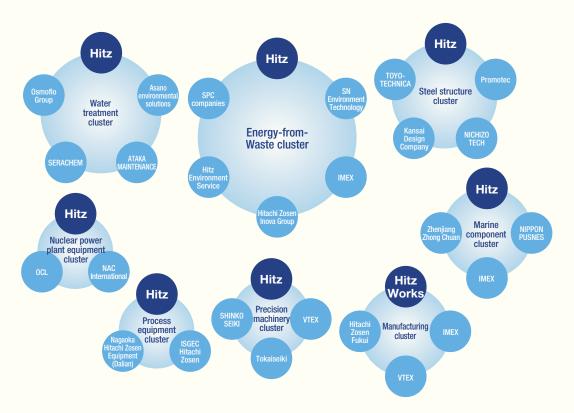
- Productivity improvement by robots and ICT
- Standardized design by ICT
  - Horizontal development of remote monitoring system (Shield Machines, Marine diesel engines etc.)
    - · Stabilize electric output in EfW plants by big data



# New Medium-Term Management Plan "Change & Growth"

# Basic Strategy 2 Maximize Group Comprehensive Strengths

- Fortify group strategies: Form business clusters and maximize synergy
- Procus on consolidated management: Promote consolidated basis profit monitoring

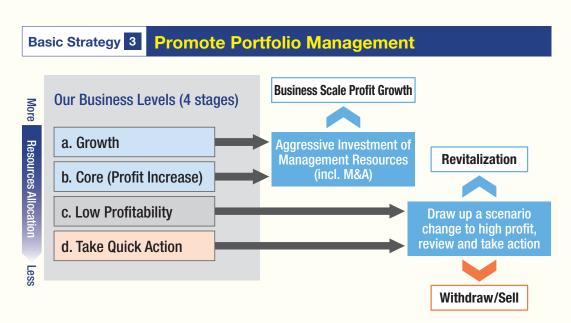


It will be essential to enhance the profitability of the entire Hitachi Zosen Group in order to strengthen the Group's management foundation and enhance corporate value over the medium and long terms.

To achieve these goals, the Group will arrange businesses that can be expected to generate synergies—specifically, the businesses of various headquarters and works of Hitachi Zosen and the businesses of Group companies—into business units (business clusters). The business clusters will be arranged into groups such as EfW, water treatment, steel structures, marine components, process equipment, nuclear power plant equipment, precision machinery and manufacturing. The Group will formulate and execute business strategies for each business cluster.

Along with this, the Group will promote consolidated business management in conjunction with strengthening its capacity to secure orders and manage revenues on a consolidated basis.

Additionally, we will work to develop human resources across the entire Group by stepping up staff rotations among Group companies.



Position	Action
Growth/Core	Aggressive Investment (Development, capital investment, M&A)
Low Profitability Take Quick Action	Find out if it can depart from low growth and low profit, promote selection and concentration (Maintain business or withdrawal/sell)
New Businesses (Promotion Office)	Evaluate business viability and promote selection and concentration (Commercialization, withdrawal/sell)

We have adopted the promotion of portfolio management as a basic strategy because we believe that our efforts to address businesses that require structural reforms were not necessarily sufficient under the previous medium-term management plan, "Hitz Vision II."

Under the new medium-term management plan "Change & Growth," we will work to improve earnings in businesses that require structural reforms as early as possible, thereby transforming them into core and growth businesses. To this end, we will classify the Hitachi Zosen Group's businesses into four portfolio categories based on certain indicators such as profit and profit margins and the amount of business risk, in conjunction with building frameworks to implement initiatives in a timely and appropriate manner.

In these and other ways, we will classify the Hitachi Zosen Group's businesses into four portfolio categories. By doing so, we will focus resources on carefully selected businesses as we rigorously implement a policy of actively investing resources in growth fields.



# Three Years of Laying a Foundation for the Future

Under the previous medium-term management plan "Hitz Vision II," Hitachi Zosen aimed to evolve into a highly profitable company that is publicly recognized, by working toward three targets: strengthen profitability, expand the scale of operation, and fortify the financial structure.

Unfortunately, the Company was unable to make much progress on strengthening profitability. Hitachi Zosen was able to secure a profit in all business segments by the final fiscal year of the management plan, thanks to initiatives to restructure unprofitable businesses, expand businesses with decent profitability, and improve productivity through the use of ICT technology, with the ultimate aim of achieving the highest levels of profitability in the industry in each business and product line. However, the Company was unable to make major improvements to unprofitable and low-margin businesses, and remains overly dependent on the services it provides in the Environmental Systems and Industrial Plants segment (AOM business). In manufacturing divisions in particular, earnings were tarnished by technical problems in marine diesel engines and precision

machinery, as well as weak performances at overseas projects, overseas subsidiaries and joint ventures.

Hitachi Zosen made measureable progress in its aim to expand the scale of operation. The Company was able to achieve net sales around ¥400 billion in the last fiscal year of its management plan, thanks in no small part to strong performance overseas at Inova and NAC International Inc. (NAC), as well as firm progress on large-scale desalination plant construction projects. Our scale of operation is now within reach of ¥500 billion in net sales. However, we believe there is still much work to be done to expand our scale of operation further, and will focus our efforts on securing more orders in light of the tough environment for winning orders lately.

Regarding our aim of fortifying the financial structure, we finished the year just shy of our target for a shareholders' equity ratio of 30% or higher. Since then, however, the Company has taken steps to strengthen its ability to withstand risks, including the raising of ¥20 billion in funds through subordinated loans in May 2017.

"Hitz Vision II" Achievement (Fiscal 2014 – Fiscal 2016)

	(Billions of				
	Total for the 3 fiscal years (Target)	Total for the 3 fiscal years (Results) [Achievement rate]			
Order intake	1,350.0	1,287.0 [95%]			
Net sales	1,070.0	1,145.6 [107%]			
Operating income	50.0	42.8 [86%]			

# Concept of New Long-Term "Hitz 2030 Vision"

In May 2017, the Hitachi Zosen Group unveiled a new three-year medium-term management plan called "Change & Growth" that began in fiscal 2017. Management also announced the "Hitz 2030 Vision" as a new long-term vision for the shape of the Group in 2030, when we will celebrate the 150th anniversary of the Company's founding. This long-term vision lays out the direction for our businesses to take through 2030, and sets specific targets for strengthening profitability and expanding our scale of operation.

Over the next four years until 2030, we anticipate major changes in the business environment and accordingly intend to revise our targets and strategies on occasion. In addition to setting our business direction, we are in position to work towards our aim of being a publicly recognized company that achieves not only a larger scale of operation but also combines profitability and soundness. We also aim to improve our communications with stakeholders while sharing our outlook for the Group based on the new long-term vision.

In energy-related businesses, Hitachi Zosen plans to provide new sources of energy, such as from methanation, as well as distributed energy sources, including EfW plants and renewable energy. In water-related businesses, the Company's involvement extends from the provision of safe and worry-free water from desalination plants and water works systems to water resource reclamation at wastewater treatment and night soil treatment plants. In these environmental fields, we aim to strengthen profitability and expand business by leveraging our advanced technological capabilities in engineering and manufacturing, as well as our extensive track record and robust relationships with customers.

Our long-term management targets for fiscal 2030 are net sales of ¥1 trillion, an operating margin of at least 10%, an overseas sales ratio of 50% or higher, and a shareholders' equity ratio of 40% or higher. We envision growth in existing businesses will generate 60–70% of this targeted ¥1 trillion in net sales, with 30–40% generated by new business and M&A.

\* For more details, please refer to New Long-Term "Hitz 2030 Vision" on pages 6–9

# Our Core Businesses Areas

# Energy

- Energy from Waste (EfW)
- Renewable Energy
- Methanation
- Marine engines, process equipment, etc.

# **Environment**

# Water

- Desalination, Water Supply
- Sewage Treatment, Excreta Treatment
- Water Control (Hydraulic Gates, Wave Meters, Flap-Gates)
- Bridges, Shield tunneling machines, etc.

# Position of New Medium-Term Management Plan "Change & Growth"

The new medium-term management plan "Change & Growth" is the first step toward achieving growth and our aims in the "Hitz 2030 Vision." "Growth" symbolizes our start on the journey to becoming a highly profitable company with public recognition. Over the three-year period from fiscal 2017, the Company will selectively concentrate on business, upgrade global systems, strengthen the Group's collective capabilities, and take other strategies and measures to build and improve on its

business foundation. The management plan also aims to steadily improve profitability and expand our scale of operation.

"Change" is an integral part of our corporate culture of constantly challenging ourselves to create new products and markets while refining our innovative technological capabilities to address customer needs.

Our basic strategy has the following three objectives.

# **Basic Strategies**



Restructure business foundation and improve productivity

2

**Maximize Hitz Group** comprehensive strengths

3

Promote Portfolio Management

# 1 Restructure Business Foundation and Improve Productivity

To make the "Hitz 2030 Vision" a reality, the most important tasks at hand are to rebuild the business foundation and improve productivity. To this end, we are implementing the five initiatives described below.

The first is to expand our scale of operation. Looking at the Group's business in terms of the value chain, most Group companies center around manufacturing divisions with operations ranging from basic design to engineering, procurement, manufacturing, assembly and construction. Looking ahead, after analyzing its strengths in each product line, the Company aims to increase profitability by expanding upstream into planning as well as downstream into services and business investment.

The second initiative is to leverage ICT. Our plan is to maximize the use of ICT and robots on the production floor at our plants in order to boost productivity and create products and services that are competitive in the market. Through the utilization of big data, we aim to improve customer satisfaction in service operations.

The third is to enhance the risk management structure. In fiscal 2016, we encountered some technical problems as risks emerged in overseas investments and order intake projects. Taking the situation seriously, we are focusing our energies on risk management related to M&A and order intake projects, as well as on reducing technical issues.

The fourth initiative is to define and advance measures to increase profitability. The Company will take measures to bring out its strengths in



each product line, restore profitability and pivot toward products with higher added value.

The fifth initiative is to fortify the financial structure and augment our ability to invest in growth. Hitachi Zosen has reinforced shareholders' equity by procuring funds through ¥20 billion in subordinated loans, in addition to enhancing shareholders' equity by strengthening profitability and accumulating profits. The Company is also making growth investments in targeted businesses, and withdrawing from and divesting non-core, weak businesses by better portfolio management.

# 2 Maximize Hitz Group Comprehensive Strengths

We must improve the profitability of the Group as a whole in order to strengthen the Group's business foundation and increase corporate value over the longer term. Hitachi Zosen has formed eight business clusters consisting of Hitachi Zosen's business headquarters, plants and Group companies likely to generate business synergies together, and is creating and implementing business strategies for each business cluster.

With a focus on consolidated business management, the Company aims to increase consolidated order intake and earnings flow, promote more employee rotations among Group companies, and put more effort into personnel training across the Group.

# 3 Promote Portfolio Management

As a lesson learned from the previous management plan, we are creating a framework for properly evaluating businesses based on clearly defined standards, such as minimum operating margins and specific deadlines, in order to rapidly strengthen earnings in non-performing businesses by changing them back into core growth businesses. In addition, we are selectively concentrating on businesses and properly allocating management resources to growth fields.

Over the next three years, Hitachi Zosen plans to invest a total of ¥100 billion, comprising ¥30 billion in R&D spending, ¥40 billion in capital investment, and ¥30 billion for M&A and other loans and investments.

In R&D, the focus of spending will be on expanding business domains and measures to increase profitability. Our capital investments will concentrate on improving productivity and expanding our scale of operation, such as commercializing new products. Investments in M&A will target deals that should generate synergies with Group businesses.

\* For more details, please refer to New Medium-Term Management Plan "Change & Growth" on pages 10–15.

# Seeking Business Opportunities to Solve Social Issues

- Value Creation within the Hitachi Zosen Group -

What will the business environment be like in 2030?

The world population is expected to grow, and standards of living will likely improve for people in emerging countries. Against this backdrop, environmental pollution is likely to become a serious social problem, alongside shortages of foodstuffs, water and energy. In response to these social problems, a so-called recycling-oriented society is desirable, where limited natural resources are efficiently used, waste is reduced, valuable resources are extracted from waste and leftover waste is properly disposed. The Hitachi Zosen Group aims to be a solution provider to create a recycling society, by offering solutions to these social issues through its core environmentrelated businesses in energy and water.

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

This is the Group's corporate philosophy. We believe providers of solutions for a recycling-oriented society, the aim of the Group, are essential to the realization of a prosperous future. Japan is not the only country with social problems in need of solutions. The Hitachi Zosen Group believes it has a responsibility to provide solutions on a global scale.

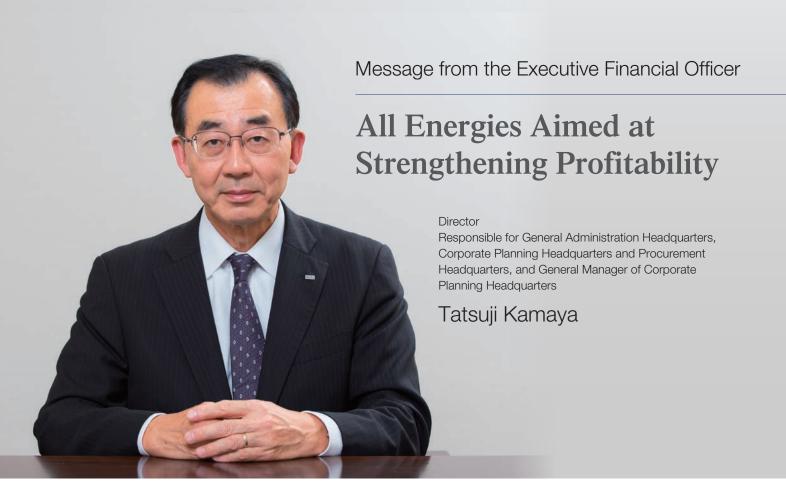
Most of the businesses that the Group has created are based in Japan. In order to bring our technologies and sincerity from Japan to the rest of the world, we must rearrange our business model that was originally developed in Japan

and adapt it to the people and communities in each region of the world.

This is also true for employee training and human resources. For our businesses to achieve an overseas sales ratio of at least 50%, we must train leaders in each region, hire local staff, and have local leaders train local staff. Currently, we still rely on dispatching leaders from Japan to train staff at overseas bases. As globalization advances, however, this approach will become more difficult to sustain. We must clearly convey our corporate philosophy and the underpinnings of the Group, while more localized operations need to move ahead.

To be a truly global corporation, Hitachi Zosen is keen to promote diversity.

We have numerous issues on hand to address, such as strengthening profitability, but our vision for the future is now clearly in view. Hitachi Zosen is in position to move forward with the determination to achieve its goal of ¥1 trillion in net sales by developing business globally as a provider of solutions that is helping to realize a recycling-oriented society. We aim to meet the expectations of our stakeholders as the Hitachi Zosen Group evolves into a highly profitable enterprise with public recognition.



# Assessment of Previous Medium-Term Management Plan "Hitz Vision II"

Our previous medium-term management plan "Hitz Vision II" focused on three targets: strengthen profitability, expand the scale of operation, and fortify the financial structure.

Right now, strengthening profitability is the most important priority for the Group, an objective that was only partially achieved in the previous medium-term management plan. Of all the industries, operating margins are among the narrowest in the heavy machinery business. In the previous medium-term management plan, one of our goals was to strengthen profitability, but our manufacturing divisions struggled to improve earnings. With a history of involvement in heavy machinery in general, the Group offers large machinery that costs apiece several billion yen or up to tens of billions of yen, such as waste incineration power plant facilities, as well as a diverse array of smaller machinery. It is therefore not possible to take a uniform approach to increasing overall profitability. The fact that different measures are needed for each business and product group underscores the challenges inherent in managing our Group businesses.

With regards to expanding the scale of operation, Hitachi Zosen was able to expand operations overseas with its acquisition in 2010 of Inova, a Swiss company engaged in the

EfW plant business in Europe. As a result, consolidated net sales have expanded to ¥400 billion.

With regard to fortifying the financial structure, I believe management has taken all the steps that needed to be taken. Most of the manufacturing projects we accept take an average of 1.5 to 2 years from order receipt to completion, and some of the longer projects take 5-6 years until delivery. We have also implemented certain financial measures because one of our key issues is being able to ride out the risks that materialize during the period up until delivery. Specifically, Hitachi Zosen has secured a ¥30 billion commitment line with financial institutions in order to raise capital more flexibly and efficiently. Moreover, the sale of non-core assets, including the disposal of idle land, has increased the amount of cash on hand. In the previous medium-term management plan, the Company set a target for achieving a shareholders' equity ratio of at least 30%. As of fiscal 2016, the shareholders' equity ratio was 29.4%, slightly below this target, but close enough, in my opinion. In May 2017, Hitachi Zosen raised ¥20 billion from subordinated loans, leading to an improvement of about 2.5% in the shareholders' equity ratio on a consolidated basis.

# Initiatives to Achieve the New Long-Term "Hitz 2030 Vision"

For our new long-term "Hitz 2030 Vision," we have set a target for net sales of ¥1 trillion by 2030, thirteen years after fiscal 2016 when sales hit the ¥400 billion level, as well as targets for an operating margin of 10% or higher, an overseas sales ratio of 50%, and a shareholders' equity ratio of 40%. Specifically, our aim is to create new businesses through M&A and other measures that will bring in an additional ¥300–400 billion in sales, in addition to increasing sales in existing businesses to the ¥600–700 billion level.

While these targets are rather aggressive, I believe the first steps we should take include implementing measures to strengthen profitability in existing businesses. A company

unable to achieve an operating margin of 10% on sales of a scale of ¥400-500 billion will probably not be able to deliver a 10% operating margin on sales of ¥1 trillion. A company should pursue greater business scale only after it has improved profitability in each business and each product to generate an appropriate level of profits, and after it has refined an ability to develop competitive businesses. Once competitiveness is increased, sales will naturally increase, and overseas operations will also increase their sales. As profitability improves, retained earnings are accumulated, and the shareholders' equity ratio increases. By taking this approach, we want to realize the "Hitz 2030 Vision."

# New Medium-Term Management Plan "Change & Growth"

Our foremost priority—strengthening profitability—has not changed in the new medium-term management plan "Change & Growth." Until now, the Company's main businesses have been engineering and manufacturing. Looking ahead, we are diversifying into business fields where we can create higher added value, such as the "business planning" fields of finance, electric power sales and concessions, as well as the "services" fields of after-sales services, operations and maintenance. This will increase our overall profitability. In particular, Hitachi Zosen will concentrate on expanding operations overseas, such as in the waste incineration plant business, but there are also business opportunities in Japan as privatization will advance in Japan going forward.

Meanwhile, the Company is also focusing on reinforcing risk management. Naturally, we are strengthening the risk

management structure for M&A and business investment. For example, Hitachi Zosen put into action a 100-day plan based on post-merger integration guidelines following its acquisition of the Osmoflo Group, an Australian company, in February 2017. We have already dispatched three top management personnel to the company to exchange opinions and align management policies with the local management team.

Hitachi Zosen will aggressively work to fortify its financial structure and augment its ability to make growth investments. We will continue to strengthen financial characteristics by reinforcing profitability and increasing cash flow. We will work to augment our ability to invest in growth by withdrawing and divesting from non-core or unprofitable businesses and making growth investments in targeted businesses.

# Returning Profits to Shareholders

As for returning profits to our shareholders, we will prioritize an increase in dividends once we secure profits by strengthening profitability in existing businesses. The Company has the ability to keep operating income at the ¥10 billion level, as demonstrated by its performance over the past 7-8 years. However, net income fluctuated due to the emergence of

risks in overseas operations. Going forward, Hitachi Zosen will enhance shareholder returns through stable growth in net income as it manages risks better in the future.

# Board of Directors and Corporate Auditors (As of June 22, 2017)

## **Directors**



Representative Director, Chairman & President

#### Takashi Tanisho

Apr. 1973 Joined the Company

Apr. 2009 Executive Officer, the Company

Apr. 2009 Deputy General Manager of Precision Machinery Headquarters, and General Manager of System Machinery Business Division, the Company

Apr. 2010 General Manager of Precision Machinery Headquarters, and General Manager of Chikkou Works, 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. 2011 Responsible for Precision Machinery Headquarters, General Manager of Precision Machinery Headquarters, and General Manager of Business & Product Development Division, Precision Machinery Headquarters, the Company

Apr. 2012 Managing Director, the Company

Apr. 2012 Managing Director, and 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 & 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

Apr. 2011 General Manager of Environmental Solutions EPC Business Unit, Engineering Headquarters, the Company

Apr. 2012 General Manager of Environmental Solutions EPC Business Unit, Environmental Systems & Solutions Division, Engineering Headquarters, 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, 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 (current position)



Managing Director

# Toshiyuki Shiraki

Apr. 2012 General Manager of Overseas Project Execution Dept., Environmental Systems EPC Business Unit, Environmental Systems & Solutions Division, Engineering Headquarters, the Company

Jan. 2013 General Manager of EPC Business Unit, Engineering Business Division, Environment, Energy & Plant Headquarters, the Company

Apr. 2015 General Manager of Business Planning Headquarters, 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, responsible for Information and Communication Technology Promotion Headquarters, Architect Supervision Dept., and Quality Assurance Dept., the Company (current position)



# Tadashi Shibayama

May 1989 Hitachi Zosen Clearing U.S.A. Inc. (Secondment) Sep. 1992 Hitachi Zosen U.S.A. Ltd. (Secondment)

Oct. 2007 General Manager of Planning & Development Dept., Business & Product Development Center, the Company

Apr. 2012 Executive Officer, the Company
Apr. 2012 General Manager of Energy Solution Business Unit,
Plant Engineering & Energy Solutions Division,
Engineering Headquarters, 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)



# 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
Jan. 2013 General Manager of EPC Business Unit (Responsible for domestic

projects) and Environmental System Planning & Engineering
Dept., Engineering Business Division, Environment, Energy & Plant
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)



Director

# Tatsuji Kamaya

Apr. 1984 Joined the Company

May 1990 Hitachi Zosen Singapore (Pte.) Ltd. (Secondment)

Mar. 1994 Finance Dept., the Company
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 Responsible for General Administration Headquarters, Corporate Planning Headquarters, Procurement Headquarters, and General Manager of Corporate Planning Headquarters, the Company (current position)

Jun. 2017 Director, the Company (current position)



Outside Director Chiaki Ito

Apr. 1970 Joined Fuiltsu Limited

Jun. 2004 Corporate Executive Vice President and Director, 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. 2012 Senior Executive Advisor, FUJITSU RESEARCH INSTITUTE

Jun. 2013 Outside Director, the Company (current position)

Jun. 2014 Corporate Advisor, FUJITSU RESEARCH INSTITUTE
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 Aug. 2000 Director, Sony Digital Network Applications, Inc.

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

Sep. 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. (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

# Masamichi Tokuhira

Apr. 1973 Joined the Company

Jun. 2001 General Manager of Accounting & Finance Dept., the Company Apr. 2005 Executive Officer, the Company

Jun. 2006 Executive Officer, Universal Shipbuilding Corporation Apr. 2009 Full-time Corporate Auditor, Universal Shipbuilding Corporation Apr. 2010 President, Universal System & Machinery Co., Ltd.

Apr. 2012 Corporate Advisor, the Company

Jun. 2012 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

Apr. 1971 Joined Japan Management Association

Sep. 1976 Joined Honda Motor Co., Ltd.

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.

Jun. 2003 Advisor, Honda Motor Co., Ltd.

Apr. 2010 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)

# Corporate Governance

Guided by our corporate philosophy, "We create value useful to society with technology and sincerity to contribute to a prosperous future," we recognize that sincerely meeting the expectations of all stakeholders, starting with shareholders, customers, suppliers, local communities and employees, and ensuring the soundness, transparency and efficiency of management are indispensable to sustained growth and higher corporate value over the medium to long term, and adopt the basic approach of working to enhance corporate governance as top-priority management issues.

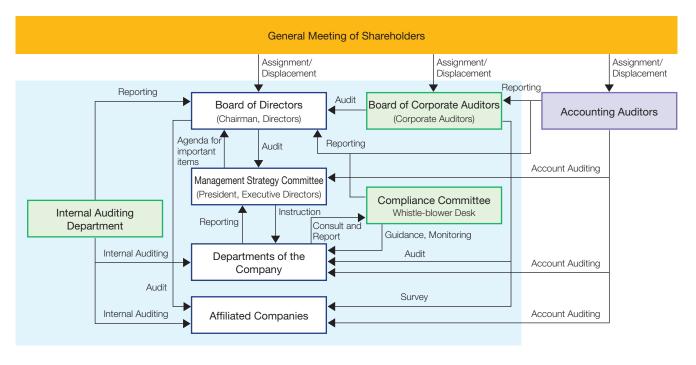
# **Corporate Governance System**

The Company has adopted a system of governance based on Corporate Auditors. The Board of Directors is made up of 10 Directors and conducts matters stipulated by law, makes key decisions related to business execution, basic management policy and other important matters, and oversees business execution. In addition, the Management Strategy Committee, comprised of Executive Directors and division managers, deliberates on basic strategies and important matters related to management, and overall the system is designed to ensure appropriate management decision-making. Moreover, matters related to business operations are subject to preliminary deliberations by the Management Strategy Committee and then decided on by the Board of Directors. The Company also has an executive officer system. Some of the business execution functions performed by Directors are delegated to Executive Officers. This serves to both strengthen the supervisory function of Directors and ensure the timeliness of business execution.

The Company has 3 Outside Directors among its 10 Directors and 2 Outside Corporate Auditors among its 4 Corporate Auditors, which reinforces the oversight and supervision of management. In addition, the Board of Directors makes decisions while fully respecting the opinions and recommendations made by Outside Directors and Outside Corporate Auditors from their neutral perspective. We have adopted this current system as it enables us to ensure the effectiveness of management supervision and oversight, the reason the current system has been adopted.

The Board of Directors holds regular board meetings once a month and extraordinary meetings as necessary to decide important matters and supervise business execution. The Board of Directors decides on basic policies to establish an internal control system and also oversees the implementation of internal controls in accordance with the basic policy and revises the basic policy as necessary. The Management Strategy Committee is held around twice each month and deliberates on basic strategies and important matters related to management.

Corporate Auditors regularly attend meetings of the Board of Directors and conduct other activities to oversee the business execution of Directors. Meetings of the Board of Corporate Auditors are also held to gather Corporate Auditors' opinions on audits, monitor and verify the design and operation of the internal control system, and, as necessary, to give advice, recommendations and opinions to Directors.



# Officer Compensation

Compensation for Directors is comprised of fixed compensation and a performance bonus, and the compensation of each Director is decided within the scope of the total amount determined by resolution of the General Meeting of Shareholders.

The amount of fixed compensation paid is set by officer rank. The amount of performance bonus paid is calculated based on performance indicators approved by the Board of Directors and before being finalized is carefully confirmed for adequacy by the Chairman & President, who has been delegated this duty by the Board of Directors, based on the opinions of the Outside Directors.

However, Outside Directors receive only fixed compensation given the need to maintain their independence. In addition, compensation for Corporate Auditors is also limited to a fixed amount, also to ensure their independence. The specific amounts are determined through deliberations by the Corporate Auditors based on the duties of each Corporate Auditor and within the scope of the total amount determined by resolution of the General Meeting of Shareholders.

# **Risk Management**

Risks related to compliance, the environment, safety, disasters and information security, as well as other potential operational risks, are continually assessed and monitored by the Company divisions responsible for each type of risk. The divisions also conduct related training and guidance. Risks with the potential to materially affect the financial standing or operating performance of the Company or its Group companies are reported to the Company's Board of Directors.

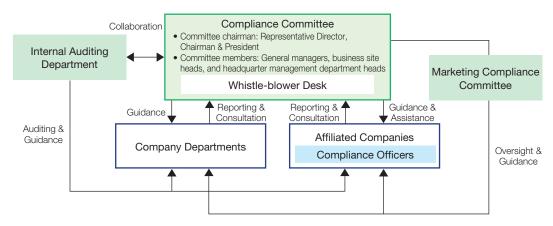
For risks related to individual product revenue, appropriate risk management is conducted to prevent and eliminate them. To this end, the Risk Examination Committee identifies and assesses risks and considers avoidance measures, and dedicated departments have been established related to risk management and project management.

To respond quickly and appropriately when major risks materialize, the Company has set up systems in advance, including rules related to communication methods, response methods, and management systems.

The Company's division responsible for internal audits works to monitor the status of risk management at the Company's divisions and at Group companies, audits its effectiveness and adequacy, and regularly reports on this to the Company's Board of Directors.

# **Compliance System**

We have established a Compliance Committee, with the Representative Director serving as Chairman. Under this committee, surveys and verifications of all corporate activities are conducted regularly from the legal and corporate ethical standpoints. Furthermore, the Hitachi Zosen Group has established the "Hitz Group Charter of Ethical Behavior" as ethical behavior guidelines to be observed by all the Directors and employees of the Group. By educating all Directors and employees, the Group is aiming to improve awareness of compliance and to promote the maintenance of a high standard of corporate ethics. At the same time, we have established a whistle-blowing system to enable employees to consult with/report to an external consultant so that we can promptly and effectively prevent, detect, and address any violations of laws, regulations and corporate ethics.



# Message from an Outside Director



# Hitachi Zosen's Management through the Lens of "Small and Light"

Outside Director

Chiaki Ito

# What type of company is Hitachi Zosen?

It has been over four years now since I was appointed as an Outside Director. Hitachi Zosen has a long history of over 130 years, but it is no longer in the shipbuilding business, which had been its core business since foundation. Hitachi Zosen has overcome many difficulties to leverage its strengths and establish new opportunities. This is why I consider Hitachi Zosen to be a fighting company. It hasn't grown stale at all; rather it's a unique company that seems to grow younger and fresher with each passing year. Internally as well, you see many young employees working with fresh vigor.

# What is your understanding of the role of an outside director?

Outside directors are normally expected to provide management oversight, but additionally, I think they also have a role to play in supporting a company's growth. Most Japanese companies fall into over-compliance, and this I feel hinders the growth potential and diversity companies naturally have. To identify internal hindrances from an outside perspective and bring out a company's naturally dynamic growth potential and diversity I feel is another important role of an outside director.

For many years, I worked at an IT company, Fujitsu Limited, and was also involved in its management. Whereas Hitachi Zosen's business might be described as "large and heavy," Fujitsu is a company in the business of "small and light." But the important thing is profitability, even for large and heavy businesses. It is important to have many highly profitable projects regardless of size, and I personally always strive to speak from this perspective at board meetings.

# How would you evaluate Hitachi Zosen's Board of Directors?

Hitachi Zosen provides various opportunities for each and every outside director to give their honest opinions. It is difficult to perform the function of an outside director just by attending board meetings. Hitachi Zosen holds a training camp for corporate officers, including outside and executive officers, where we engage in discussion and debate. I personally also participate in the R&D committee, where debate focuses on research and development, and global meetings. Through these activities, I'm able to also offer more constructive opinions at board meetings.

# What makes Hitachi Zosen an appealing company?

Hitachi Zosen announced its "Hitz 2030 Vision" in May 2017. It is a wonderful vision that effectively expresses the intended future direction of the Company. To realize the vision, I think even more thinking needs to be done on clear-eyed initiatives. Hitachi Zosen is currently engaged in numerous businesses essential to creating a recycling-based society from a long-term standpoint, like biomass power and water treatment. The road ahead may not always be smooth, but these are necessary initiatives for society as a whole. I would ask investors and stakeholders to focus even more on the Company from this long-term perspective.

# Internal Control

Hitachi Zosen's basic approach to internal control is to enhance the effectiveness of corporate governance through the development of internal control systems, thereby striving to increase corporate value.

# **Internal Control**

Hitachi Zosen's Board of Directors has determined a basic policy on the development of internal control systems. Along with this, the Board of Directors oversees the implementation of internal controls in accordance with the basic policy and revises the basic policy as necessary. The corporate auditors monitor and verify the development and operation of internal control systems, express their opinions, including advice and recommendations, to the directors as necessary, and take other necessary measures. In regard to internal controls at Group companies, Hitachi Zosen has set up the Subsidiary Administration Dept. as the division that is responsible for managing and issuing instructions on the internal controls of Group companies. In these and other ways, Hitachi Zosen provides support for the development of internal control systems at Group companies. To carry out deliberations on establishing internal control systems and to share information on Group management policies and other matters, the Company also regularly holds conferences attended by the Directors of the Company and the President and Director of each Group company. In addition, the Internal Auditing Department (the Internal Control Group) strives to regularly evaluate and improve the development and operation of internal controls over financial reporting pursuant to the Financial Instruments and Exchange Act of Japan, through a system of Company-wide cooperation among various divisions.

# **Basic Policy on Internal Control**

The Company has established the Basic Policy on Internal Control as a basic policy concerning its systems to ensure the appropriateness of operations (hereafter, "internal control systems").

# Outline of the Basic Policy on Internal Control

## 1. Objectives

This Basic Policy aims to enhance the effectiveness of corporate governance by Hitachi Zosen and the Hitachi Zosen Group by developing internal control systems pursuant to this policy, thereby helping to increase corporate value.

# 2. Duties of Directors, Corporate Auditors and Employees

- (1) All Directors, Corporate Auditors and employees must continuously endeavor to maintain and implement the internal control systems pursuant to this basic policy.
- (2) The Board of Directors, President, Directors, Corporate Auditors and employees will each have a fundamental part to play in the development of the internal control systems.

# 3. Development of Internal Control Systems

In order to achieve the aforementioned objectives, the Company will develop the following systems pursuant to the Companies Act and the Ordinance for Enforcement of the Companies Act of Japan.

- (1) Systems to ensure that the execution of duties by Directors and employees of the Company and Group companies complies with the laws and regulations and the Articles of Incorporation
- (2) Systems to retain and manage information concerning the Directors' execution of duties
- (3) Rules and other organizational structures of the Company and Group companies concerning management of risk of loss

- (4) Systems to ensure that Directors of the Company and Group companies execute their duties in an efficient manner
- (5) Systems for reporting to the Company on the matters regarding execution of duties by Directors of Group companies
- (6) Other systems to ensure appropriateness of operations in the Group consisting of the Company and the Group companies
- (7) Matters concerning employees who are requested by Corporate Auditors to assist in the duties of Corporate Auditors and matters concerning ensuring the independence from Directors of such employees and the effectiveness of directions to such employees
- (8) Systems for reporting to Corporate Auditors of the Company by officers and employees of the Company and Group companies, other systems concerning reporting to Corporate Auditors, and systems to ensure that persons who report to Corporate Auditors are not treated unfavorably as a result of making such report
- (9) Matters concerning the policy relating to advance payment of expenses accompanying execution of duties by the Corporate Auditors or reimbursement thereof, or other treatments of expenses or liabilities generated from execution of those relevant duties
- (10) Other systems to ensure that Corporate Auditors effectively perform audits

# Human Resources Management and Development

# **Human Resources Management**

#### HR Management Policy

Hitachi Zosen will conduct the following policies with the aim of providing a rewarding work experience to employees within a framework of diversity management.

- Create personnel programs that help raise performance and create new value
- Develop human resources capable of leading global business development
- Produce results through securing, utilizing and developing exceptional human resources
- Promote work-style reforms
- Promote health and productivity management

We will carry out these policies to realize working styles that enable each and every employee to excel.

# Initiatives for Securing and Utilizing Human Resources

We hire exceptional people on an annual, ongoing basis to maintain and enhance core technologies and skills, respond effectively to globalization, and promote new products and business development. In addition, under a policy of actively hiring global personnel (non-Japanese) and women, we set hiring target ratios for each and promote hiring activities on this basis. We further work to effectively utilize human resources once people are hired by assigning them to appropriate positions after a comprehensive assessment based on individual preferences, personal attributes and other factors.

Ratio of Women and Non-Japanese to Total New Hires (College Graduates) (Reference: Breakdown)

		Joined April 2015	Joined April 2016	Joined April 2017
Non-Japanese hires		9%	8%	8%
Women	Administrative	30%	37%	35%
hires	Technical	6%	4%	7%

In fiscal 2016, we established a new job return program that allows former employees who left the Company no more than 10 years earlier and who are under the age of 60 to be reemployed upon submitting a request. The program gives people who left the Company due to family circumstances, for example, to once again demonstrate their abilities while working at Hitachi Zosen.

# Promoting Diversity

Since 2008, Hitachi Zosen has been endeavoring to increase the independence and productivity of its female employees. In 2015, the Company set up the Diversity Promotion Office and positioned diversity management as one of its management strategies. Currently, the Company gives priority to advancing initiatives based on the eight categories of organization and culture, working styles, gender (female), nationality (foreigner), age (elderly), disabled, childcare, and nursing care.

# Promoting the Success of Women

Promoting the success of women is an important task in the promotion of diversity throughout the organization as a whole. In March 2016, Hitachi Zosen formulated various action plans based on the Act on Promotion of Women's Participation and

Advancement in the Workplace, and announced them both inside and outside the Company. Currently, the Company is not only enriching its training sessions for female employees, it is also enhancing its educational measures for male employees, including the provision of sponsorship training for male managers. Hitachi Zosen will also examine flexible working styles and the development of working environments.

# Communication between Middle Management and Other Employees

Based on the thinking that "communication is the source of employees' vitality," Hitachi Zosen has been implementing the following initiatives to enhance the quality of both vertical and horizontal communication. As a result, top- and management level employees are able to communicate directly with other employees at each level of the organization, and a vibrant corporate culture is being fostered throughout the Company

corporate culture is being lostered throughout the Company.					
Initiative	Content	Implementation			
Training sessions for executives	As a foundation upon which all executives could become a management team, these sessions were set up with the aim of deepening mutual understanding and forming relationships where serious dialogues could be had.	30 people (1.5 days)			
Training sessions to resolve top management issues (Hitz Ichinokai)	These sessions were devised as venues in the Company where executives could discuss issues that need to be resolved, and the strategies that would achieve this. The executives will deepen their discussions from the broad perspective of Company-wide management.	24 people (Held 10 times)			
Meetings for holding dialogues	When Hitachi Zosen formulated its 2030 vision and new medium-term management plan, it held meetings to enable exchanges of opinions between management and other employees, with the aim of sharing the vision and business strategies and incorporating employees' opinions.	Approx. 30 people each time (August: 16 times; November: 15 times)			

# Promoting Employment for Seniors

We initially established a reemployment program in fiscal 2003 and then revised it in fiscal 2006 and fiscal 2013 in accordance with the Act on Stabilization of Employment of Elderly Persons. Currently, the program reemploys all employees who wish to continue working upon reaching the mandatory retirement age of 60 until they are 65. Reemployed employees continue with previous job duties and also work to pass down techniques and skills to younger and mid-career employees.

# Reemployment Rate and Number Reemployed for Past Three Years

FY2014	FY2015	FY2016
88% (38/43 people)	89% (74/83 people)	92% (56/61 people)

# Internal Recruiting Program

An internal recruiting program was put in place in fiscal 2008 to promote optimal assignment of personnel within the Hitachi Zosen Group. Through the program, personnel necessary to reinforce competitiveness and to pass down techniques and skills, for example, are recruited internally. This way, motivated, energetic employees who wish to utilize their experience and skills to help the recruiting division expand, for example, or want the challenge of further developing their own potential apply and on the whole, this helps increase organizational vitality.

# **Human Resources Development**

# HR Development Policy

Human resources development is recognized as a key issue in the continuing development and growth of the Hitachi Zosen Group, and in our new medium-term management plan, "Change & Growth," it is positioned as one of the plan's basic strategies. On this basis, we conduct human resources development on an organized, ongoing, and long-term basis. As specific initiatives to this end, we are working to strengthen HR development by focusing on enhancing the career planning program, maintaining and enhancing the Company-wide system of training programs, developing overseas personnel, and promoting training for technical personnel.

# Enhancing the Career Planning Program

For strategic education and training, there are various training programs for younger employees aimed at developing new employees into highly independent and productive members of the organization within five years of being hired as a recent graduate, as well as a career planning program launched in fiscal 2009. The program involves conducting HR development in an organized, ongoing manner based on career plans, which are medium- to long-term plans for employees to develop into an ideal frontline employee. It also provides support for achieving the plan. In creating career development goals for each individual, specific personnel ideals are created at the division level, based on the frontline employee ideal shared by all members of the Hitachi Zosen Group, and then posted on the Company's intranet so they can be referenced by all employees. The career plans include items like future ideals and skill development items and methods (on-the-job training, group training, acquiring public certifications, etc.) as well as self-improvement and life events. They are created by individual employees through career consultations with their managers. Career design training is also held in the third and tenth years as follow-ups to further improve the effectiveness of the program.

# Maintaining and Enhancing the Company-wide System of Training Programs

For the career planning program to operate smoothly, we organized existing training systems and programs and reconfigured them by adding necessary training and other elements. Specifically, the occupational skills needed by employees at different levels of development were categorized and organized into three types: human skills, conceptual skills, and technical skills. The specific abilities needed for each of these skills were then incorporated as training items. When including items for future consideration, we have defined 45 areas and 135 training items overall.

# Developing Overseas Personnel

For global business development, in fiscal 2011, we established an overseas training assignment program that assigns young employees to overseas offices and affiliates. The program is intended to provide practical onsite training, improve language abilities and experience different cultures to help

cultivate a broader international outlook.

In addition, in fiscal 2013, we established a program that rotates young employees into positions at overseas representative offices. Going forward, to develop global personnel's capabilities to contribute to take more orders, acquire new customers and expand further into global markets, young employees up to their tenth year at the Company are assigned for three years in principle to an overseas representative office or local overseas affiliate as an administrator and experience a broad range of job duties regardless of what they have accomplished in Japan. In fiscal 2016, 10 young employees were assigned overseas through the program. Internal language classes (English and Chinese) are also conducted as necessary to improve language abilities.

Overseas Training Assignment Program Assignments

	FY2015	FY2016	FY2017 (Plan)
Site	9	9	9
Assignees	26	29	30

# FY2016 Results (12 Classes)

Name of Class	Number Held	Partici- pants	Period	
Internal English certification	36	1,180	1 day	
Intensive English course	4	40	4 weeks 3 days 2 days 2 days 2 days 3 months 1 day	
Upper-level English writing class	4	81		
Beginner-level English writing class	2	26		
English presentations	2	19		
English meetings and discussions	3	40		
English conversation class	1	13		
Motivational seminar for English study	1	171		
Pre-assignment English conversation training	1	1	1 day	
Basic English skills reinforcement training	2	73	3 days	
Chinese class	12	60	5 months	
Japanese business writing class	1	14	2 days	

# Promoting Training for Technical Personnel

Training for technical personnel, which had been conducted independently at each business site, has been revamped from a Company-wide perspective. To establish stronger frontline operations by quickly training young employees and passing down skills, training is being promoted with an emphasis on conducting basic skills training based on unified Company-wide standards, developing employees in an organized manner into highly skilled technical personnel, and conducting training for supervisors. To enable Companywide technical training to be conducted in an organized, efficient manner, we hold a basic skills training camp from April to June for newly hired technical personnel and also hold skilled technician training, supervisor training, safety training and other programs from Hitachi Zosen Group companies at the Hitz Skills Training Center, which was established at Ariake Works in March 2011.

# **Environmental Initiatives**

# Policy on Environmental Issues

The Hitachi Zosen Group has a clearly stated directive of "striving to protect the environment" in the "Hitz Group Charter of Ethical Behavior," which summarizes ethical behavior guidelines to be observed by all the directors and employees

of the Group. The Charter is applied to more concrete action guidelines under the Group's basic environmental protection, policies, and put into practice.

# **Basic Policy on the Environment**

The Hitachi Zosen Group formulated its Environmental Protection Promotion Regulations in January 1992, established a number of basic environmental protection policies and

behavior guidelines, and promoted its activities on global environmental protection. The Group also engaged in activities to protect the regional environment.

#### **Basic Environmental Protection Policies**

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

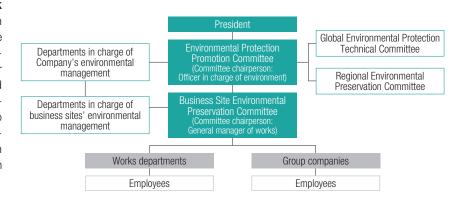
## **Behavior Guidelines**

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

# **Environmental Management System**

# **Environmental Management Framework**

The Environmental Protection Promotion Committee was established in 1992. The committee has formulated the basic policies and priority implementation items for environmental protection at the global and regional levels, and carries out the necessary measures. Every plant and Group company has its own Business Site Environmental Preservation Committee which promotes environmental preservation measures in line with these basic policies.



# **Medium-Term Targets and Progress**

In 1992, the Company established the Basic Environmental Protection Policies and the Action Guidelines. In 1993, our Environmental Protection Promotion Committee established the Group's Hitachi Zosen Environmental Protection Promotion Plan. It builds on the prior policies with a concrete agenda based on the Action Guidelines. It adds breadth to our previous regional environmental protection activities, with additional focus on areas like ozone layer protection, global warming prevention, and waste reduction and recycling.

The Hitachi Zosen Group is working to reduce its  $CO_2$  emissions by 2.8% in fiscal 2016 and 3.8% in fiscal 2020, in both cases vs. fiscal 2005. These are our medium-term and long-term targets and fiscal 2005 is the base year we newly established for fiscal 2013 onward.

The Environmental Protection Promotion Committee's activities include designating key action items and following up on performance.

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	Measures	Medium-term target	Fiscal 2016 environmental results	Assessment
Environmental	Build an environmental management system	Acquire ISO 14001 for all business sites (manufacturing departments)     Implement environmental audits	Environmental audits of factories 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	0
management	Promote "Green Purchasing"	_	Promoted purchasing of products with a low environmental impact     Promoted central online purchasing of environmentally friendly products	0
	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	0
Reduce environmental burden of business activities	Reduce CO <sub>2</sub> emissions	Medium-term target: 2.8% decrease in FY2016 vs. FY2005 Long-term target: 3.8% decrease in FY2020 vs. FY2005	Cut by 18.4% vs. FY2005	0
	Reduce waste (excluding valuable materials)	10% decrease in FY2020 vs. FY2000	Cut by 17.4% vs. FY2000	0
	Curb landfill waste	70% decrease in FY2020 vs. FY2000	Cut by 66.4% vs. FY2000	0
Contribute to protecting the regional	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	0
environment	Contribute to local communities	_	Participated in environmental protection campaigns by government bodies, regional communities, etc.	0

# **Products and Technologies that Solve Environmental Problems**

# **Methane Fermentation System**

The methane fermentation system is a green energy source. It converts kitchen garbage, pruned tree branches, paper, night soil, septic tank sludge, used cooking oils and other organic waste into biogas through a methane fermentation process.

Hitachi Zosen has developed three systems: the Kompogas® System, which converts kitchen garbage, pruned tree branches, paper, and other solid organic waste into biogas through a methane fermentation process, the Mebius® System, which collects energy by processing night soil, septic tank sludge and other high-concentration organic waste such as kitchen garbage, and the WTM System, a high-speed methane fermentation system for organic waste, such as kitchen garbage and food waste, without using dilution water.

Amid increasing interest in ways to effectively use food waste, in June 2017, Natural Energy Japan Corporation, a Hitachi Zosen Group company specializing in biomass power generation, completed construction on the Akita Biogas Power Station in Akita City.

Aiming to help the local community, this project generates electricity from the biogas emitted from the methane fermentation of food waste collected mainly from Akita City. The aim is to recycle food resources and provide a stable, local source of power that is unaffected by the weather or the time of day.

The power station accepts industrial food waste from hotels, restaurants, food processing companies, schools, and hospitals in Akita City. Hitachi Zosen's proprietary WTM System carries out the high-speed methane fermen-

tation process. The resulting biogas is converted into electricity, which is sold under the feed-in tariff scheme for renewable energy.



Akita Biogas Power Station

# **SCR System for Ships**

An international effort is underway to reduce atmospheric pollutants emitted from marine diesel engines. Tier III regulations that came into effect in 2016 apply only to designated sea areas, but Tier III regulations for NOx emissions are extremely low—an 80% cut from Tier I levels.

As a technology that complies with these new regulations, Hitachi Zosen has developed a selective catalytic reduction (SCR) system for large-scale, two-stroke marine diesel engines. The SCR system is installed in front of the turbocharger of the engine.

Because this SCR system is installed in front of the turbocharger in order to utilize high-pressure, high-temperature exhaust gases, the equipment can be made more compact and it does not require more energy to increase gas temperature. In developing this SCR system, Hitachi Zosen both tested the engine on land and also conducted field tests in marine environments on an actual ship in order to ascertain optimal operating conditions and prove the system can operate reliably over long periods.

Hitachi Zosen will contribute to environmental preservation in the marine transportation industry by standardizing designs for mass production of the SCR system while preparing a manufacturing structure.



Marine diesel engine equipped with a high-pressure SCR system



# Transportation of Supplies by Unmanned Aircraft Using the Highly Precise Geolocation Data of "Michibiki"

After a natural disaster, delivering relief supplies to isolated areas affected by the disaster can be a problem. Hitachi Zosen was contracted by the Ministry of Economy, Trade and Industry to conduct the New Business Creation Foundation Preparation Project to Promote IoT (Unmanned Aircraft IoT Verification

Project). In collaboration with Kumamoto University, Kumamoto Prefecture, Kami-Amakusa City and Amakusa City, Hitachi Zosen is conducting a field trial on the possibility of transporting relief supplies by unmanned aircraft using the highly precise geolocation abilities of the quasi-zenith satellite "Michibiki."

The aim of this project is to use the highly precise geolocation data of the quasi-zenith satellite "Michibiki" to efficiently and safely automate the flying and distribution of supplies, and develop and prepare the necessary equipment and systems to make this a reality. In this project, we are collecting flight data from unmanned aircraft and other empirical evidence, while also conducting market surveys and addressing identified systemic and technical issues, with the ultimate aim of moving the project toward commercialization.

#### Outline of Project

- 1. Consignor: Ministry of Economy, Trade and Industry
- 2. Project name: New Business Creation Foundation Preparation Project to Promote IoT (Unmanned Aircraft IoT Verification Project)
- 3. Participating institutions: Hitachi Zosen, Kumamoto University, Kumamoto Prefecture, Kami-Amakusa City and Amakusa City
- Experiment area: Ohtebara in Kami-Amakusa City, Kumamoto Prefecture, and around Yushima

# **Environmental Risk Management**

Hitachi Zosen endeavors to reduce environmental risks by thoroughly managing its emissions of substances, by imposing tougher standards on itself than legally mandated and setting environmental targets for reducing emissions of substances that pollute the environment from its plants. Hitachi Zosen periodically inspects and maintains its equipment and ensures work is performed according to work process standards with the aim of minimizing environmental risk and preventing environmental problems from arising in its business activities. The Company has manuals for responding in the event of environmental accidents in order to minimize pollution, and periodically conducts emergency drills and training. The Company's highest-impact environmental risks entail oil leak accidents, coating work and noise problems. To prevent these risks from materializing, Hitachi Zosen is constantly working on improvements based on the PDCA cycle and ISO 14001.

## Compliance with Environmental Laws and Regulations

## Accidents

No accidents occurred in fiscal 2016. Hitachi Zosen will continue to thoroughly inform employees about the legal regulations so that they do not violate any laws and regulations in the future, and to check the Company's compliance status through environmental audits and suchlike. The Company will also conduct a comprehensive inspection of its environmental preservation facilities and take all possible measures to prevent accidents.

#### Governmental Guidance

No governmental guidance was offered in fiscal 2016. Hitachi Zosen will continue to take all possible measures to conduct the maintenance and inspection of its environmental preservation facilities.

#### Complaints

No complaints were received in fiscal 2016. Hitachi Zosen will continue to hold dialogues and communicate with local residents, and ceaselessly work to consider and protect the living environment.

## **Dealing with Asbestos**

In the past, our asbestos products were mainly used for insulation and thermal protection. Complying with the laws

and regulations that were enacted in 1975, Hitachi Zosen switched to non-asbestos materials in its products, and instructed employees to wear protective masks at dusty work sites. We created internal rules for retirees who had worked with asbestos in the past, providing them with medical examinations for asbestos-related health problems, which had become a social issue. We also put a notification on our website about offering asbestos health examinations.

# Compliance with PCB Waste Control Act

Capacitors and transformers that contain polychlorobiphenyl (PCB) are properly stored at plants as specially controlled industrial waste. No problems have arisen. In 2006, Hitachi Zosen was an early registrant with the Japan Environment Corporation (currently the Japan Environmental Storage & Safety Corporation), which manages PCB disposal facilities. As of March 2017, all high-voltage capacitors have been properly disposed at the Chikkou Works, Ariake Works, Maizuru Works, Mukaishima Works, and Innoshima Works, and high-concentration PCBs weighing over 10 kg have also been properly disposed. High-concentration PCBs at the Mukaishima Works and Innoshima Works have been disposed of entirely. The Company will continue to dispose of PCB waste in an appropriate manner.

#### **Environmental Ratings**

For seven years in a row, Hitachi Zosen has been recognized by the Development Bank of Japan as a company that has taken advanced environmental measures. Hitachi Zosen has been designated with the DBJ Environmental Rating for financing.

The Company's Nanko Headquarters has switched electricity providers to its own PPS, using electricity

generated from biogas at waste incineration power generation plants that it has delivered in the past. This fiscal year, Hitachi Zosen reduced its CO<sub>2</sub> emissions by 18.4% compared to the level they were in fiscal 2005.



# Stakeholder Initiatives (FY2016)

# Our Relationships with Shareholders and Investors

In addition to explaining our businesses at the General Meeting of Shareholders, we are sending an explanatory shareholders' booklet to our shareholders to deepen their understanding of Hitachi Zosen.

For analysts and institutional investors in Japan, we hold results briefings sessions twice a year (at the fiscal year-end and at the end of the first half of the fiscal year) in Tokyo and Osaka, in addition to holding individual meetings as necessary. In these and other ways, we strive to disclose detailed information about our business conditions.

Moreover, the representative directors visit overseas institutional investors once or twice a year, primarily in Europe and the U.S., to provide briefings on results, management plans and related matters. Hitachi Zosen publishes investor relations (IR) materials related to management plans and results, as well as other timely disclosure materials, on its corporate website. Hitachi Zosen's Corporate Planning Dept. (IR Group) is responsible for the Company's IR activities. Hitachi Zosen strives to obtain opinions, requests and other comments about management from shareholders and other investors by engaging in dialogue with them. By reflecting this feedback in management, Hitachi Zosen endeavors to enhance sustainable corporate value.





Explanatory shareholders' booklet At a results briefings session for analysts

# Our Relationships with Society and Local Communities

The Company respects the culture and customs in Japan and overseas, and continues to develop activities that are closely related to local communities to coexist with both global and local communities.

#### Natural Disaster Relief

Hoping to contribute to the welfare of the earthquake- and disaster-affected region of Kumamoto Prefecture, where our Ariake Works is located, Hitachi Zosen has contributed financial donations and relief supplies. We also provided the Electric Discharge Impulse Crushing System of Group company NICHIZO TECH INC., to help locate missing persons. This system is designed to crush bedrock and concrete using electric power and specially formulated chemicals. It was adopted for use in areas affected by the 2016 Kumamoto earthquakes to remove rocks and stones in confined places where heavy machines could not enter.

In Shikaoi town, Kato-gun, Hokkaido, it had become difficult to supply drinking water from Lake Shikaribetsu, a local water source, due to the presence of impurities in the lake following a landslide in the Yanbetsu river area triggered by a record-breaking severe rainstorm in September 2016. In response, Hitachi Zosen helped to secure drinking water by assisting with water supply using its AQSEV® self-cleaning membrane filtration system.



The Electric Discharge Impulse Crushing System was provided to assist with the search for missing persons



Supporting water supply with AQSEV®

#### Local Community Activities

We hope to strengthen our connections with the local community through activities such as conducting special science classes for elementary school students in Osaka City, participating in regional events and clean-up activities, and hosting an "Open Works Day" for community residents.



Special science class



Firefighting and rescue training



Community Outreach at the Chatta Festival held in Maizuru City



Interacting with community residents at our Ariake Works

# **Our Relationships with Our Customers**

As part of its activities to educate people about disaster preparedness, Hitachi Zosen invites customers who have purchased its products to visit Hitz Disaster Prevention Solution Laboratory. The facility offers tours including evacuation demonstrations using our movable flap-gate type seawall system designed to safeguard the safety and security of people's daily lives by preventing inundation caused by tsunamis, storm surges, or flooding.

To date, tours have been performed for groups interested in disaster prevention solutions, including government agencies, local municipalities, educational institutions,

independent administrative institutions, foundations, incorporated associations, construction companies and consultants, general corporations (other than construction companies and consultants). Visitors have come from Japan as well as 29 countries and regions around the world, including Taiwan, China, the Philippines, the United States, Bangladesh, and Vietnam. In February 2017, the combined number of visitors from Japan and overseas had reached 3,000 visitors.

Hitz EUROD

Hitz Disaster Prevention Solution Laboratory is open to the general public. Anyone interested in visiting is invited to complete an application via the following link. http://www.hitachizosen.co.jp/english/products/products026.html

# **Together with Our Employees**

#### Initiatives to Prevent Occupational Accidents

Under the leadership of management supervisors and based on the fundamental policy of aiming to realize workplaces that give priority to all aspects of safety, and that warmly enable everyone to work safely and comfortably, we strive to strengthen on-site capabilities as regards actual front lines, actual things, and actual situations, including providing education to "actually experience" morning meetings and dangers. In the process, we strive to provide strict management without compromise together with warm guidance designed to motivate workers.

• Putting into Practice Health Guidance and Mental Health Care To maintain the health of our staff and prevent diseases, we promote regular health checkups, health checks by specialists for workers doing overtime together with health guidance and mental health measures (holding mental health seminars, receiving counseling from experts, and suchlike), based on the results.

#### Promoting Work-Life Balance

We recognize that achieving a better balance between work and private family life, and improving the job satisfaction of employees, are crucial themes. As measures to balance work and family, in addition to the childcare and nursing care leave programs stipulated by law, Hitachi Zosen has expanded the period of leave for childcare to cover children up to three years of age. We have also implemented a reduced work hours program for employees raising children up to graduation from elementary school and for employees with family members who require nursing care. In these and other ways, Hitachi Zosen is working to upgrade and expand its programs. In regard to childcare leave, the ratio of women returning from childcare leave has been maintained at 100% since fiscal 2008, and the number of men taking childcare leave has been increasing. In addition, since January 1, 2016, we have instituted a program in which paid childcare leave can be applied to the first 3

days of childcare leave and accumulated annual paid leave can be applied to the subsequent 7 days. In regard to our plans to develop the next generation of children based on the Act on Advancement of Measures to Support Raising Next-Generation Children, Hitachi Zosen achieved each of its plans for the two periods from July 2010 to June 2012, and from July 2012 to December 2014. In recognition of this achievement, Hitachi Zosen has received certification from the Minister of Health, Labour and Welfare, thereby obtaining the "Kurumin Mark," a next-generation supporter certification mark.

It is also crucial to strive to reduce the total work hours of employees to achieve a better work-life balance. As part of our work-style reforms, we have established "no overtime days" and "no conference days." We have also been implementing various initiatives to streamline operations and reduce long work hours.

In terms of encouraging employees to take leave, Hitachi Zosen has taken steps to clearly delineate periods of work and rest by, for example, offering "Zone Leave," which is obtained by employees in conjunction with public holidays, and "Anniversary Leave," which is acquired on anniversary dates associated with each employee.

In addition, from fiscal 2011, Hitachi Zosen has held lectures and training sessions for department and section managers throughout the Company for the purpose of raising awareness of work-life balance.

Acquisition of Childcare Leave over the Past Three Years

Fiscal 2014	Fiscal 2015	Fiscal 2016	
18	24	32	

Participation in the Reduced Work Hours Program over the Past Three Years (Including Ongoing Program Participants)

Fiscal 2014 Fiscal 2015 Fiscal 2016 16 19 22



# Research & Development

# **R&D Structure**

In line with our development strategy based on "Change & Growth," our current medium-term management plan, the Hitachi Zosen Group is advancing research centered on the fields of the environment, water treatment, plants, machinery, process equipment, infrastructure and disaster prevention, precision machinery, and advanced technologies. Our research and development activities are centered on those carried out in the Product Development Planning Division and Technical Research Institute, which are within the Technology

Development Headquarters, and in each development center in the three headquarters (the environment, machinery, and infrastructure). They work in collaboration with the sales and design divisions. We have established three Business Promotion Offices to accelerate commercialization, comprising the Wind Power Business Promotion Office, the Functional Materials Business Promotion Office, and the Global Environmental Business Promotion Office, under which we are advancing development and commercialization.

# **R&D Spending**

In the environmental field, Hitachi Zosen has developed high efficiency power generation equipment and a highperformance NO<sub>x</sub> gas treatment system for stoker-type furnaces for EfW plants as a part of efforts to address global warming. With the aim of extending the lifespan of core parts and materials, we developed a cleaning machine for boiler pipes and continue to conduct long-term verification testing on corrosion prevention measures for high-pressure, high-temperature boiler superheater tubes. Moreover, we are advancing and conducting verification testing of improved operation management systems that use big data analysis to ensure the reliable long-term operation of waste incineration plants. In the water treatment and industrial device department, we have developed an improved version of aeration and agitation biotreatment systems for improving the sewage treatment process, and aim to secure early orders.

In plants, we are developing mass production technologies for gas separation membranes (mainly for CO<sub>2</sub> separation), which hold promise as a technology for reducing the volume of CO<sub>2</sub> emissions as a step toward realizing a low-carbon society. As a part of initiatives to secure water resources amid unstable weather patterns in recent years, we finished performance testing for our reverse osmosis seawater desalination plant that uses our high-speed seabed infiltration system in Abu Dhabi, having successfully restarted the system after a prolonged suspension of operations at the pilot plant. With an eye on the hydrogen energy society of the future, we have entered the pilot testing stage for solid oxide fuel cell systems.

In machinery, we received our first order after expanding the range of SCR systems for marine engines that are compatible with the Tier III  $NO_X$  emission standards of the International Maritime Organization. Moreover, we are conducting PR activities after completing trial runs of a dual fuel engine with the intention of expanding the lineup in the marine engine business and winning orders at an early stage.

In process equipment, with demand likely to strengthen for high-temperature, high-pressure vessels, we conducted verification testing for gas-to-liquid-related equipment, as well as the optimization of welding and heat treatment conditions for high-strength steel plates used in high-pressure vessels for desulfurization reactors. We are aiming to bring to market in a timely fashion basket materials for nuclear casks used in the transportation and storage of spent nuclear fuel, and are continuing development.

In the infrastructure, for disaster prevention, we developed for an actual project a movable flap-gate type seawall system (an ultra-long span of "neo Rise") as a countermeasure for tsunamis and storm surges, and are also continuing development on bridge repair technologies, differentiating technologies such as rectangular shield tunneling machines, and better technologies for monitoring the operating conditions of shield tunneling machines.

In precision machinery, we developed a more reliable version of electron beam sterilization equipment for PET bottles. Moreover, we continued development on food inspection apparatus based on image-processing technologies, as well as next-generation operation data recording devices mounted on transportation vehicles. In response to the Fukushima Daiichi Nuclear Power Station accident, we developed a radiation detection device that is able to detect both low and high concentrations of radiation for a more diverse range of applications.

In other advanced technological fields, we are focusing R&D efforts on functional materials such as sheet-type vertically aligned carbon nanotubes, elastomers using Eucommia ulmoides bark as the raw material, and next-generation solid state lithium-ion batteries and aim for early commercialization.

# Intellectual Property

# Basic Policy of the Hitachi Zosen Group

The intellectual property strategy of the Hitachi Zosen Group supports our 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, 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 implementing the three basic strategies outlined in the new medium-term management plan "Change & Growth." Hitachi Zosen has set up a Legal & Intellectual Property Department and we strive to identify and generate inventions and use technology maps and patent maps to assess and analyze our patent portfolio, as well as those of other companies. Using the results, we make optimal patent applications and

other rights for our business model to support stable business activities.

The Hitachi Zosen Group's basic policy is to apply the rights for the intellectual property we have acquired over an appropriate scope of business operations and manage intellectual property ethically to facilitate fair competition through mutual respect for property rights.

# **Intellectual Property Management**

Hitachi Zosen's Legal & Intellectual Property Department promotes an intellectual property strategy in conformity with our operational and development strategies and plays a core role in the intellectual property strategy of the entire Hitachi Zosen Group, conducting a wide range of intellectual property activities, such as promoting intellectual property strategy in conformity with our operational and development strategies, and drawing up policies for obtaining rights overseas, in response to the growth of the Company's overseas operations.

Each of our business and development headquarters units has a person appointed to be in charge of promoting the management of intellectual property. These people work in collaboration with the Technology Development Headquarters to precisely coordinate activities for discovering patent possibilities and taking them to the patent application stage.

In addition, we strive to nurture an intellectual propertyoriented corporate culture by holding seminars on intellectual property for each employee level, from new hires to middlemanagement engineers, conducting e-learning programs tailored to different job responsibilities, and providing information on intellectual property in our internal newsletters.

To encourage staff to do the work required to discover valuable new technologies and processes, and to reward them when they are successful, we have laid down regulations governing the patent application process and have stipulated criteria for judging the originality and value of inventions. Monetary rewards and commendations are given to inventors when patent application, registration and practical application occurs. Rewards for practical application are based on a fair and impartial evaluation process, and payments to the inventors continue after they have retired from the Company.

We also proactively enter the patents we develop to compete in various external invention awards. In fiscal 2016, our Patent No. 5769614 on "Reducing Agent Supply Method and Reducing Agent Supply Device for Incinerator" received an invention incentive award in the Kinki Region Invention Awards sponsored by the Japan Institute of Invention and Innovation.

As of the end of fiscal 2016, Hitachi Zosen held 878 patents in Japan and 305 overseas (as shown in the chart below).

It also held 85 design rights in Japan and 42 overseas, as well as 155 trademark/service mark rights in Japan and 43 overseas.

As of the end of fiscal 2016, neither Hitachi Zosen nor any member of the Group was involved in litigation relating to intellectual property rights.

# Recent Patents Held Japan Overseas



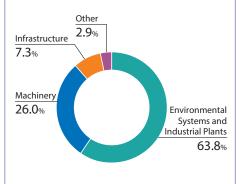
# Segment Highlights

# Status of orders, sales and profit/loss

Total order intake for fiscal 2016 decreased from the previous fiscal year to ¥398.9 billion, mainly reflecting a decline in orders booked by the Environmental Systems and Industrial Plants segment. On the other hand, net sales for fiscal 2016 increased from the previous fiscal year to ¥399.3 billion due to increased sales in the Environmental Systems and Industrial Plants segment.

In terms of profit and loss, operating income decreased from the previous fiscal year to ¥14.9 billion due to a decreased contribution from the Environmental Systems and Industrial Plants segment, despite an increased contribution from the Machinery segment and the Infrastructure segment. In addition, ordinary income decreased year on year to ¥11.2 billion, partly because liquidated damages at overseas subsidiaries were posted under other expenses. Profit attributable to shareholders of Hitachi Zosen remained almost the same as the previous fiscal year at ¥5.8 billion, due to the recording of a gain on sales of non-current assets under other income, despite a loss on overseas business recorded as other expenses.

Segment Sales Composition



Major Lines of Business

Fiscal 2016 Business Overview and Capital Investment

# **Environmental Systems and Industrial Plants**

EfW plants, recycling systems, water and sludge treatment facilities, energy systems (power generation facilities), biomass utilization systems, desalination plants and other plants, IPP (Independent Power Producer) business, PPS (Power Producer and Supplier)

Total order intake decreased ¥43.1 billion year on year to ¥240.6 billion, mainly due to differences in the timing of orders received. In Japan, orders were received for projects including the construction and operation of an EfW plant for the Asakawa River Environment Association in Tokyo, and a waste incineration plant in Otsu City, Shiga Prefecture. Overseas, orders were received for several projects, including orders from the U.K.

Net sales increased by ¥12.9 billion year on year to ¥254.6 billion. The main contributing factors were the completion of construction for projects such as the construction, maintenance and operation of the Fujimino-Miyoshi

# Machinery

Marine diesel engines, marine SRC systems, deck machinery, press machines, boilers, NOx removal catalysts, pressure vessels and other process equipment, nuclear power generation-related equipment (casks and canisters), system machinery (plastic machinery, food machinery, pharmaceutical machinery), OLED production systems, vacuum equipment and vacuum valves, electronics systems, control systems, high-precision GPS system services, industrial equipment (electrolyzing systems, rubber lining, filter presses)

Total order intake decreased ¥0.3 billion year on year to ¥106.9 billion, due to a decrease in orders received for marine diesel engines. This was despite the fact that Hitachi Zosen received its first order for marine high-pressure SCR systems and increased orders for precision machinery.

Net sales decreased ¥0.8 billion year on year to ¥103.7 billion, mainly reflecting a change in the timing of sales recognition for large construction orders. This was despite the sale of various products, including press machines for automobile manufacturers, marine diesel engines for domestic and overseas shipyards, and nuclear spent fuel

# Infrastructure

Bridges, hydraulic gates, steel stacks, marine civil engineering, shield tunneling machines, GPS Remote Monitoring System, GPS Comprehensive Oceanographic Monitoring System, and Movable Flap-Gate type Seawall systems to cope with high tides and tsunami

Total order intake decreased by ¥1.3 billion year on year to ¥33.2 billion, although many orders were received for bridge restoration and reinforcement work, shield tunneling machines, land-mounted movable flap-gate type seawall systems and other items from customers such as the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), local governments, and general contractors.

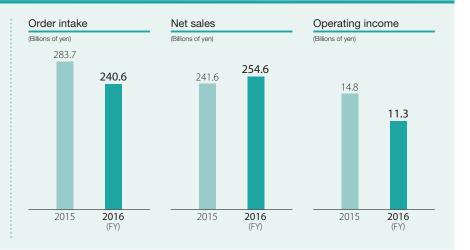
Net sales decreased ¥1.6 billion year on year to ¥29.2 billion, due to a decrease in large-scale construction projects.

Operating income increased by ¥0.6 billion year on year to ¥1.0 billion, due to improved profitability achieved by promoting cost

Environment Center in Japan, and, overseas, the completion of construction of an EfW plant in Poland and progress on the construction of a large-scale desalination plant in Qatar.

Operating income decreased ¥3.5 billion from the previous fiscal year to ¥11.3 billion, due to a decline in highly profitable construction projects and other factors.

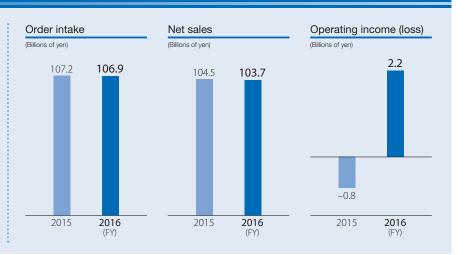
In the fiscal year under review, Hitachi Zosen carried out total capital investment of ¥2,200 million for the construction of a biogas power plant and the introduction of a comprehensive operation support system for an EfW plant.



storage vessels for the U.S.

Operating income improved ¥3.0 billion from the previous fiscal year to ¥2.2 billion, mainly due to the promotion of structural reforms in the Marine Diesel Engines Business, Precision Machinery Business, and overseas subsidiaries.

In the fiscal year under review, Hitachi Zosen carried out total capital investment of ¥2,900 million for the introduction of equipment for marine dual fuel engines, and the development of buildings in conjunction with the consolidation of works.



reductions in individual construction projects.

In the fiscal year under review, Hitachi Zosen carried out total capital investment of ¥700 million for upgrading production facilities for steel structures.



# **Environmental Systems and Industrial Plants**

In the environmental systems business, we will strive to expand our AOM and long-term operations business, in addition to addressing growth particularly in the waste disposal market in Southeast Asia. In the water business, we will focus on expanding business in Southeast Asia in collaboration with the Osmoflo Group. In the energy business, we will concentrate on initiatives in the biomass power generation market.

# Review of "Hitz Vision II"

In Japan, Hitachi Zosen received orders for the construction and basic maintenance and operation of EfW plants, by developing next-generation stoker furnaces, high-pressure, high-temperature boilers, and other systems.

Overseas, we steadily extended our track record mainly by winning orders for construction of EfW plants in China, Malaysia and Thailand. In addition, Inova, a Group company, received orders for the construction of EfW plants primarily in Ireland and the U.K., including Scotland.

Hitachi Zosen strengthened its organizational structure by absorbing the business of Daiki Ataka Engineering Co., Ltd., with which it merged in fiscal 2014. In the water treatment business, orders were received in Japan for a sludge recycling center, the construction of a wastewater treatment facility, and other projects. In the seawater desalination business, Hitachi Zosen received an overseas order for a second large-scale desalination plant from Qatar. This desalination

plant will be the largest the Company has ever built in terms of water processing capacity.



EfW plant in Buckinghamshire County (U.K.)

# Targets to Realize the "Hitz 2030 Vision"

In the environmental systems business, the market for new plant construction is reaching a saturation point in Japan. Overseas, particularly in the Southeast Asian region, the waste treatment market is expected to expand in step with population growth and economic development. In Japan, we will seek to maintain our current business models, while overseas, we will aim to drive growth in our businesses by formulating an integrated global business strategy with a clear-cut separation of market territories between Hitachi Zosen and Inova. Moreover, we will seek to enter overseas markets in our AOM and long-term operations business too. Along with this, we will strive to expand business to collection and transportation operations and develop advanced maintenance technologies using ICT.

In the water business, although the domestic market is expected to remain largely flat, we aim to increase order intake by working to set Hitachi Zosen apart from other companies through value-added technologies such as the recovery of renewable energy and phosphorous from sludge and excreta. Meanwhile, overseas, the water treatment and seawater desalination business is projected to expand based on water shortages. We will work to expand the water supply business in various Southeast Asian countries by combining the reverse osmosis desalination technology and the leasing

business expertise of the Osmoflo Group, which we acquired in February 2017, with Hitachi Zosen'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. In the Environment Business Headquarters, we will focus on winning orders for projects eligible for the feed-in tariff system, as we work to develop private power generation projects centered on biomass energy.



Akita Biogas Power Station (Natural Energy Japan Corporation)

# Initiatives Under the New Medium-Term Management Plan "Change & Growth"

In the environmental systems business, Hitachi Zosen aims to expand its market share by addressing the growing number of design, build and operate contracts in Japan. Hitachi Zosen will be set apart from other companies. To this end, we will contribute to a recycling-oriented society by supplying high-efficiency energy recovery systems and by providing safe and reliable facility operations leveraging optimal operations and management systems.

Hitachi Zosen will solidify its position of global leadership in the EfW field. To do so, we will clearly separate market territories between Hitachi Zosen and Inova overseas, and on the engineering front, we will bolster collaboration through such means as unifying combustion equipment and jointly developing new technologies.

In the water business, the Osmoflo Group will be positioned as a hub for global business expansion. From this hub, we aim to grow our business through activities such as equipment sales and participation in the public-private partnership projects, primarily in China and Southeast Asia. In Japan, we will lay the groundwork for our participation in the water and sewage system operations business.

In the energy business, we will push ahead with commercializing power plants eligible for the feed-in tariff system centered on biomass energy. In addition, we aim to bring solid oxide fuel cell systems to market as early as possible. Moreover, in the PPS business, we will contribute to improved profitability in the long-term operations business by purchasing power from the Energy-from-Waste plants that Hitachi Zosen has been contracted to operate. Along with this, we will work to expand the PPS business by promoting the CO<sub>2</sub> emissions cuts that would be made possible by procuring electricity generated by renewable energy.



The optimal operations and management systems of an EfW plant (This is the same photograph that is on the cover of this Annual Report)

# **Projects for the Future**

# Solving Water Shortage Issues in the Middle East, Where Freshwater Is Scarce

Large-Scale Desalination Plant in Qatar –

Water shortage issues are becoming increasingly serious around the world, due mainly to population growth, industrial development and worsening global environmental conditions. Notably, in the Middle East, where freshwater is scarce, many countries depend on desalination plants for the bulk of their domestic supply of freshwater. Therefore, the expansion of existing desalination plants and the construction of new ones have become pressing issues in the Middle East.

Meanwhile, Hitachi Zosen has been engaged in many desalination plant projects over the years using the multistage flash process, the multi-effect desalination process and the reverse osmosis process. As a result, Hitachi Zosen already has a world-class track record and technologies as a manufacturer of desalination plants. The large-scale desalination plant in Qatar for which Hitachi Zosen won an order in May 2015 will be the second plant of its kind to be built by Hitachi Zosen in the country. The order is for a hybrid-type desalination plant with two types of seawater desalination equipment, comprising a multi-stage flash process, which

is an evaporation process, and a reverse osmosis process, which is a membrane process. The desalination plant will be the largest we have ever built in terms of water processing capacity. Going forward, Hitachi Zosen will continue to actively respond to growing demand for desalination plants around the world.



Desalination plant in Qatar

# Machinery

Hitachi Zosen aims to be a leading global manufacturer that contributes to the environment and safety based on the manufacturing capabilities it has developed over the years in the fields of press machines, marine components, process and nuclear power plant equipment, system machinery, electronic control equipment and industrial equipment.

# Review of "Hitz Vision II"

In the machinery business, net sales remained mostly unchanged as a whole, due to a downturn in market conditions and other factors affecting process and nuclear power plant equipment, despite relatively strong sales of marine diesel engines and press machines.

In this environment, marine diesel engines had continued to post losses due in part to price reductions as well as the occurrence of technical problems. However, Hitachi Zosen has successively reduced the extent of losses mainly by fixing the root cause of the technical problems, putting its entire weight behind cost reductions, and rigorously enforcing the screening of orders. Going forward, the main priority for the business as a whole will be to fully eliminate losses.

Targeting growth in the marine components business, Hitachi Zosen has been pushing ahead with development and investment to address the next-generation needs of its customers. New products include marine engine SCR systems, environmentally friendly marine engines (SCR system-equipped dual fuel engines powered by heavy oil and gas, engines scalable to large vessels).

Overall, the machinery business encompasses an extremely diverse range of fields. Therefore, Hitachi Zosen believes that considering and executing a strategy for focusing resources on priority fields through portfolio management is a key priority for enhancing profitability.

In overseas businesses, Hitachi Zosen strove to withdraw from underperforming joint ventures in China and U.S. subsidiaries. Meanwhile, Hitachi Zosen's U.S. subsidiary in the field of nuclear power plant equipment has been achieving a measure of success in terms of contributing to business growth.



Hybrid servo tandem press machinery production line for automobiles

# Targets to Realize the "Hitz 2030 Vision"

In the machinery industry, Hitachi Zosen aims to be a leading global manufacturer that contributes to the environment and safety based on manufacturing capabilities it has developed over the years. Specifically, we will drive the growth of solution-based services, including after-sales services, by harnessing ICT, in addition to working to create and expand

new businesses such as methanation. Through these initiatives, we are targeting net sales of ¥270 billion, roughly 2.7 times larger than now, and an operating margin of 10%, by fiscal 2030. This compares with our current net sales of ¥100 billion and operating margin of 2%.

#### [Targeted Directions]

#### 1. Become a leading manufacturer in terms of productivity, quality and delivery by harnessing ICT

Hitachi Zosen will advance automation and harness ICT in markets that offer prospects for continuous growth, such as automobiles, shipbuilding, and electronic devices including semiconductors, thereby seeking to become a leading manufacturer in terms of productivity, quality and delivery in each of its manufacturing fields.

### 2. Become a global enterprise that provides environmental enhancement and safety and reliability

Hitachi Zosen aims to be a global enterprise that provides safety and reliability in fields such as food and pharmaceuticals, along with enhancing the global environment by reducing the volume of NOx, SOx, CO<sub>2</sub> and other emissions.

#### 3. Expand solution-based services harnessing ICT, including after-sales services

Hitachi Zosen will expand solution-based services by harnessing ICT, rather than merely undertaking manufacturing activities, in tandem with generating steady earnings by growing after-sales services.

#### 4. Create and expand new businesses

Hitachi Zosen will expand the scale of its business by creating and expanding new businesses such as methanation.

# Initiatives Under the New Medium-Term Management Plan "Change & Growth"

Hitachi Zosen will focus even more on expanding after-sales services worldwide as a shared priority across all machinery fields, leveraging its extensive delivery record developed hitherto. In conjunction with this, we will seek to strengthen and expand our businesses, along with enhancing our earnings capabilities. To these ends, we will undertake the following initiatives:

#### 1. Press machines:

Strengthen technological and development capabilities to address changes in the industry. Advance productivity by pushing ahead with automation and unmanned operations.

## 2. Marine components:

Fully eliminate losses by eradicating technical problems and rigorously reducing costs. Move forward with initiatives such as putting in place production structures for SCR systems and DF engines, and establish engine assessment and evaluation technologies.

### 3. Process and nuclear power plant equipment:

Enhance productivity by developing and deploying automated facilities. Strengthen marketing capabilities such as overseas sales networks. Launch new metal casks and concrete casks in the domestic market and enter the nuclear power plant equipment business in the U.S.

#### 4. System machinery:

Seek to increase orders by applying, refining and integrating proprietary technologies in a variety of vacuum systems, including vacuum vapor deposition equipment for OLED lighting, filling systems for the food and pharmaceutical industries, and plastic extrusion molding equipment.

### 5. Electronic control equipment:

Increase long-term, steady repeat orders for electronic control equipment optimized in line with customer needs. Aim to increase the sophistication and added value of Group products through participation in internal development and basic plans. Strive to expand business led by software and services in the inspection and measurement systems field, beginning with food defense and management recording systems.

#### 6. Industrial equipment:

Seek to expand sales of seawater electrolysis systems, hydrogen generation systems, megawatt-scale solid-polymer electrolysis systems, alkaline water electrolysis systems and methanation equipment, along with maintaining and improving the Company's top domestic share of the market for filter presses. Also, take steps to enter the small-scale wastewater treatment field.

# **Projects for the Future**

# Hitachi Zosen Receives Order for Marine Diesel Engine Equipped with a SCR System

- First for Ship Newly Built in Japan Compliant with Tier III NOx Emission Standards

In May 2017, the Company received an order from Sumitomo Heavy Industries Marine & Engineering Co., Ltd. for a marine diesel engine equipped with a selective catalytic reduction (SCR) system. This represents Hitachi Zosen's first order for a marine engine with a built-in SCR system, as well as its first such order from a Japanese shipyard. Hitachi Zosen had previously received orders from Chinese and South Korean companies for SCR systems only.

The engine equipped with the SCR system will be installed in an Aframax tanker owned by a European shipping enterprise to be produced at the Sumitomo Heavy Industries Marine & Engineering Yokosuka Shipyard. Hitachi Zosen is a licensee of MAN Diesel & Turbo SE, the world's leading provider of marine engines, and the Company's marine engine SCR system was the world's first system of its kind to receive first-time approval from MAN Diesel & Turbo. This order was the result of a strong evaluation of Hitachi Zosen's SCR system, which is fully

compliant with Tier III NOx emission standards, by the shipyard and shipowner, both having a high degree of environmental awareness. Looking ahead, Hitachi Zosen plans to continue promoting the widespread adoption of its SCR system.



Marine diesel engine equipped with a high-pressure SCR system

# Infrastructure

In the steel structure and disaster prevention businesses, Hitachi Zosen aims to increase orders by expanding its project scope and service area. In the maintenance business, Hitachi Zosen aims to expand orders by forging partnerships and pursuing M&A in other sectors. In the shield tunneling machines business, Hitachi Zosen aims to rapidly expand the scale of business by examining M&A for the future, while working to develop business worldwide.

# Review of "Hitz Vision II"

In the steel structure and disaster prevention businesses, Hitachi Zosen 1) continued to receive orders for new movable flap-gate type seawall systems, including an order from MLIT Shikoku Regional Development Bureau for the Toyomasu District Land Lock Gate (a land-mounted movable flap-gate type seawall) for fiscal 2015–2016, 2) won orders for hydraulic gate projects overseas, including the construction of hydraulic gates for the Nam Ngum 1 Hydropower Station Expansion Project in Laos for Hazama Ando Corporation, and 3) accumulated know-how from large-scale maintenance projects, including seismic reinforcement work on the Katashinagawa Bridge on the Kan-Etsu Expressway for East Nippon Expressway Company Limited. Aiming to differentiate from rivals in mainly the bridges and hydraulic gates businesses, Hitachi Zosen will continue to improve its competitiveness.

In the shield tunneling machine business, Hitachi Zosen benefited from a robust domestic market, receiving orders for large tunnel construction projects that have materialized alongside plans to upgrade the road network in the greater Tokyo area ahead of the Tokyo Olympic and Paralympic Games in 2020. Moreover, significant technological advances were made, including compatibility with plastic board drain cutting for drainage applications in South Korea, and control

technologies for rectangular shield tunneling machines in Japan. Going forward, Hitachi Zosen will strengthen its cost competitiveness by rigorously cutting costs, collaborating with manufacturers inside and outside Japan and working to reduce costs from the design and production stages.



The Kan-Etsu Expressway and the Katashinagawa Bridge

# Targets for "Hitz 2030 Vision"

In the steel structure and disaster prevention businesses, Hitachi Zosen aims to increase orders by expanding its service area and project scope while upgrading the overseas business foundation, gaining experience in ODA (official development assistance) projects and EPC (engineering, procurement, construction) projects overseas. In the maintenance business, Hitachi Zosen aims to expand orders by forging partnerships and pursuing M&A in other sectors while enhancing collaborating within the Hitachi Zosen Group.

In the shield tunneling machine business, Hitachi Zosen aims to become a leading supplier in Asia by leveraging its advanced technologies and high quality. With our sights set on worldwide business development, we also aim to deliver shield tunneling machines in not only the United States, where we have a track record, but also in Europe, the Middle East and South America. In the future, Hitachi Zosen aims to sharply expand business scale by pursuing M&A with peers in Japan and overseas, manufacturers of back-end and peripheral equipment, as well as tunnel construction companies.



Earth pressure balance shield tunneling machine for construction of the Bujeon-Masan subway in South Korea

# Initiatives under the New Medium-Term Management Plan "Change & Growth"

In the steel structure and disaster prevention businesses, Hitachi Zosen aims to expand its presence in growth fields by strengthening the maintenance business and overseas business development. The Company is updating its overseas business foundation, centered on the hydraulic gate business, while gaining experience winning orders in the bridge business. In maintenance operations, we are focusing mainly on the bridge business while strengthening collaboration within the Hitachi Zosen Group. In existing domestic businesses, Hitachi Zosen is keen to increase orders and earnings by differentiating from rivals, and aims to establish a domestic market and win its first order for a seafloor movable flap-gate type breakwater system, which is positioned as a growth business.

In the shield tunneling machine business, although domestic demand brought about by the Tokyo Olympic and Paralympic Games has slowed slightly, Hitachi Zosen expects to win orders for large-scale projects, including for expanding on-ramps on the Tokyo Outer Ring Road, the Chuo Linear Shinkansen, and road tunnels in the Kansai District. Overseas, the Company will proactively seek out projects in India, as well as in Thailand, Vietnam and other parts of Southeast Asia.

We expect an increase in projects with challenging construction conditions, and are advancing the development of technologies in anticipation of customer needs, such as for longer distances and deeper tunnels, cutting through obstacles, and feedback on operations using log data. Leveraging the technologies we accumulated during the previous medium-term management plan, we aim to win orders in our area of expertise, namely large-scale machines and special tunneling machines, as we strive toward definitely fulfilling the objectives of the current medium-term management plan.



Seafloor movable flap-gate type breakwater system (illustration)

# **Projects for the Future**

# Contributing to Building a Sustainable Disaster-Prevention/Disaster-Reduced Society

— Land-Mounted Flap-Gate Type Seawall receives prize in the Infrastructure Technology Development Awards —

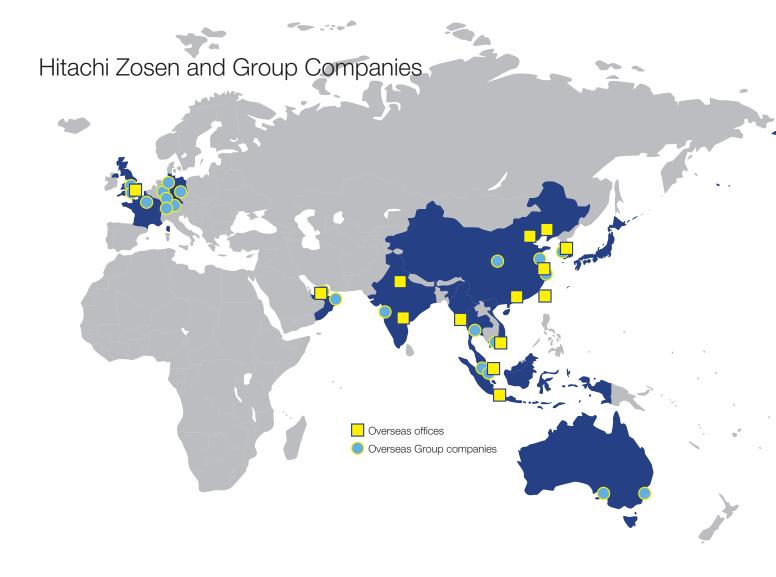
The land-mounted flap-gate type breakwater system developed by Hitachi Zosen (product name: neo RiSe®) that utilizes the power of nature to the greatest possible extent to prevent flood damage due to tsunamis and high tides has received an excellence award in the National Land Developing Technology Research Center's 18th Infrastructure Technology Development Awards, awarded together with the National Research and Development Agency's Maritime, Port and Airport Research Institute. The award was bestowed by Keiichi Ishii, the Minister of Land, Infrastructure, Transport and Tourism.

The Infrastructure Technology Development Awards are bestowed by the Minister of Land, Infrastructure, Transport and Tourism with the aim of rewarding a broad range of new technologies in the construction industry, particularly those superior from the viewpoints of the benefits of technological development, versatility, and novelty. Hitachi Zosen's award marks the first time in two years since the Company won the first award in 2014 for its floating temporary coffering method, which was jointly developed with Kajima Corporation.

This second award is the conclusion of the judges' evaluation of the results of the Company's work on neo RiSe® up to now, from development to commercialization. Hitachi Zosen hopes that this award will lead to further dissemination of this technology, thereby enabling the Company to contribute to building a sustainable disaster-prevention/disaster-reduced society.



At the awards ceremony



## Domestic offices

- · Head Office
- · Tokyo Head Office
- Business Planning & Technology Development Headquarters
- · Sapporo Office
- · Sendai Office
- · Nagoya Office
- · Hiroshima Office
- · Fukuoka Office
- · Kumamoto Office
- · Okinawa Office

#### Domestic works

- · Ariake Works (Kumamoto Pref.)
- · Mukaishima Works (Hiroshima Pref.)
- · Innoshima Works (Hiroshima Pref.)
- · Chikkou Works (Osaka Pref.)
- $\cdot$  Sakai Works (Osaka Pref.)
- $\cdot$  Maizuru Works (Kyoto Pref.)
- $\cdot$  Kashiwa Works (Chiba Pref.)
- $\cdot$  Ibaraki Works (Ibaraki Pref.)

# Overseas offices

- · Abu Dhabi Branch
- · Taipei Branch
- $\cdot$  HITZ (THAILAND) CO., LTD.
- · Ho Chi Minh City Office
- · Seoul Branch
- $\cdot \, \text{Singapore Branch}$
- · HITACHI ZOSEN EUROPE LTD.
- · Hitachi Zosen U.S.A. Ltd. Houston Branch
- · Hitachi Zosen India Private Limited Hyderabad Branch
- · Hitachi Zosen Myanmar Co., Ltd.
- · PT. HITZ INDONESIA
- · Hitachi Zosen Trading (Shanghai) Co., LTD.
- · Hitachi Zosen Trading (Shanghai) Co., LTD. Beijing Branch
- · Hitachi Zosen Trading (Shanghai) Co., LTD. Shenyang Branch
- · Hitachi Zosen Trading (Shanghai) Co., LTD. Guangzhou Branch

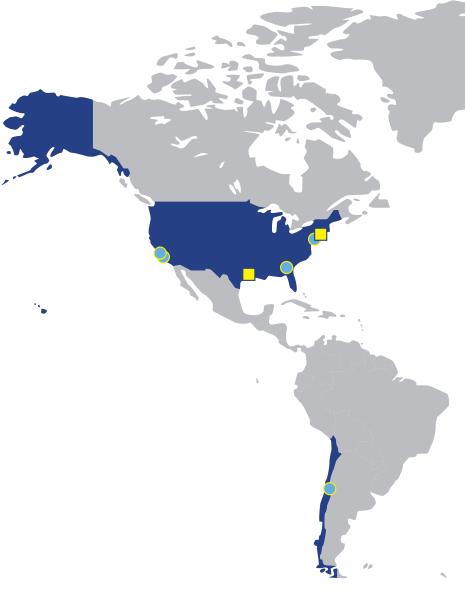
# Domestic Group companies

#### Environmental Systems and Industrial Plants Group

- · NICHIZO TECH INC.
- · Natural Energy Japan Corporation
- · ha-na-iro Co. Ltd.
- · Murakami Environment Technology Co., Ltd.
- · Ecomanage Corporation
- · Odate Ecomanage Corporation
- $\cdot$  SN Environment Technology Co., LTD.
- $\cdot$  Ichinomiya Environment Technology Co. Ltd.
- · Gotenbaoyama Environment Technology Co., Ltd.
- · Tsuyama Ken-iki Environment Technology Co., Ltd.
- · Fujimino Ecowells Corporation
- · Hitz Environment Service Co., Ltd.
- · Kurashiki Environment Technology Co., Ltd.
- · Asano Eco-Solutions Co., Ltd.
- · KANSAI DESIGN CO., LTD.
- $\cdot$  Toyonaka and Itami Recycle Forest Co., Ltd.
- $\cdot \, \mathsf{SERACHEM} \,\, \mathsf{Co.}, \, \mathsf{Ltd.}$
- · Bekkihayami Environment Technology Co., Ltd.
- · Nakakitasorachi Environment Technology Co., Ltd.
- · Joetsu Environment Technology Co., Ltd.
- · HITACHI-ZOSEN PLANT TECHNOSERVICE CORP.
- $\cdot$  ATAKA MAINTENANCE CO., LTD
- · Yatsushiro Environment Technology Co., Ltd.
- · Matsuyama Environment Technology Co., Ltd.
- $\cdot$  Shikoku Environment Service Co., Ltd.
- · MICHINOKU SERVICE CO., LTD.
- · Sankou Kougyo Co., Ltd.

For more details about Hitachi Zosen Group companies, please refer to the Hitachi Zosen website.

http://www.hitachizosen.co.jp/english/company/group/



- · Nitsutech Maizuru Inc.
- · Asakawa Environment Technology Co., Ltd.
- · Otsu Environment Technology Co., Ltd.
- · Mito Environment Technology Co., Ltd.
- $\cdot$  Kashiwa Environment Technology Co., Ltd.
- · HITACHI ZOSEN CHUGOKU CONSTRUCTION WORKS CO., LTD.
- · EcoHitz Nagano Co., Ltd.
- · Hitz Environment Takamatsu Co., Ltd.
- · NICHIZO KYUSHU SERVICE CORPORATION
- · NICHIZO HOKKAIDO SERVICE CORP.
- · NICHIZO HOKURIKU SERVICE CORPORATION

## Machinery Group

- · IMEX CO., LTD.
- · Hitachi Zosen Fukui Corporation
- · NIPPON PUSNES CO., LTD.
- · V TEX CORPORATION
- · Nippon GPS Data Service Corporation
- · Daiki Rubber Industry Co., Ltd.
- · Ultra Finish Technology Co., Ltd.
- · ROSECC Co., Ltd.
- $\cdot$  SETOZAKI IRON WORKS CO., LTD.
- · Tokaiseiki Co., Ltd.
- · ESCO SERVICE CO., LTD.
- · SHINKO SEIKI CO., LTD.
- · OCL CORPORATION

# Infrastructure Group

- · Promotec Corporation
- $\cdot$  TOYO-TECHNICA CO., LTD.

## Other Group

- · OHNAMI CORPORATION
- · NAIKAI ZOSEN CORPORATION
- · Accounting & Finance Corporation
- · Ito Country Club Co. Ltd.
- · CASTING & FORGING CO., LTD.
- · Omonogawa Wind Power Co. Ltd.
- · Hitz Total Service Co., Ltd.
- · SLURRY-21 Co., Ltd.
- · HITACHI ZOSEN TOURIST CO., LTD.
- $\cdot$  Ohnami Land Transportation Corporation
- · Iwaki Wind Power Co.. Ltd.
- · JP Steel Plantech Co.
- · Ariake Steel Center Co., Ltd.
- · UniCarriers Handling Systems Corporation
- · Taisyosangyo Co., Ltd.

# Overseas Group companies

#### Environmental Systems and Industrial Plants Group

- · Osmoflo Holdings Pty Ltd
- · Hitachi Zosen Inova AG
- · Osmoflo SpA
- · OSMOFLO HOLDINGS SINGAPORE PTE. LTD.
- · Osmoflo LLC
- · Hitachi Zosen Vietnam Co., Ltd.
- · Hitachi Zosen Inova U.S.A. Holding Inc.
- · Osmoflo International FZE
- · HZIU Kompogas SLO INC.
- · Hitachi Zosen KRB AG
- · Alam Hzem Sdn. Bhd.
- · Hitachi Zosen Inova U.S.A. LLC
- · Hitachi Zosen Inova UK Ltd.
- · Hitachi Zosen Inova Kraftwerkstechnik GmbH
- $\cdot$  Hitachi Zosen Inova Deutschland GmbH
- Hitachi Zosen Inova BioMethan GmbH
   Hitachi Zosen Inova Etogas GmbH
- · Hitachi Zosen Inova BioMethan France S.a.r.l.
- · Hitachi Zosen Inova Australia Pty Ltd.
- · Hitachi Zosen Inova Slovakia s.r.o.
- · Osmoflo Pty Ltd
- · Osmoflo Engineering Services Private Limited
- · Osmoflo Water Supply Pty Ltd
- · Osmoflo Water Management Pty Ltd
- · Watersource Pty Ltd
- · Watersource Holdings Pty Ltd
- · Water Equipment Plus Pty Ltd
- · Kompogas SLO LLC

#### Machinery Group

- · NAC International Inc.
- $\cdot$  V TEX Korea Co., Ltd.
- $\cdot$  V TEX Shanghai Co., Ltd.
- · H&F Services (Thailand) Co., Ltd.
- · VTEX America Inc.
- $\cdot$  Hitachi Zosen Fukui U.S.A., Inc.
- · H&F Europe Ltd.
- · Cumberland International L.L.C
- $\cdot$  Cumberland Pte Ltd.
- · Cumberland Electrochemical Ltd.
- · ISGEC Hitachi Zosen Ltd.
- $\cdot$  Zhenjiang Zhong Chuan Hitachi Zosen Machinery Co., Ltd.
- · Zhoushan Nippon Pusnes Ship Machinery Co., Ltd.
- · Nagaoka Hitachi Zosen Equipment (Dalian) Co., Ltd.

# Other Group

- · Hitachi Zosen Yangling Co., Ltd.
- · Hitz Holdings U.S.A. Inc.

# Investor Information (As of March 31, 2017)

#### Stock data

Number of shares authorized: 400,000,000 Number of shares issued: 170,214,843 Number of shareholders: 79,615

#### Major shareholders

Name of shareholder	Number of shares held (Thousands of shares)	Shareholding ratio (%)
Japan Trustee Services Bank, Ltd. (Trust Account)	15,203	9.0
The Master Trust Bank of Japan, Ltd. (Trust Account)	14,499	8.6
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	5,291	3.1
Trust & Custody Services Bank, Ltd. (Investment Trust Collateral Account)	4,737	2.8
Japan Trustee Services Bank, Ltd. (Trust Account 9)	3,448	2.0
Japan Trustee Services Bank, Ltd. (Trust Account 5)	2,911	1.7
Trust & Custody Services Bank, Ltd. (Securities Investment Trust Account)	2,710	1.6
Sompo Japan Nipponkoa Insurance Inc.	2,358	1.4
Japan Trustee Services Bank, Ltd. (Trust Account 1)	2,136	1.3
BNP Paribas Securities (Japan) Limited	2,103	1.2

Note: The shareholding ratio does not include treasury stock (1,659,814 shares).

#### Shareholder information

Business year: April 1 to March 31

Annual General Meeting of

Shareholders:

Final date for voting right March 31

registration:

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 Mitsubishi UFJ Trust and Banking

Late June

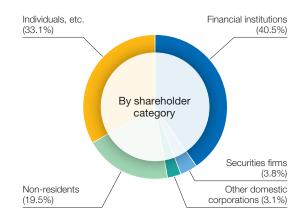
administrator and special Corporation

account custodian: 4-5, Marunouchi 1-chome,

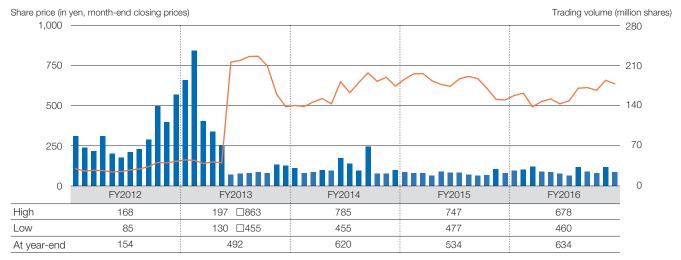
Chiyoda-ku, Tokyo

Stock listing: Tokyo Stock Exchange

# Distribution of shareholdings



# Share price and trading volume



Note: 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 indicated by  $\Box$ , have been recorded as our share price high and low during fiscal 2013.

# Corporate Information (As of September 30, 2017)

# Corporate data

Date of founding: April 1, 1881

Date of establishment: May 29, 1934

Representative: Representative Director, Chairman & President

Takashi Tanisho

Capital: 45,442,365,005 yen (As of March 31, 2017)

Number of employees (consolidated): 10,131 (As of March 31, 2017)

Number of employees (non-consolidated): 3,979 (As of March 31, 2017)

Business: Design and construction of environmental systems, industrial plants, water

treatment systems, industrial equipment, process equipment, infrastructurerelated equipment, disaster prevention systems, and precision machinery

Consolidated subsidiaries: 109 (As of March 31, 2017)



Financial Section 2017

Starting from the fiscal year ended March 31, 2017, detailed financial information can be found in the INVESTOR RELATIONS section of the corporate website under the title of Financial Section 2017.

# Hitachi Zosen Corporation

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