

We will strive for a sustainable society by living up to the trust and expectations of all our customers.

Since the foundation in 1913, we have strived to provide the optimal environment and conditions for people's daily lives and industries. At present, we are conducting business globally in two core business fields: the Green Technology System Business involved in designing and constructing air-conditioning systems for factories, offices, and hospitals and others; and the Paint Finishing System Business involved in designing and constructing paint finishing plants mainly for automobiles.

Our "Customers First" Mission Statement embodies the concept that our stakeholders at Taikisha are broadly interpreted as "Customers," including not only direct clients in the aforementioned businesses but also business partners, employees and their family members, shareholders, supervisory authorities, the global environment and communities/societies, and represents our desire to live up to the trust and expectations of such stakeholders. I believe the essence of our CSR activities is to keep to this desire and endeavor to help achieve a sustainable society through our businesses.

Today, in a world where social issues are increasingly diverse and complex, there are rising expectations for the capacity of corporations to solve them. Given such circumstances, based on the self-awareness of being a responsible member of society and with the profound understanding of the importance of the roles/responsibilities to be fulfilled as a global corporation, we intend to address a variety of social issues and fully capitalize on our own strengths to solve such issues.

As an energy-, air- and water-based engineering corporation, we are committed to making the efforts to remain a company that achieves sustainable growth, and that is needed by society. We would greatly appreciate the continued understanding and support of our stakeholders.











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1913 Founded as joint-stock company Kenzaisha (predecessor of Taikisha Ltd.)



1918 Tokio Marine and Fire Insurance Building, 1935 Steam jet units under construction at the 1953 Spray booth in the Isuzu Motors Ltd. Japan's first modern office building



Kinka Keito Company Tsu Plant





1955 Toyo Nylon Plant in South Korea



1960s Tokyo Nissan Auto Sales Building (now, Roppongi Hills North Tower)



1961 Drying Oven for the R360 Coupe at the Toyo Kogyo Co., Ltd. F Plant



1994 Petronas Twin Towers (Malaysia)

1973 A newspaper advertisement upon the

name change of the company



2011 Taikisha (Cambodia) Co., Ltd. opening staff



electrical and medical-use gas supply facility works for New Dubai Hospital (United Arab Emirates)





2014 Taikisha Myanmar Co., Ltd. Opening Ceremony

1913-1948

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Helps build the foundation of modern Japan Given the remarkable growth of Japan's spinning mill industry, Kenzaisha reinforced its air-conditioning technology such as temperature/humidity control and air flow control, which are essential to the yarn-making process, sharply expanding its business performance in this field.

1949-1970

Expansion of business fields during the Period of Rapid **Economic Growth**

Along with its high economic growth, Japan experienced a flurry of plant constructions, demanding higher quality air-conditioning systems. Taikisha strove to achieve higher technological expertise, delivering precision air-conditioning and cleanroom systems, and entered the automobile paint finishing plant construction business.

1971-1989

Global business development

In line with shift overseas of Japanese corporate customers, the company established new affiliates worldwide, starting with an affiliate in Thailand, to accumulate experience in overseas works. Taikisha's customer base expanded to include not only Japanese companies but also local and Western ones.

1990-2001

Advent of the IT era

The 1990s was an era characterized by a rapid spread of information technology as consumers began to widely use the Internet and mobile phones, Taikisha, with its leading-edge know-how in cleanroom design and construction, participated in projects to construct manufacturing plants for semiconductors, hard disks and capacitors, a set of devices serving as the backbone of IT hardware. This allowed the company to gain higher recognition in the electronics industry.

2002-

Capitalizing on the Group's comprehensive capability

Driven by the progress of IT and globalization, it has become a norm in many industries to conduct borderless investment and collaboration. The Taikisha Group established affiliates in the so-called emerging countries including Cambodia and Myanmar. The Group's comprehensive solution is increasingly vital as affiliates complement each other in purchasing operations, human resources and project management. In response to the needs of society and customers, the Group has entered new fields such as the plant factory business and the aircraft painting business.

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Wuzhou Taikisha Engineering Co., Ltd. established in Beijing, China

Aikawa Technical R&D Center established in Aikawamachi, Kanagawa 1990 P.T. Taikisha Indonesia Engineering established in Jakarta, Indonesia

1989 Taikisha Engineering Sdn. Bhd. established in Kuala Lumpur, Malaysia

Joint development of water-based paint-compliant facilities started (commercialized in 1989)

Technology related to design and manufacture/sale of silencer and soundproofing systems imported from Canada-based BVA

ZZZZZ

1985 Singapore Branch Office established

TKS Industrial Company established in Dover, Delaware, U.S.A.

Technical Center established in Zama City, Kanagawa

Shares transferred to the First Section of the Tokyo Stock Exchange

1974 Shares listed on the Second Section of the Tokyo Stock Exchange

1973 Corporate name changed to Taikisha Ltd.

1971 Thai Kenzaisha Co., Ltd. (now, Taikisha (Thailand) Co., Ltd.) established in Bangkok, Thailand

Corporate Culture Committee established

1970 Mission Statement "Customers First" announced

Technical collaboration for axial flow blowers with the USA-based company, JOY

1967 Delivered full-fledged cleanroom equipment to the Takematsu Factory of Fuji Photo Film Co., Ltd.

Opened a lab in Hirakata as the foundation of R&D activities (predecessor of the Engineering Research Laboratory)

Completed the painting line works for Nissan Motor Chile Ltda. (Taikisha's first overseas work in the paint finishing system field)

Received a turn-key order for the company's first integrated automobile paint finishing line from Toyo Kogyo Co., Ltd. (now, Mazda Motor Corporation)

1955 Delivered air-conditioning systems to two textile plants in Pakistan (Taikisha's first overseas work postwar)

1953 Delivered spray booths to Nissan Motor Austin Plant (full-scale entry in the paint finishing system business)

Joint stock company, Kenzaisha dissolved and Kenzaisha Co., Ltd. established

Delivered egg freezing equipment to Shanghai Warehouse Pte. Ltd. (Taikisha's first overseas work)

Delivered air-conditioning systems to Mikame Plant of Omi Hanpu Company (Taikisha's first air-conditioning systems for a spinning mill plant)

Delivered Japan's first hot water forced circulation system to the Tokio Marine and Fire Insurance Building

Invited a German engineer, August Peter Tetens, and started import of boilers, etc. manufactured by Germany's Buderus'sche Eisenwerke AG

1913 Joint stock company Kenzaisha (predecessor of Taikisha Ltd.) founded in Ginza, Tokyo

2018 Plant Factory Demonstration Development Center established in Itabashi-ku, Tokyo

Business and capital alliance formed with BTE Co., Ltd., a switchboard manufacturer in Thailand

2014 Business and capital alliance formed with Encore Automation LLC (U.S.A.), which has strength in robot application systems for automobile/aircraft painting Taikisha Myanmar Co., Ltd. established in Yangon, Myanmar

2011 Business and capital alliance formed with Geico S.p.A. (Italy)

Taikisha (Cambodia) Co., Ltd. established in Phnom Penh, Cambodia

Ratio of overseas sales exceeded 50%

Stable volume-production technology for crisphead lettuce established

2010 Environmental Management Vision formulated

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Hyper DRY DECO (hydrogen peroxide-based decontamination system) jointly developed

Tianjin Taikisha Paint Finishing System Ltd. established in Tianjin

Entered the plant factory business (using only artificial lighting)

2009 Pre-coating type dry paint booths developed

Corporate Compliance Committee and Corporate Compliance Department established

Energy Plant Optical Control System, a system to optimize the energy saving effects of heat source systems, developed

Net sales exceeded 200 billion yen (FY2006/3)

Taikisha (Singapore) Pte. Ltd. established in Singapore

Aikawa Technical R&D Center, Hirakata Research Institute, and New Business Technology Development Office integrated into the Research &

Development Center in Aikawamachi, Kanagawa

ISO14001 acquired for overseas bases

Environmental features for painting plants improved through joint development of pretreatment/electrodepositing conveyor system E-DIP (commercialized in 2008)

1999 ISO14001 acquired (Tokyo Head Office)

Taikisha Vietnam Engineering Inc. established in Hanoi, Vietnam

Direct fired regenerative thermal oxidizers (RTO) developed (subsequently, reinforced the lineup with multi-tower, rotary, and other types)

ISO9001 acquired (cleanroom category)

Environmental Countermeasures Office established

"Taikisha Charter for Environmental Protection" formulated

Taikisha Engineering India Pvt. Ltd. established in New Delhi, India Taikisha Philippines Inc. established in Manila, the Philippines

A string of orders were received for large-scale cleanroom equipment works for DRAM manufacturing in line with the explosive spread of the Internet and mobile phones

Orders received

147.5

67.1%

Green Technology System Division

The Green Technology System Division, comprised of the Building HVAC System business sector and the Industrial HVAC System business sector, provides services in both Japan and overseas to help improve the environmental value of its customers.

In the Building HVAC System business sector,
Taikisha designs and constructs air-conditioning
systems for facilities that are used by many people,
such as office buildings, schools, hospitals, hotels,
museums, and airport terminals. It does so by
conducting new construction and renovation work on
facilities with the aim of providing people- and
eco-friendly, comfortable spaces.

In the Industrial HVAC System business sector,
Taikisha undertakes the role of optimizing
air-conditioning systems for factories and R&D facilities
in the electronic parts, pharmaceutical products,
biotechnology, and other fields where a very clean
environment is essential in the manufacturing process.

Taikisha also focuses on providing environment protection systems, such as exhaust-gas treatment devices and antipollution systems.

Paint Finishing System Division

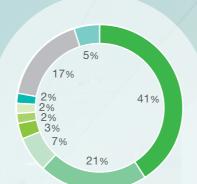
The Paint Finishing System Division has employed advanced environment–related technologies based on Taikisha's core technologies cultivated in the HVAC

business, such as exhaust treatment and air flow control. Taikisha also designs and constructs paint finishing systems for railway and aircraft in recent

years in addition to the mainstay automobile paint

the enhanced use of energy-saving technologies.

finishing systems that realize high painting quality and



- Electrical, electronic and audio machinery manufacturing plants
- Business and government offices
- Chemical and pharmaceutical plants
- Food, fishery, and livestock product plants
- Commercial facilities
 Medical and social welfare facilities
- Charles and Social Wellare Identices
- Cultural, entertainment, and religious facilities
- Others

North America

Other Southeast Asia

Major countries or regions

East Asia: Taiwan, South Korea

North America: U.S.A., Canada, Mexico,
 Other areas: Russia, South America, etc.

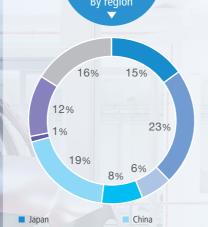
 Southeast Asia: Singapore, Malaysia, Indonesia the Philippines, Vietnam, etc.

Thailand

Uncategorized orders-received by small-scale affiliates

market segment

Orders received



Other East Asia

India

Other areas

Taikisha has received orders for the automobile paint finishing systems of automakers not only in Japan but also globally, including in the U.S.A., Europe, South Korea, China, and India, and currently boasts the top-level of market share in the world. Taikisha's services range from painting robots, conveyor systems, and paint supply systems, expanding to cover total plant engineering services from design to construction of the whole plant.

In recent years, Taikisha pursues increasing painting efficiency to 100% and is making efforts to minimize the amount of paint used and VOC emissions. In addition, Taikisha contributes to the energy management of customers.

Energy-saving air-conditioning system

Effective energy-saving operation is available for the entire air-conditioning system by implementing the Energy Plant Optimal Control System, which calculates optimal values at all times to enable operational settings in real time.



leanroom

Taikisha's technology achieves the required clean level at the optimal ventilation count, and its cleanroom technologies provide a cutting-edge production environment with measures such as ultra-precise temperature control, noise control, microscopic vibrations control, and molecular contamination control.



Pharmaceutical manufacturing-related

Taikisha meets a wide variety of requirements imposed by pharmaceutical manufacturers by introducing validation support, which is compliant with the latest GMP at factories and laboratories, optimum room pressure control, the hydrogen peroxide-based decontamination system, and others.



VOC treatment and odor control systems

Organic solvents and malodorous gases are treated by the regenerative thermal oxidizer with high efficiency. Taikisha proposes optimum energy-saving systems combined with hydrophobic zeolite-based concentration equipment as required.



Vege-factory

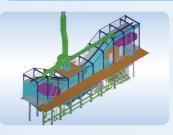
A fully artificial hydroponic plant factory which ensures cultivation with the optimal biological environment for the plant by precisely controlling the lighting, temperature, humidity, nutrient solution and other elements. It is the world's only facility that can produce crisphead lettuce in a large volume.



Facility renewal

By renewing heat-source, air-conditioning and electrical facilities etc., buildings and factories improve productivity, enable high usability at lower management, and reduce environmental loads such as lighting, fuel and water costs, increasing their asset value.

Technologies and services provided by Taikisha



Pretreatment system

Taikisha offers its paint finishing systems for pretreatment that are designed to improve processing quality and to conserve energy. Its unique lineup includes the iron powder removal system, high-performance washing system, counter-flow circulation tank in the degrease process, and high-pressure spray water washing processes.



Electrodepositing system

Taikisha's counter flow circulation system (C-FLOW Electrodepositing Circulation System) for electrodepositing tanks has been introduced in many lines. Furthermore, its multi-stage washer systems offer a high paint recovery rate using ultra filter (UF) membranes or reverse osmosis (RO) membranes.



Paint booth

Taikisha provides booth interior environments to achieve high-quality painting with its high-performance CIRCULA scrubber, which boasts a low noise level, and the adoption of advanced energy-saving technologies such as exhaust recycling and HVAC control.



Robot paint system

Utilizing simulations with CAD, the design of a robot paint system seeks the most efficient painting procedure for painting and determines the optimal required number and layout of robots. Furthermore, as its solution, Taikisha configures a system to meet each customer's tailored needs with an optimized choice for a device.



Conveyor system

Taikisha's unique systems are available with overhead conveyers for pretreatment and electrodepositing lines, as well as floor conveyers for intermediate coat and top coat lines and help to design compact and highly efficient factory layouts for production.



Aircraft painting

Taikisha delivers automated aircraft painting systems aimed at enhancing productivity and quality, decreasing material requirements and reducing hazardous work by applying know-how cultivated in the automotive painting business. Taikisha can accommodate a wide variety of diversified aircraft components and parts.

72.3
billion yen
Composition rat
32.9%

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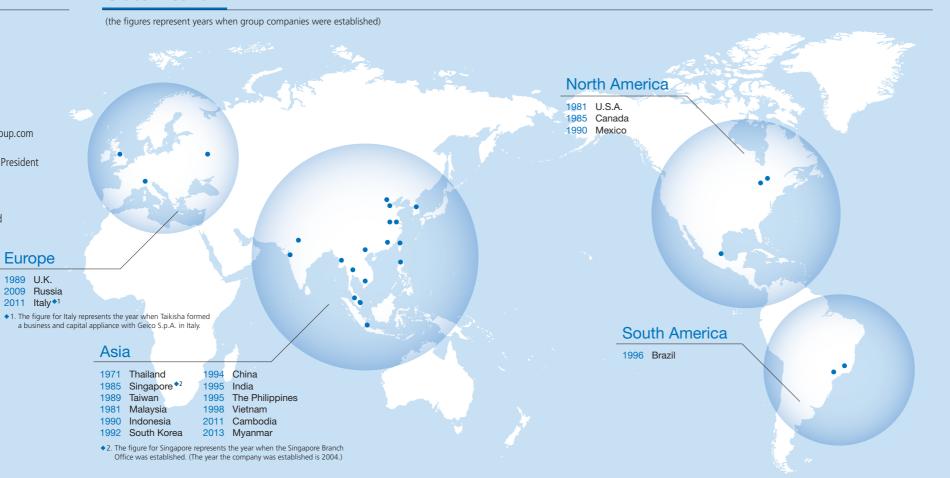
Taikisha is conducting business globally as an environment engineering company in two core business fields: the Green Technology System Business (Building HVAC and Industrial HVAC) and the Paint Finishing System Business.

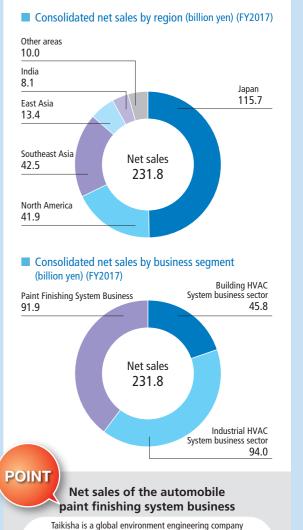
Taikisha boasts the highest ratio of overseas sales by far in the Japanese construction industry, with an overwhelming 36 consolidated subsidiaries in 19 countries (as of March 31, 2018).

Given the accelerating shift of Japanese companies overseas, Taikisha's global network of group companies contributes considerably to attracting orders for overseas projects (the ratio of overseas sales was 50.1% for the fiscal year ended March 31, 2018).

Corporate Overview Corporate name: Taikisha Ltd. Established: April 10, 1913 Head office: Sumitomo Fudosan Shinjuku Grand Tower, 8-17-1, Nishi-Shinjuku, Shinjuku-ku, Tokyo 160-6129, Japan https://www.taikisha-group.com Website: Representative: Toshiaki Shiba, Representative Director, President Capital stock: ¥6,455.17 million Number of 4,834 (consolidated) employees: 1,478 (non-consolidated (As of March 31, 2018)







No. 2 position globally in terms of net sales of the automobile paint finishing system business.

No. 1

No. 2

Group companies

Japan

San Esu Industry Co., Ltd. Nippon Noise Control Ltd. Tokyo Taikisha Service Ltd.

■ Europe

Geico S.p.A. J-PM Systems GmbH Geico Russia LLC

■ Asia

Europe

1989 U.K. 2009 Russia

2011 Italy •1

Wuzhou Taikisha Engineering Co., Ltd. (Head Office) Beijing Wuzhou Taikisha Equipment Co., Ltd. Geico Painting System (Suzhou) Co., Ltd. Shanghai Dongbo-Taiki Conveyor System Manufacturing Co., Ltd. Tianjin Dongchun-Taiki Metal Finishing & Conveyor System Manufacturing Co., Ltd.

Tianjin Taikisha Paint Finishing System Ltd. Taikisha Hong Kong Ltd. Taikisha (Taiwan) Ltd.

Taikisha Korea Ltd. Taikisha (Thailand) Co., Ltd. Taikisha Trading (Thailand) Co., Ltd. (Head Office) Token Interior & Design Co., Ltd. Thaiken Maintenance & Service Co., Ltd. TKA Co., Ltd.

Taikisha Vietnam Engineering Inc. Taikisha (Cambodia) Co., Ltd.

BTE Co.. Ltd

Taikisha Philippines Inc. Taikisha (Singapore) Pte. Ltd. Taikisha Engineering (M) Sdn. Bhd. Makiansia Engineering (M) Sdn. Bhd. P.T. Taikisha Indonesia Engineering P.T. Taikisha Manufacturing Indonesia Taikisha Myanmar Co., Ltd. Token Myanmar Co., Ltd. Taikisha Engineering India Private Ltd. Geico Paint Shop India Private Ltd.

■ The Americas

TKS Industrial Company Encore Automation LLC J-CO America Corporation Taikisha Canada Inc. Taikisha de Mexico, S.A. de C.V. Taikisha Mexicana Services, S.A. de C.V. J-CO Mexico, S. de R.L de C.V. Taikisha do Brasil Ltda. Geico Brasil Ltda.

*Thousands of U.S. dollars

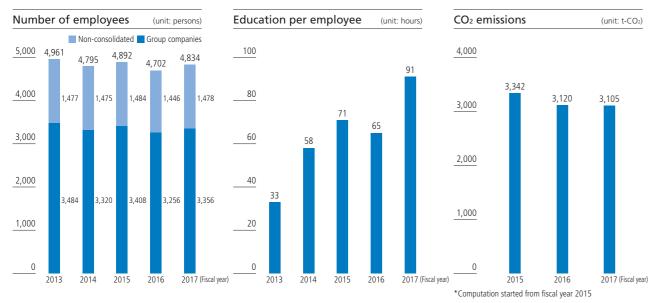
Financial items

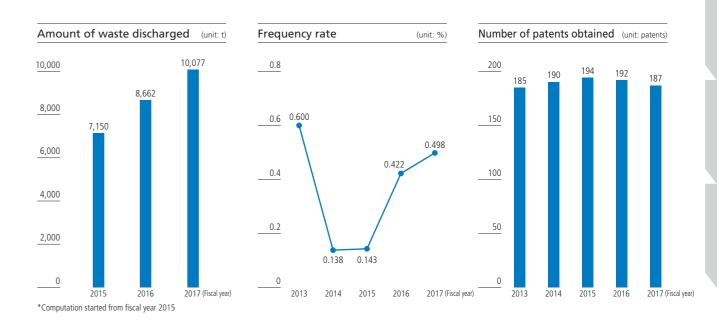
	Unit	FY2007	FY2008	FY2009	FY2010	FY2011	F	Y2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2017
Orders received	Million yen	186,568	164,738	118,667	165,638	195,268	1	195,920	189,026	187,311	221,764	218,323	219,844	2,068,735
Ratio of overseas orders received	%	47.0	41.6	41.1	57.7	56.7		61.9	52.6	49.8	54.3	50.4	46.2	46.2
Net sales	Million yen	183,034	167,306	117,234	141,160	189,716	2	216,051	185,421	183,648	212,424	200,604	231,898	2,182,163
Ratio of overseas sales	%	44.2	45.1	43.7	44.4	51.3		57.4	61.6	55.2	55.5	49.3	50.1	50.1
Operating income	Million yen	5,487	5,852	3,189	5,411	8,325		9,815	8,083	8,669	12,734	8,473	12,180	114,614
Ratio of operating income to net sales	%	3.0	3.5	2.7	3.8	4.4		4.5	4.4	4.7	6.0	4.2	5.3	5.3
Ordinary income	Million yen	6,503	6,694	3,699	6,166	9,033		10,728	9,292	9,579	12,343	9,842	13,082	123,106
Ratio of ordinary income to net sales	%	3.6	4.0	3.2	4.4	4.8		5.0	5.0	5.2	5.8	4.9	5.6	5.6
Profit attributable to owners of parent	Million yen	1,175	3,074	3,666	3,703	4,372		6,200	4,155	6,084	7,084	6,305	7,254	68,264
Return on equity (ROE)	%	1.8	5.0	6.0	5.8	6.6		8.7	5.3	6.9	7.6	6.8	7.2	7.2
Total assets	Million yen	142,024	119,483	121,894	132,698	156,108	1	163,014	166,680	188,283	189,566	199,024	216,980	2,041,787
Net assets	Million yen	67,379	61,441	66,263	66,978	69,602		78,537	84,712	99,669	95,921	100,184	110,650	1,041,217
Equity ratio	%	44.6	48.9	52.3	48.8	42.9		46.2	48.3	50.4	48.0	48.1	48.5	48.5
Cash flows from operating activities	Million yen	24,584	1,537	1,077	5,869	1,812		10,772	7,532	1,401	7,301	6,679	9,337	87,870
Cash flows from investing activities	Million yen	-643	-4,021	2,105	-5,838	-2,336		-1,308	-1,194	-3,900	-328	-6,505	1,390	13,089
Cash flows from financing activities	Million yen	-8,497	-1,526	-1,995	92	-361		-2,569	-3,290	1,264	-7,409	-5,286	-885	-8,333
Research and development expenses	Million yen	850	829	668	744	784		800	876	822	889	946	1,024	9,641
Depreciation	Million yen	1,009	1,055	1,107	1,122	1,239		1,211	1,290	1,257	1,348	1,290	1,398	13,162
Purchase of property, plant and equipment an intangible assets	nd Million yen	-1,744	-1,377	-826	-783	-1,398		-3,130	-1,734	-1,247	-1,941	-1,807	-3,832	-36,062

Per share data:													*U.S. dollars
Profit	Yen	31.97	83.60	99.72	100.73	119.52	170.99	116.08	172.64	204.35	183.16	212.40	2.00
Net assets	Yen	1,723.67	1,590.08	1,734.49	1,762.28	1,834.99	2,087.16	2,282.56	2,690.76	2,633.60	2,799.30	3,087.51	29.05
Annual dividend	Yen	35	30	30	30	35	50	45	52	67	70	75	0.71
Dividend payout ratio	%	109.5	35.9	30.1	29.8	29.3	29.2	38.8	30.1	32.8	38.2	35.3	35.3
Total return ratio	%	109.7	36.2	30.2	29.8	40.0	44.8	80.5	30.2	63.8	54.0	42.2	42.2

^{*}The U.S. dollar amounts are translated on the basis of nearly 106.27 yen to 1 dollar, the rate of exchange prevailing at March 31, 2018.

Non-financial items





Taikisha Ltd. CSR Report 2018 12



Completed the master's course at Kyushu University Graduate School Engineering Department in 1976 and joined MODEC, Inc. Joined NLI Research Institute in 1988. He specializes in environmental management, CSR management, the environmental business, integrated reports and etc.

Joined Taikisha Ltd. in 1968. Held the positions of Director, Managing Corporate Officer, Chief General Manager, Green Technology System Division; Director, Executive Corporate Officer, Chief General Manager, Green Technology System Division; and Representative Director, Executive Vice President Corporate Officer before assuming the position above in April 2017.

Contribution to Environmental Conservation Targeted by Taikisha

Taikisha's business provides the environment and conditions for people's daily lives and manufacturing, supporting a variety of industries.

The President's dialogue with Mr. Masahiko Kawamura, specializing in CSR management and the environmental business, sheds light on Taikisha's initiatives from the viewpoint of CSR and its outlook as the solution for social issues.

Practicing CSR based on the "Customers First" Mission Statement

Kawamura: First of all, I would like to know about the principle on which Taikisha's CSR is based.

Shiba: In 1970, Taikisha formulated the Mission Statement "Customers First." This is the origin of our corporate activities including CSR. The term "Customers" herein implies our recognition that not only direct clients but also the many people surrounding us or, more broadly, society in general are our customers.

Kawamura: Your philosophy embodies the term "stakeholders." The Mission Statement was established in the years leading to the company's 60th anniversary when the trade name was changed to Taikisha Ltd. in 1973. What were the emotions crystallized in this expression?

Shiba: At that time, our company name was Kenzaisha. Our business is not intended to sell finished goods to customers but rather to provide technologies equipped with the performance requirements to satisfy customers as a comprehensive system. We ensured that we provide value in every order we received, and this led to a recurring transaction with customers. It is a process of building relationships of



trust by meeting the expectations of customers who have chosen us as a business partner. Never deceive your customers. This comes first and foremost in earning trust. It also means doing one's best without deceiving oneself, as well as being truthful to one's own family, any corporation or organization which we belong to, or society.

Kawamura: Sound corporations must maintain "integrity," a

Kawamura: Sound corporations must maintain "integrity," a synonym of sincerity. It is quite insightful that Taikisha had clearly expressed these ideals in those days.

Shiba: As we do not belong to a conglomerate, we cannot survive without a firm relationship of trust with customers.

Kawamura: You have made your point that the Taikisha spirit is based on "Customers First." How will you promote initiatives to improve value for all stakeholders as part of the broader sense of the term "Customers First"?

Shiba: To promote CSR activities under the "Customers First" mission statement, we designated 10 items of *materiality* (material CSR matters) in 2017 with reference to several international guidelines such as GRI. These material matters were selected by prioritizing their importance for stakeholders and us while considering such factors as governance and risk management, which support the sustainable growth of corporations. On the other hand, the backbone of our business lies in how we solve the social issue of protecting the global environment.

Kawamura: In addition to developing a management infrastructure toward sustainable growth, incorporating CSR into corporate management would require a process of finding out how the company's business relates to social issues and identifying the material CSR issues. The next-stage challenge is to associate the identified materiality with a management plan and disseminate such information within the company.

Corporate Philosophy

1. Establish a company which can continuously grow and contribute to society:

- (1) We strive to grow continuously by enhancing our added values; thereby, bringing prosperity to our customers and business partners as well as to our employees.
- (2) We strive to create rich environment and evolve the industrial society through our engineering expertise that meets the needs of the society, in order to achieve our ultimate objective to contribute to the society.

2. Establish an attractive company:

- (1) We aim to be a motivation-oriented company where the employees can demonstrate creativity and vitality through their work responsibilities.
- (2) We aim to be a company having the corporate culture in which all employees work in close cooperation to achieve the goals of the company, with the spirits of mutual trust, collaboration and rationality.
- (3) Through the expansion of our expertise in "Energy, Air, and Water", we aim to become a unique company in all aspects of corporate management, including engineering, marketing, and human resource development.

Providing Environmental Solutions that Help Solve Social Issues



Kawamura: Taikisha contributes to the preservation of the global environment through its business. Please elaborate on your initiatives from the viewpoint of solving social issues.

Shiba: We strive to provide value through our services in air pollution countermeasures, the reduction of GHG emissions and effective utilization of energy by leveraging our environment-responsive technologies and capabilities accumulated since our foundation. The company name *Taikisha*, or literally "air (*Taiki*) company (*sha*)," derives from such initiatives, and in 1973 when the company name was changed, industrial pollution such as air pollution due to photochemical smog was a huge social problem. As an air-conditioning systems company, our new company name manifests to society our resolve to work on the atmosphere and bring back clean air.

Kawamura: Your manifesto led to the solution of social issues as well as the development of customers' business, which in turn brought about the company's sustainable growth. What were your customers' requirements, and how did Taikisha accommodate them? Shiba: Our major task is to realize the indoor environment specified by customers through the provision of air-conditioning systems. It is indispensable to appropriately satisfy a variety of environmental conditions while realizing energy efficiency. Although we handle installation for buildings, commercial and public facilities in general, the most sophisticated indoor environment is required for manufacturers' production plants and research facilities, such as testing rooms and laboratories. Pharmaceutical and biotechnology production plants and research facilities require the strict maintenance of aseptic conditions, temperature control and treatment of hazardous substances, and the cleanrooms installed in these facilities consume a huge amount of electricity to ensure the circulation of massive air. Maintaining the high specification of this kind of indoor environment necessitates energy-saving technology to make it affordable. For production plants and research facilities, not only realizing a specified indoor environment, but also furnishing appropriate waste treatment equipment is vital.

Kawamura: Production of semiconductors and electronic parts must also command a stringent condition for cleanrooms and waste disposal facilities.

Shiba: We have furnished cleanrooms for most of the semiconductor manufacturers in Japan. A key requirement of state-of-the-art manufacturing is to ensure ultra-clean spaces that control submicron-order dust in the air. A difference of $\pm 0.01^{\circ}$ C matters in room temperature control. As the production process involves a profusion of extremely hazardous chemicals and gases, fail-proof waste disposal is also essential.

Kawamura: Your story illustrates that Taikisha provides customers with indoor environment that prevents environmental contamination through the control of hazardous substances and the disposal of waste, and curbs CO₂ emission at the stage of facility operation through energy-saving features. These are instances of direct contribution to a low-carbon society. Furthermore, as for Taikisha's support to customers' manufacturing, the expanded use of imaging sensors in many facets of society is an example of the company's indirect contribution to solving social issues through the semiconductor industry in the sense that Taikisha is involved in semiconductor production facilities.

Shiba: I agree that our contribution to the environment by energy-saving at the stage of facility operation is one of our most appealing strengths. On the other hand, indirect contribution through our customers is less convincing than we would like.

Kawamura: You gave us the whole picture of your initiatives on the Green Technology System Business. How about your initiatives in the Paint Finishing System Division to provide value to customers and contribute to the environment?

Shiba: The Paint Finishing System Division engages in the design and construction of large-scale paint finishing plants. The removal of volatile organic compounds (VOCs) is essential in this business. We provide customers with environment protection systems to remove harmful substances and prevent air pollution utilizing the exhaust treatment technology nurtured in the automobile paint finishing system business field. This is our exclusive feature, with rising demands in China where environmental regulations have been strengthened in recent years.

Kawamura: One would normally think removal treatment is required to prevent VOC discharge, but is there also a call for reducing the quantity of paint used in the first place?

Shiba: Exactly. Enhancing coating efficiency is desirable for customers to eliminate the loss of expensive paint. As you say, not only the prevention of VOC discharge, but curbing the loss of huge energy required for recovering and disposing of paint that failed to coat will surely lead to a reduction of the environmental impact. We are currently developing solutions to enhance the automation of our painting facilities for aircraft, the *Shinkansen* (bullet train) and ocean vessels by applying the automation technology using robots for automobile paint finishing. Automation enables even and thin coating finish (down to approximately 0.1 mm in thickness) that realizes two things what customers want, i.e. reduced paint cost and weight-saving of painted objects.

Kawamura: So weight-saving is another requirement in those industries.

Shiba: In the case of aircraft, coating plays an important part in reducing air resistance against the airframe. The paint used for an

aircraft amounts to a hefty total volume of around 3 tons. The technology of coating evenly at a specified thickness reduces aircraft fuel costs by saving the weight of the airframe, realizing further alleviation of environmental impact.

Promoting Human Resource Development by Creating a Pleasant Working Environment

Kawamura: So far, you have primarily described your initiatives toward the solution of social issues and environmental conservation in line with the corporate philosophy: "Establish a company which can continuously grow and contribute to the society." What is your opinion of the second part of the corporate philosophy: "Establish an attractive company"?

Shiba: The Corporate Philosophy of "Establish an attractive company" implies our belief that creating a working environment where every employee can demonstrate creativity and vitality with a sense of fulfillment leads to the growth of the company. To this end, we need to create a pleasant working environment for employees and promote human resource development.

Kawamura: What are the specific initiatives underway?

Shiba: We established the Career Plan Scheme to support employees' medium- to long-term personal growth and upskilling starting from the fiscal year under review. We propose career formation models to employees depending on their years of service per department and tailored support to each employee so they can achieve the goals. In addition, in order to cope with labor shortage in general, we are reinforcing our human resource development. Engineering employees are especially the focus, identifying their areas of weaknesses in terms of knowledge to provide complementary training. As a result, our employees are improving their performance in obtaining official qualifications such as first-class plumbing management engineer and facilities engineer of the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan.

Kawamura: What are your thoughts on the reduction of long working

hours, which has become a serious issue not only for Taikisha but also for the entire construction and facilities industry?

Shiba: Last fiscal year, the Risk Management Committee addressed the reduction of long working hours as top priority and determined to promote work style reforms to combat the issue. As you have suggested, it is an industry-wide issue. The Air-Conditioning & Plumbing Contractors Associations of Japan has suggested that companies come through with a complete five-day workweek system to reduce working hours in the entire industry. We seek to reduce working hours through alleviating the burden of on-site operations and improved efficiency. Improving CAD performance, introducing an automatic quantity survey system, as well as operational support for administrative employees including outsourcing are specific areas of focus.

Kawamura: What are your initiatives on human resource development of the Taikisha Group as a whole including overseas affiliates?

Shiba: The Taikisha Group currently has 4,834 employees on a consolidated basis, comprising 1,679 in Japan, as well as 3,155 overseas mainly in Asia such as Thailand and Europe, North America and South America. We will continue to aim for global business expansion by bringing out the diverse capabilities of human resources group-wide and having them deliver at various locations. To this end, we intend to develop employees locally at each group company while establishing and operating a global human resource system.

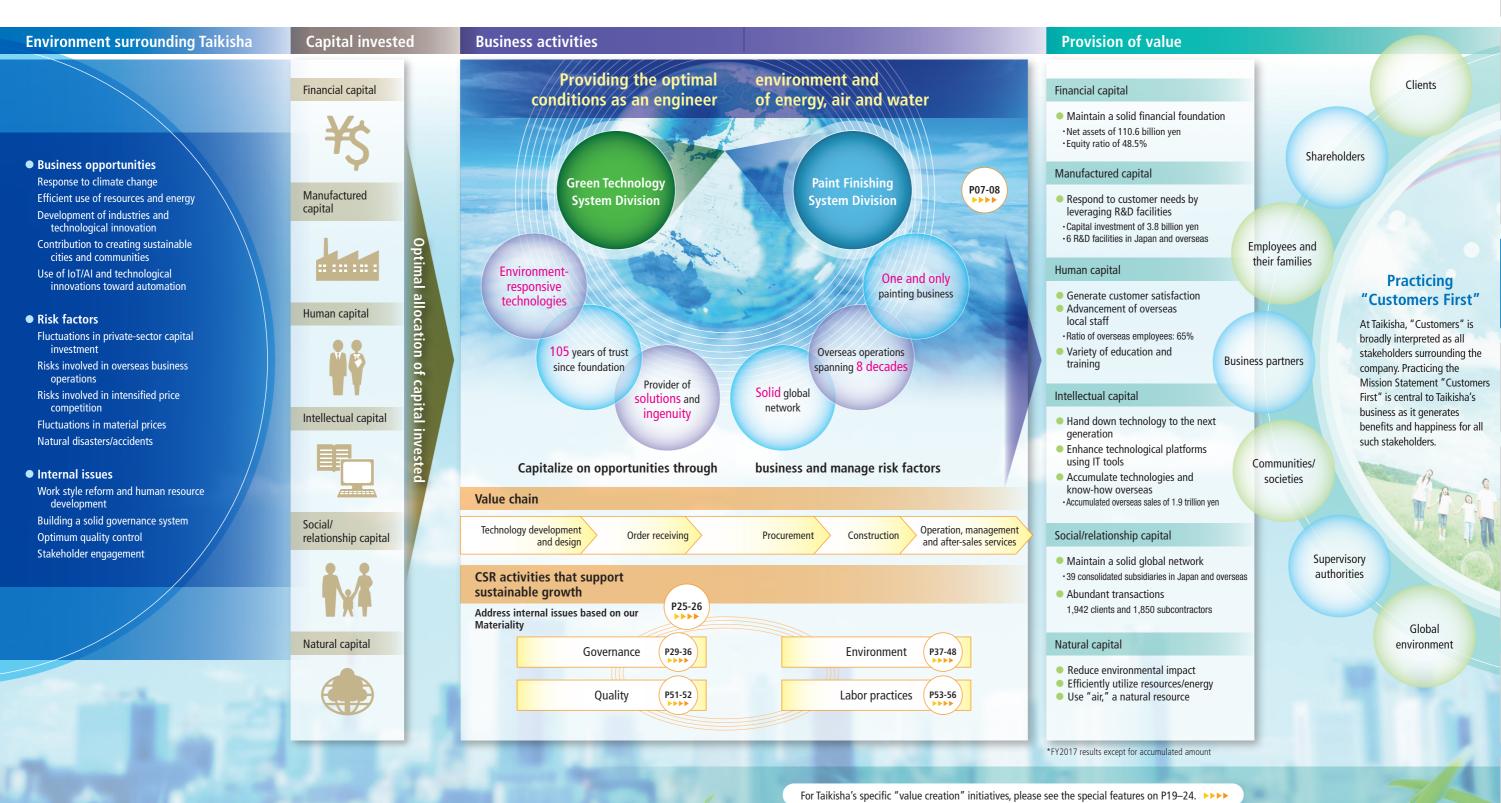
Kawamura: It was a pleasure to learn about Taikisha's CSR initiatives in

depth today. I expect a bright future ahead of Taikisha and nothing less.

Shiba: The pleasure was mine.



Taikisha's Mission Statement "Customers First" refers to the spirit of earning the ongoing trust of stakeholders (society in general). Since the foundation of Taikisha in 1913, this guiding principle has underpinned its efforts and was formulated anew in 1970 as the "Customers First" Mission Statement. Based on this mission statement, Taikisha will continue to create new value for others while striving to achieve its sustainable growth.



Technology × Environment
Leap forward on wings—Expansion into the aircraft
paint finishing system business
First Regional Jet Aircraft Produced in Japan

Air control supporting safe manufacture of

Air-Conditioning Systems in the Pharmaceuticals

pharmaceuticals

Work style reform through employee education and active utilization of IT Management Aimed at Achieving Growth by Nurturing and Utilizing People

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Air control supporting safe manufacture of pharmaceuticals

Air-Conditioning Systems in the Pharmaceuticals Manufacturing Environment

As human life and health depend on pharmaceuticals, their manufacturing plants require a state-of-the-art environment and functionality compliant with the latest Good Manufacturing Practice (GMP), as well as

Taikisha's sophisticated air-conditioning systems are increasing their importance more than ever in such a manufacturing environment.



Isolator in the filling process of sterile preparations

Needs for the pharmaceutical manufacturing environment

There are two types of manufacturing processes for pharmaceuticals: sterile preparations such as injectable solutions and nonsterile preparations such as solid formulations. Ensuring product quality, efficacy and safety is an absolute precondition in either category of the manufacturing process. Accordingly, in the pharmaceutical manufacturing environment, the following four elements need to be achieved and continuously maintained from the viewpoint of preventing contamination, ensuring quality maintenance and improving operational efficiency.



Photos courtesy of TOWA PHARMACEUTICAL CO., LTD. (pages 19 and 20)

Responding to needs with air-conditioning systems

A pharmaceutical manufacturing plant consists of many manufacturing chambers for each manufacturing process, and indoor cleanliness as a cleanroom is set (or stipulated) for each manufacturing chamber depending on the functionality of that room/area. In addition, air-conditioning systems for pharmaceutical manufacturing are required to comply with the GMP standards and guidelines applied by each regulating authority (e.g., Japan, U.S.A., Europe, WHO, PIC/S).

Manufacturing chambers as cleanrooms require the elimination of airborne particles and microorganisms and a framework that can prevent their inflow. To this end, various measures are taken to maintain the stipulated cleanliness level for each manufacturing chamber, as well as the optimum temperature, humidity and room pressure. As for the maintenance of optimal room pressure, an advanced room pressure control technology is necessary to control the air flow direction so that cross-contamination will not occur due to the inversion of pressure.

The air-conditioning systems provided by Taikisha maintain an optimum manufacturing environment by appropriately coping with any disturbance, such as changes in the operational status of equipment and weather conditions. Furthermore, Taikisha strives to comprehensively resolve the issues faced by pharmaceutical manufacturing plants through the provision of indoor decontamination systems (in-house development) and validation support.

Grades present air cleanliness level: High-Low Freeze-drying Aluminum cap Seaming

Grade A

Example of a pharmaceutical manufacturing process

Achieving appropriate room pressure control was key

New Building Construction Work for TOWA PHARMACEUTICAL Yamagata Plant

New buildings for the Yamagata Plant of TOWA PHARMACEUTICAL CO., LTD., a leading generic pharmaceutical manufacturer in Japan, were completed in January 2018. They were intended to raise the production capacity of the plant. Taikisha undertook the design and construction of the air-conditioning and sanitary facilities of the second Solid Formulation Building and the second Administrative Testing Building, as well as the heat source equipment of the Utility Building. Taikisha's proprietary technology of achieving high-precision room pressure control is in full play in the design and construction of the air-conditioning equipment.

The new buildings were constructed in response to the Japanese government's policy of increasing the use ratio of generic drugs to 80% by September 2020. It will enable TOWA PHARMACEUTICAL to maintain stable supply, and annual production capacity was greatly enhanced.



Appearance of the TOWA PHARMACEUTICAL Yamagata Plant

Technology X Environment

Leap forward on wings—Expansion into the aircraft paint finishing system business

First Regional Jet Aircraft Produced in Japan "MRJ"

The Japanese aircraft industry is taking a great leap forward. The worldwide number of aircraft is forecast to double in the next two decades, and the Japanese government intends to accelerate its support for the industry to nurture the aircraft business as a key industry comparable to the automobile business.

aircraft business as a key industry comparable to the automobile business.

Taking the momentum, Taikisha received an order for the installation and construction of air-conditioning equipment for painting facilities for a paint finishing plant for Mitsubishi Regional Jet (MRJ) aircraft, a small jet airliner, from the Mitsubishi Heavy Industries (MHI) Group. The MRJ is the first aircraft to be domestically developed in half a century, and the first ever jet airliner to be domestically produced. It is expected to considerably reduce fuel consumption, noise and gas emissions by applying the world's leading-edge aerodynamic design technique, noise analysis technology and a state-of-the-art jet engine. Taikisha's air-conditioning technology for painting supports the provision of unprecedented value for regional jet aircraft.



Photo courtesy of Mitsubishi Aircraft Corporation

Contributing to the mass-production of domestically produced small jet airliner using the know-how of automobile paint finishing and large-space air conditioning

In the paint finishing plant for MRJs, airframes in the final assembly and completed status can be brought in as they are for processes from painting to drying. For such large-scale paint plants, special technologies and know-how on sophisticated temperature adjustment and air flow control are required to ensure simultaneous achievement of excellent product quality, a comfortable operating space and effective energy saving while taking into account a variety of environmental conditions including changes in weather. By taking advantage of experience in projects requiring a vast open space, such as the painting facilities and air-conditioning equipment for H-II rockets and the new installation of assembly and painting facilities for Boeing 787 aircraft, Taikisha has proven that it can provide air-conditioning equipment for high-quality paint operations for MRJ aircraft through prior simulations of temperature and air flow requirements.



Appearance of the paint finishing plant
Photo courtesy of MHI Plant Engineering & Construction Co., Ltd.

Taikisha will support the mass-production of MRJ jet airliners by leveraging its know-how accumulated for over 60 years since 1952 when Taikisha started the paint finishing plant business.

*The design and construction of the new paint finishing plant and maintenance hangar was conducted by MHI Plant Engineering & Construction Co., Ltd.



The first painting operation was conducted at the paint finishing plant from late October until early December 2017.

Photos courtesy of Mitsubishi Aircraft Corporation

A technology that enables painting the whole airframe

This paint finishing plant is large enough to store two manufactured MRJ aircraft. Main paint finishing systems (Booth A and Booth B) for painting manufactured aircraft as well as those for small-parts and components are installed, each furnished with air-conditioning equipment for both painting and drying. Optimum air-conditioning equipment enables excellent sealing performance in a vast space, allowing manufactured aircraft to be brought in as they are.





Inside the paint finishing plant Booth A Inside the paint finishing plant Booth B Photos courtesy of MHI Plant Engineering & Construction Co., Ltd.

[Major equipment]

1. Main paint finishing system

There are two booths which can each store one manufactured aircraft (Booth A, Booth B). Each booth is equipped with airconditioning equipment for both painting and drying.

2. Equipment for small-parts and components

A small-parts painting chamber and its air-conditioning system are installed.

3. Equipment for paint-mixing chamber

Fully equipped with exclusive air-conditioning equipment and ventilation system.

Taikisha will continue to pursue the world's leading-edge paint technologies with a focus on energy saving and environmental conservation. At the same time, Taikisha intends to meet the broad range of customer and social needs by reinforcing its capacity to handle diverse painting-related projects including aircraft painting.



Hiroshige Kakei
Worksite Manager
MHI Plant Engineering & Construction Co., Ltd

This is a project attempting to complete the whole process of painting through drying in a building structure that can house a whole MRJ airframe, the first of its kind for us, and started out with studying its feasibility. As the painting and drying facilities were so huge, the construction of the building structure and the facility was conducted at the same time. Being able to complete the construction of a paint finishing plant under a severe time frame for such a rare construction work will become a valuable asset for both companies. I was especially impressed by Taikisha's excellent engineering capability, which was demonstrated in the air flow simulations.

There will be more opportunities for collaboration in the future not only in Japan but also overseas. I would like to cooperate with Taikisha while leveraging each party's expertise.

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Technology X Human Resources

Work style reform through employee education and active utilization of IT

Management Aimed at Achieving Growth by Nurturing and Utilizing People

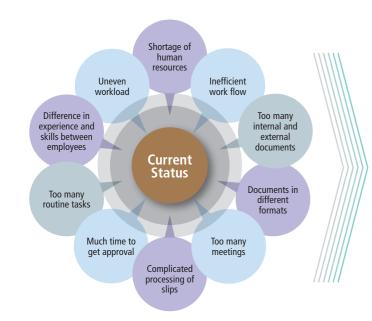
As the national government has promoted Work Style Reform in Japan, Taikisha's management recognizes curtailing long working hours as the most important managerial issue. To solve this issue, Taikisha is committed to promoting employee education and active utilization of IT to maximize the power of people—the most valued asset of an engineering company



Work style reform at Taikisha

Led by its corporate planning department, Taikisha started implementing measures to curtail long working hours in 2017. Taikisha is addressing the following areas: increasing engineering employees; utilizing IT for onsite jobs; staggered working hours for onsite workers; reviewing the work allotted to engineering sections; and managing the status of progress to ensure that paid holidays are fully taken.

At the same time, to reduce working hours, each employee is asked to analyze the content of his/her work and the time required for it and improve his/her technical skills based on the information obtained. Taikisha will promote the growth of employees by enhancing personnel education to help boost the medium- to long-time success of Taikisha.



Themes for Activities: Personnel recruitment Leveling out of work Introducing flexible work systems Enhancing employee skills Utilization of IT Increasing the efficiency of meetings Reducing the number of documents

Goals of the Personnel and CAD Training Promotion Center

In April 2017, Taikisha established the Personnel and CAD Training Promotion Center under the Green Technology System Division. The Center is aimed at raising the productivity of employees through reinforcement of technical education and utilization of IT, thereby contributing to the realization of work style reform.

While Taikisha has focused on new employee education, its efforts to raise the technical abilities of mid-career employees mostly have relied on on-the-job training and their own efforts to pass qualification exams, which resulted in unsatisfactory examination

To provide opportunities for learning linked to actual work, the Personnel and CAD Training Promotion Center offers programs according to the level of skills, which are provided in each workplace to help employees acquire knowledge on design, construction supervision and management. Meanwhile, efforts for utilization of IT will be promoted by enhancing the function and performance of CAD and introducing a system for improving the efficiency of managing onsite employees.

Objectives:

- (1) Provide systematic training on a continuous basis
- (2) Enhance the level of technical abilities
- (3) Nurture human resources trusted by customers

Goals:

- (1) Higher technical abilities
- (2) Higher work efficiency utilizing IT
- (3) Higher productivity to achieve higher sales of completed work

Realization of work style reform

Design and construction skills improved -Diminish overtime work Work efficiency improved Reduce overtime work Work efficiency improved

Results and future development

In FY2017, the Center provided 21 courses, which were attended by a total of 1,342 employees. Teaching materials designed for various skill levels and sufficient support have increased the motivation for self-directed learning.

Starting in FY2018, the Center will provide trainings for young employees involved in sales in collaboration with the sales department. In addition, to develop human resources working internationally, the Center will provide global leader trainings, including those for acquiring foreign-language skills centering on English.

From the viewpoint of developing human resources of the entire Taikisha Group, the Center will not only enhance the employee education for its affiliates in Japan but also promote the training of engineering employees at affiliates overseas by intensifying the collaboration with the Global Engineering Supervisory Department.

Message from the Senior General Manager

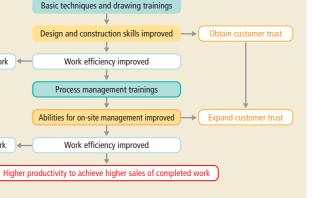
The Center's activities focus on the systematization of technical education and the introduction of IT, aimed at employees not only acquiring the knowledge but also applying it onsite.

The Center also endeavors to build systems for facilitating voluntary learning and raising motivation.

Although the introduction of IT could lead to the automation of work and a reduced workload, it does not eliminate the need for the basic skills from people. I believe understanding the basics of work is

Senior General Manager Personnel and CAD Training

indispensable to use IT effectively because important tasks such as policy making and various inspections are handled by people.



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Taikisha's Materiality

As for materiality (material matters) in promoting its CSR activities, Taikisha designated 10 items from the four aspects of Governance, Quality, Environment and Labor Practices. These material matters were selected from items toward the achievement of a sustainable society and corporate growth, based on the priority of importance to stakeholders and Taikisha. Taikisha will assess and verify its CSR activities and run the PDCA cycle unfailingly based on the materiality determined.



Materiality Determination Process

Determining CSR issues STEP 2 Prioritization STEP 3 Confirmation of STEP 4

Determination of

Taikisha looked at international guidelines, such as the "Sustainability Reporting Standards" by GRI and ISO26000, disclosure requirement items of CSR assessment organizations, contents of CSR surveys by customers, and results of questionnaire survey of employees, etc. Based on the above, Taikisha analyzed Taikisha's CSR activities and disclosure. As a result, Taikisha identified determination of materiality and disclosure as priorities to work on, and carried out a set of activities in this area.

In determining material matters, Taikisha sorted out CSR issues to 54 items by referring to several guidelines and materiality information of other companies. Then Taikisha extracted 20 items to be considered by taking into account relevance with the Taikisha Group's businesses.

Each of the extracted issues was prioritized based on the following two criteria.

(1)Degree of importance for stakeholders

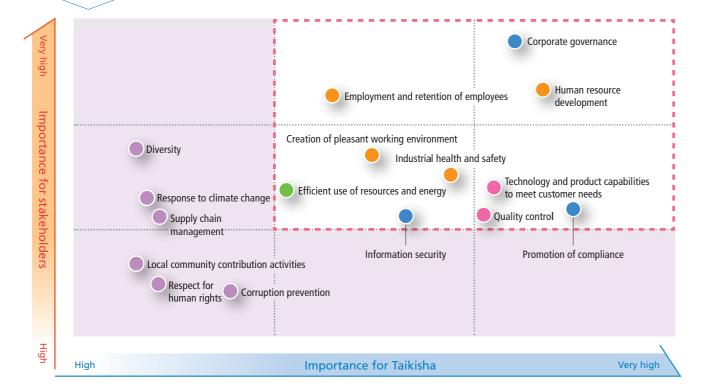
The degree of importance of each issue was determined based on the CSR guidelines, information obtained through communication with stakeholders, and questionnaires in procurement survey of other companies.

(2)Degree of importance for Taikisha

Taikisha conducted a questionnaire on the management team (members of the Board of Directors, Corporate Officer in charge of CSR). Taikisha analyzed the importance of the identified CSR issues for Taikisha by using a five-point evaluation system. In conducting the analysis, Taikisha confirmed the relevance of the identified CSR issues to the Mid-Term Business Plan and company regulations. In addition, Taikisha assessed their impact on its businesses not only from a short-term viewpoint but also from a long-term aspect upon determining their degrees of importance.

The results of prioritization were compiled by taking into account the consistency with the management policy and plan and their appropriateness was examined by the management team.

Based on the confirmation of appropriateness, the final examination was conducted in the company. As a result, 10 items of CSR material issues were determined as having materiality.



Overview of Materiality

Materiality determined	Taikisha's initiative	Relevant SDGs
Governance		
Corporate governance	Taikisha will strive to build good relationships with various stakeholders with the aim of achieving continuous growth and a medium- to long-term improvement in corporate value. Taikisha will also work to achieve appropriate decision-making and business execution, ensure sound management, and improve accountability.	
Promotion of compliance	Taikisha will develop a corporate ethics and compliance system and manage the system appropriately. In addition, Taikisha will strive to raise awareness of the need to have compliance with laws and regulations among employees.	16 MAIC AGUTE BOURDING BOURDING 17 PARTESSEP: FOR THE GOALS
Information security	Taikisha will strengthen security to prevent information leaks by stepping up security controls in the IT environment, developing educational content, and keeping everyone informed of information security issues. Taikisha will strive to ensure protection of personal information of employees, as well as personal information of contract orderers and vendors obtained and retained through business activities.	
Quality		
Technology and product capabilities to meet customer needs	Taikisha will strive to establish technological and product capabilities conductive to improving business performance and competitiveness. In addition, Taikisha will focus on technology development and advanced efforts by taking into consideration social issues and latent needs of customers.	9 может можать 12 качовец 12 соворения
Quality control	Taikisha will secure a quality level that results in a high level of customer satisfaction. By implementing continuous quality improvement and standardization, Taikisha will provide qualities that give a sense of trust, security, and satisfaction to customers. Taikisha will also work to prevent quality troubles at construction sites.	& COO
Environment		
Efficient use of resources and energy	With an aim of contributing to building a recycling-oriented society, Taikisha will make efforts to utilize resources effectively, promote energy saving in our daily lives and business activities, reduce electricity and city gas consumption, promote product recovery and recycling, and reduce the amount of containers and packaging.	7 distriction 11 surphenorms 12 discounts 13 distriction 13 distriction 14 discounts 15 discounts 16 distriction 17 distriction 18 distriction 18 distriction 18 distriction 18 distriction 19 districtio
Labor Practices		
Human resource development	Taikisha will specify the types of human resources necessary to carry out targeted strategies, and improve employees' performance by providing them with knowledge and skills in various forms to maximize their expected activities. In addition, Taikisha will provide various opportunities for education and training and develop a fair personnel assessment system to promote a work environment that fosters the development of human resources.	
Employment and retention of employees	Taikisha will secure the best human resources, and make an effort to build an organization where the hired employees will stay without leaving after a short time and can fulfill their potential.	
Industrial health and safety	Based on the safety-first principle, Taikisha will implement health and safety management systematically on an organizational level. In order to provide a working environment that considers health and safety, Taikisha will give consideration to employees' health, eliminate industrial accidents, correct long working hours and improve mental health in the workplace, etc.	3 DEDINITION OF THE PROPERTY O
Creation of pleasant working environment	Taikisha will promote the building of an attractive and motivation-oriented company that provides both material and psychological satisfaction to each employee. Taikisha will make efforts to enable all employees to fully utilize their potential by enhancing its welfare program; creating a workplace environment that supports a balance between work, childcare and nursing care; developing a work environment that embraces diverse work styles; improving the treatment of employees and workplace environment; and controlling long working hours.	

Support of SDGs

The Sustainable Development Goals (SDGs) constitute the core of the 2030 Agenda for Sustainable Development, including 17 SDGs and the associated 169 targets, which were adopted in September 2015 by the United Nations. Building on the principle of "leaving no one behind," the new Agenda emphasizes a holistic approach to achieving sustainable development for all. Accordingly, all the member states are requested to achieve the goals, while governments and corporations globally are requested to independently take actions for their achievement. The Taikisha Group strongly supports the SDGs as a corporation that engages in diverse businesses globally.





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Key Measures and Progress of Activities

							ISO26000						
Theme	Subsidiary theme	Issue/goal	Main activities		Results of implementation of measures in FY2017	Self-ass Efforts in FY2018 and thereafter	Organizational governance	Human rights	Labor	Practices	Consumer issues Fair business	Community participation and development	Pages
General	CSR activities	Improvement of information disclosure, and sharing of information within Taikisha	■ CSR activities in line with the international guidelines and information disclosure		Materiality disclosure Creation and disclosure of GRI reference table	■ Visualization of the value creation process ■ Association of SDGs with business activities	000	•		• •			pp. 09–10
		sharing of information within Tarkisha	■ Operate the internal control system continuously and strengthen internal control at overseas affiliates	5	Confirmed the status of operation of the internal control system	Continue with activities		•	•	•			
	Corporate governance	Corporate governance	Further enhancement and strengthening of corporate governance Enhancement of internal audits		Re-examined the role and operating procedure of each meeting Conducted a visiting audit on a total of 62 sites	■ Continue with activities							pp. 29–32
Gove			Sophistication and enhancement of the risk management system		Performed risk recognition and assessment and formulated company-wide response policy	Implement risk-reduction activities for risks requiring prioritized response			•		•	•	
rnance	Internal control	Risk management	Step up measures to ensure the security of electronic information	1		Operate regulations appropriately Continue with activities	•			(•		33–34
		Promotion of compliance	■ Training, monitoring, information dissemination, Whistle-blowing System ■ Training and monitoring activities at overseas affiliates		 Promoted improvement through training, monitoring, and information dissemination Grasped and supported mitigations of risks at overseas affiliates 	Continue with and strengthen PDCA activities in Japan and overseas	•	•	•	•	•		рр. 35–36
	Strengthen environmental management	Achieve the environmental management vision	■ Practice the environmental management master plan		■ PDCA based on the master plan ■ Continued with activities to visualize GHG emissions in the entire supply chain	● Continue with activities				•	•		
			■[Green Technology System Division] Promote proposals for CO ₂ emission reduction (energy-saving) in in-house design projects	-	■ Proposed 60 plans for CO₂ reductions (energy saving)	▲ Propose more than 120 CO₂ reduction (energy saving) plans				•	•		
		Provision of facilities and systems with high energy-saving performance	3. 3., ,		■ Achieved CO ₂ reduction rate (emission amount) of 24.4% ■ Reduced CO ₂ emissions per manufacturing automobile to	■ Achieve CO ₂ reduction rate (amount) of 20% or higher ■ Develop measures to achieve reduction of CO ₂	ł			•	•		
			■ [Paint Finishing System Division] Promote reduction of CO ₂ emissions from painting facilities		75.3 kg	emissions per automobile produced in 2020 to 70 kg	<u> </u>	ļ		•	•		
	Promote environmental business	Removing and reducing emissions of	■ Grasp the reduced amount of annual VOC emissions by using VOC abatement systems ■ Improve performance of rotary regenerative thermal oxidizer (RTO) (by reducing age-related		■ Reduced VOC emissions by 7,700 t/year ■ Commenced designing improved regenerative thermal	■ Reduce VOC emissions by 8,000 t/year ■ Promoted dissemination through the expansion of models of	ļ			•	•		
		hazardous substances	degradation by applying baking system)		oxidizer (vertical-type rotary RTO Mark II)	improved RTO (application to vertical type) and purchase from LCC		ļ		•	•		
		Development of market for utilizing new environment-responsive technologies	■ Promote new business by applying environmental engineering technologies		■ Business strategy with an eye on overseas development of plant factories and system for factories manufacturing lithium-ion batteries	● Continue with activities		L		•	•		pp. 37–46
Env		- Community (Copyrights)	■ Development of a paint system designed to achieve a 100% paint efficiency		■ Checked capabilities/issues through basic test	Check capabilities through medium-scale test/address issues	ļ			•	•		
rironment/			■ Designing eco-friendly systems		■ Prevented outflow of liquid caused by breakage of tanks of pre-treatment lines and electrodepositing lines of painting facilities ■ Achieved quake-proof design implementation rate of 100% in applicable projects	■ Continue with activities				•	•		
		Reduction of environmental impacts in the design and construction phases	■ Reduce construction by-products and treat industrial waste appropriately		 Reduction, regeneration and recycling of construction waste: Recycling rate of 91% Rate of compliance in the number of manifests issued of 100% Electronic manifest introduction rate of 96% 	■ Reduction, regeneration and recycling of construction waste: Recycling rate of 90% or more ■ Rate of compliance in the number of manifests issued of 100% ■ Electronic manifest introduction rate of 95% or more				•			
	Promote environmental conservation activities		■ Appropriate management of fluorocarbon refrigerant		■ Implemented thorough management by using "Fluorocarbon Refrigerant Filling and Recovery Control Manifest ■ Achieved a Filling and Recovery Control Manifest storage rate of 100%	■ Implement thorough management by using "Fluorocarbon Refrigerant Filling and Recovery Control Manifest" ■ Achieve a Filling and Recovery Control Manifest storage rate of 100%				•			
		Energy-saving activities in the office	■ Reduction of paper usage (promotion of paperless meetings)	ļ	■ Purchased volume of photocopy paper (A4-sized equivalent): 8,792 sheets/person· year	■ Purchase volume of photocopy paper (A4-sized equivalent): under 9,200 sheets/person· year				•			pp.
			Reduce energy use in the office	!	■ Reduced power usage to 150 kW/m²-year	■ Reduce power usage to 156 kW/m²-year or less				•			38, 48
		Promote green procurement	■ Promote purchase of equipment included in the list of green procurement items		Achieved a green procurement amount of 4,039 million yen					• •)		p. 47
		Tromote green procurement	Promote paperless purchase order process through online purchases		■ Increased the paperless rate of 85.1% through online purchases	■ Increase the paperless rate to over 87% through online purchases				•	•		p
	Industrial health and safety	Health and safety of workers	■ Conduct organized safety management activities ■ Improvement of the level of industrial health and safety management		Safety record: Frequency rate of 0.498, Severity rate of 0.032 Fatal/serious accidents: None	 Continue with organized safety management activities Continue to provide industrial health and safety education based on education and training schemes to employees and subcontractors 		•	•				pp. 49–50
	Quality improvement	Quality and customer satisfaction improvement	■ Ensure quality without "Muda" (wasteful), "Mura" (inconsistent), and "Muri" (unreasonable) and continuous implementation of improvement measures ■ Gain customers' trust and high evaluation from society by utilizing the QC follow-up chart	1	 Extracted technical issues at the design examination meeting and construction review meeting, and confirmed them by cross-functional departments Reduced quality defects by conducting quality inspections in each construction process 	■ Continue with activities					•		pp. 51–52
	Consideration of human rights	Respect for human rights/ prohibition of discrimination	■ Strengthen responses to harassment ■ Promote employees' use of Employee Consultation Desk		■ Provided harassment consultation ■ Provided education to new employees/newly appointed managers	Continue with activities		•	•				
	Human resource development and cultivation	Support and facilitate employees' capacity development	■ Enhancement of the career advancement system ■ Development and improvement of the training system	ı	■ Provided training for persons in each target job position	Continuously improve the content of a program with an eye on PDCA		•	•				nn
	Diversity of human resources,	Creation of pleasant working environment	Achievement of work style reform Promote career advancement of female employees		■ Measures against long working hours ■ Implemented an action plan based on the Act on the Promotion of Female Participation and Career Advancement in the Workplace	Continue with activities		•	•				53–56
ety	work-life balance	Advancement of overseas local staff	Operation of the global human resource system		■ Introduction of the global human resource system	Firmly establish the global human resource system in each overseas affiliates		•	•				
	Supply chain management	Sharing and promotion of CSR in the supply chain	■ Promote procurement activities based on fairness and transparency		■ Eliminated anti-social forces ■ Confirmed appropriate trading conditions	● Continue with activities		•	•	•	•		p. 57
	Community/ social contribution activities	Activities as a member of society (corporate citizen)	■ Promote activities that help the sustainable development of communities and society		Participated in the CSR Network in Shinjuku Conducted activities, such as community cleaning activity and	● Continue with activities				•		•	p. 58
	social contribution activities	(offering a donation to Keidanren Nature Conservation Fund	l l	1	' 1					

Self-assessment ●: in line with the plan ▲: Fell below the plan



Corporate Governance

Taikisha has established a corporate governance system and structure that wins trust from all stakeholders.















Basic Policy

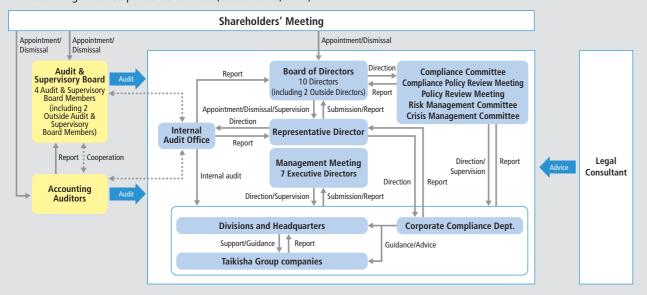
Taikisha has established a basic policy of corporate governance to gain the trust of all stakeholders and aims to become a corporate group that grows and develops in a healthy manner by thoroughly incorporating compliance awareness and realizing fair and highly transparent management. The aim is to achieve its corporate philosophy and management vision in accordance with Taikisha's Mission Statement: "Customers First." *

In conformity with the basic policy and based on the

organizational structure of a company with an audit & supervisory board, Taikisha is continuously working to strengthen the Taikisha Group's governance and reform of management by reinforcing the supervisory function of the Board of Directors through the application of Non-executive Directors (meaning Outside Directors and the Director and Chairman, the same shall apply hereinafter) and speeding up the decision-making of the Board of Directors through the adoption of the corporate officer system, aiming to further enhance and reinforce the corporate governance of Taikisha.

*"Customers" is defined as Overall Society in a broad sense. Spirit of "Customers first" is to win persistent trust from the "Customers."

Pattern Diagram of Corporate Governance (as of June 28, 2018)



Corporate Governance System

With the organizational structure of a company with an audit & supervisory board, Taikisha Ltd. is continuously working on management reform by reinforcing the supervisory function of the Board of Directors through the application of Non-executive Directors and speeding up the decision making of the Board of Directors through the adoption of the corporate officer system, aiming to establish strong corporate governance. The Company's current corporate governance system is judged to be functioning effectively through these initiatives.

Functions of the Board of Directors and the Audit & Supervisory Board

The Board of Directors, which consists of 10 Directors including 2 Outside Directors and is chaired by a non-executive Director and Chairman, meets once each month with additional meetings as and when required. The Board of Directors makes decisions regarding Taikisha Group's management policy, items stipulated in laws and articles of incorporation, and important management matters, as well as monitors and supervises the execution of duties by each Director and Corporate Officer. Outside Directors are appointed in order to revitalize deliberation and ensure the transparency of decision-making processes in the Board of Directors, and to reinforce the supervisory function of the Board of Directors over Directors and Corporate Officers.

Taikisha has 4 Audit & Supervisory Board Members, including 2 Outside Audit & Supervisory Board Members. Audit & Supervisory Board Members review important documents, including internal approval documents, and attend major meetings, including the Board of Directors and the Management Meeting, in order to understand important decision-making processes and the execution of duties as well as to collect information about the current decision making processes for important matters, provide advice and recommendations for operational improvement and other issues as and when required. Furthermore, audits by the Audit & Supervisory Board Members related to the status of development and operation of the internal control system have been conducted based on these audit results, reports from the internal control department and investigation into each department.

Functions that Support Corporate Governance

As functions to support its corporate governance, Taikisha has set up the following systems: 1) compliance system; 2) information management system; 3) risk management system; 4) system to ensure the efficiency and transparency of management decisions; 5) group management system; 6) system regarding audit by Audit & Supervisory Board Members (supporting system for Audit & Supervisory Board Members, system regarding reporting to Audit & Supervisory Board Members, and system to ensure the effectiveness



Corporate Governance Report https://www.taikisha-group.com/corporate/pdf/ CorporateGovernance.pdf

of audit). Taikisha reviews these systems continuously and make improvements on each function where necessary.

Operation of the Internal Control System

Pursuant to the Companies Act and the Ordinance for Enforcement of the Companies Act, Taikisha strives to familiarize and thoroughly carry out execution of observance of the laws and ordinances. Moreover, Taikisha has established a basic policy for the internal control system to ensure an efficient and proper company structure, thereby improving and operating the internal control system.

Basic Views on the Internal Control System

For internal control, Taikisha implements measures that are set forth in each of the following items: (1) The system to ensure Taikisha's directors' and employees' conformance to laws and articles of incorporation, (2) The system regarding the storage and management of information related to the execution of duties by directors of Taikisha, (3) Rules regarding risk management of loss of the company and other systems, (4) The system to ensure the efficient execution of duties by directors of Taikisha, (5) The system to ensure the appropriateness of operations conducted by the Taikisha group, (6) matters regarding employees who assist Audit & Supervisory Board Members, (7) The system for reporting to Audit & Supervisory Board Members, (8) The system for ensuring a person who made a report pursuant to the preceding paragraph is not treated in a disadvantageous manner because he or she made such report, (9) Matters regarding the policy for handling expenses or obligations incurred with respect to the execution of duties of Audit & Supervisory Board Members, and (10) Other systems to ensure the effective implementation of audits by Audit & Supervisory Board Members.

Internal Audit

The Internal Audit Office conducts audits on business execution departments and identifies and gives advices on points to be improved, while working in cooperation with Directors and Audit & Supervisory Board Members as a department directly under the Representative Director, and follows up on the status of improvement.

With a main focus on "effectiveness and efficiency of operations," "reliability of financial reporting," "compliance with laws and regulations," and "asset protection," Taikisha performed audits by visiting its business offices in Japan and overseas from the perspective of legitimacy and rationality of the status of compliance with laws and ordinances that are closely related to Taikisha's operations including the Construction Industry Act and the Antimonopoly Act, the status of construction project contract management, and appropriateness of construction activities. In FY2017, Taikisha carried out audits at a total of 58 sites (including 21 construction sites in Japan and 10 overseas business offices). The Internal Audit Office also evaluated the status of establishment and operation of internal control over the Group's financial reporting for FY2017 and reported on the effectiveness thereof to the Board of Directors.

Evaluation of the Effectiveness of the Board of Directors

Evaluation method

Taikisha Ltd. conducts an analysis and evaluation of the effectiveness of the Board of Directors at least once a year and discloses an overview of its results in order to improve the effectiveness of its Board of Directors and enhance its information provision to external stakeholders.

Regarding the analysis and evaluation of the effectiveness of the Board of Directors for the fiscal year ended March 31, 2018, all Directors and Audit & Supervisory Board Members, led by the Chairman of the Board, participated in surveys on "Roles to be fulfilled by the Board of Directors" and "Matters to be considered by the Board of Directors in order to fulfill its roles" via a questionnaire distributed to the entire Board. The Board of Directors subsequently deliberated on the analysis results of the said evaluation in addition to an objective analysis by an outside advisor and third-party interviews with the Chairman of the Board and the Representative Directors.

Results of evaluation

As a result of the above, it was determined that the Board of Directors of Taikisha Ltd. is sufficiently effective.

The Board of Directors of Taikisha Ltd. has the role of making decisions on important management matters and effectively demonstrating its supervisory function over general management to put into practice the "Customers First" Mission Statement and contribute to sustained growth and the medium- to long-term improvement of corporate value. To fulfill these roles, the provision of materials and the time for discussions have been sufficiently ensured to stimulate deliberations at the Board of Directors meetings. Meanwhile, the status of the execution of important duties is regularly reported to the Board of Directors.

Initiatives to address the issues raised

Taikisha Ltd. is steadily improving the matters that were recognized as issues to be addressed through the analysis and evaluation of the effectiveness of the Board of Directors during the previous fiscal year. The Board of Directors continuously reviewed the roles of the respective meeting structures from the viewpoint of clarifying the sharing of roles between supervision and execution, and further improved the operating method of the Risk Management Committee and compliance-related and other meetings during the fiscal year under review. In addition, the Company carried out thorough discussions on management infrastructure bases that will contribute to the improvement of corporate value in the future, implemented a new core system and a new personnel system, and held an opinion exchange meeting consisting of only the Outside Directors and the Outside Audit & Supervisory Board Members, which provided unbiased and objective feedback to the management of the Company. The Company considers that it will be necessary to review the roles of the Board of Directors regarding the formulation and supervision of the medium- to long-term plans to further reinforce the supervisory function of the Board of Directors. Furthermore, the Company will ensure sufficient time for discussions on work style reforms and human resource development, the reinforcement of governance at overseas affiliates, and reviews of the Group-wide risk management system.

To further enhance and reinforce corporate governance, the Company will prioritize the responses to the issues raised and examine measures to improve the effectiveness of the Board of Directors on an ongoing basis.

Appointment, Development, and Remuneration of Directors and Audit & Supervisory Board Members

In light of the business environment surrounding Taikisha Ltd., it maintains the diversity and the appropriate number of Board members to ensure that decision-making and management supervisory function of the Board of Directors will work most effectively and efficiently. The Audit & Supervisory Board appoints one or more Audit & Supervisory Board Members who have expertise in finance and accounting in light of its roles and responsibilities of auditing the execution of duties by Directors and execution of the authority relative to the appointment and dismissal of external Accounting Auditors and audit fee. Common requirements for candidates for Directors and Audit & Supervisory Board Members are as follows: persons who have a good personality, deep insights and a strong sense of ethics and compliance; and persons who are free of health concerns in executing their duties.

Taikisha Ltd. selects candidates for Inside Directors in view of their expertise and performance from each business area in a balanced manner. Requirements are as follows: persons who have an adequate understanding of Taikisha's Mission Statement and Corporate Philosophy and an excellent ability for corporate governance; persons who have adequate knowledge, experience and ability for the businesses and operations as well as an ability for realizing future development; persons who have an excellent ability for analyzing and making decisions objectively and promptly from the viewpoint of supervising the company-wide management.

Taikisha Ltd. selects candidates for Outside Directors who have deep insight and experiences in different business areas. Persons who can appropriately reflect opinions in Board of Directors meetings from objective and independent standpoints are required.

Candidates for Audit & Supervisory Board Members shall be persons who are considered to have the abilities necessary for performing their duties as Audit & Supervisory Board Members set forth in the internal rules for audit by Audit & Supervisory Board Members. Inside Audit & Supervisory Board Members are required to be well versed in Taikisha's operations and have sufficient knowledge, experience and ability. Requirements for Outside Audit & Supervisory Board Member are as follows: persons who have extensive knowledge and experience in areas of specialization, such as company management, finance, accounting and legal affairs, etc.; persons who can allocate sufficient time and energy necessary for fulfilling the roles and responsibilities of Outside Audit & Supervisory Board Members appropriately.

Taikisha Ltd. constantly provides training, etc. aimed to support acquisition of necessary knowledge regarding the Company's management issues, finance and legal compliance and other matters to Directors and Audit & Supervisory Board Members, including Outside Directors and Outside Audit & Supervisory Board Members, and provides information related to the above-mentioned matters when necessary.

Remuneration to Executive Directors is currently composed of basic remuneration and bonus which is incentive based remuneration. The amount of bonus fluctuates in close correlation with the annual operating performance of Taikisha to serve as an incentive for achieving the annual policy targets. In addition, Taikisha Ltd. plans to consider introducing new incentive-based remuneration designed to link with its medium- and long-term performance to strengthen its function as a healthy incentive for achieving sustainable growth. The remuneration for Non-executive Directors and Audit & Supervisory Board Members is limited to the fixed remuneration and no bonus will be paid.

Message from an Outside Director

With two Outside Directors and two Outside Audit & Supervisory Board Members as independent directors/auditors, Taikisha's management structure proactively takes in supervision and advice from an external perspective. Taikisha introduces Mr. Shuichi Murakami's insight on Taikisha's corporate governance. He has been serving as Outside Director since June 2012.



Shuichi Murakami, Outside Director

April 2005 Managing Corporate Officer, General Manager, Shikoku Business, Sompo Japan Insurance Inc. (current Sompo Japan Nipponkoa Insurance Inc.)

April 2008 Advisor, Corporate Planning Department, Sompo Japan Insurance Inc. une 2008 Resigned from Sompo Japan Insurance Inc.

Audit & Supervisory Board Member of the company Full-time Outside Audit & Supervisory Board Member, Origin Electric Co., Ltd.

(Retired in June 2012)
June 2012 Director of Taikisha (current position)

Reason for appointing as an Outside Director

Mr. Shuichi Murakami has abundant expertise and experience nurtured during his tenure as the person responsible for conducting business and affairs at a leading non-life insurance company and has provided precise advice and supervision on the management of Taikisha from an independent and objective standpoint since his assumption of the Director position. Taikisha reappointed him as an Outside Director based on its judgment that he qualifies for this position from the viewpoint of ensuring transparent decision making by the Board of Directors and reinforcing the supervisory functions thereon.

Attendance at the Board of Directors Meetings: 12/12 (100%)

An Effective Board of Directors Focused on Monitoring by Separating Management Supervision and Business Execution

To implement measures to reinforce corporate governance, determined engagement by top management is essential. I believe it is fair to say that as regards Taikisha, President Mr. Toshiaki Shiba shows his unshakable commitment to such measures and each member of management maintains a good level of awareness on the matter.

FY2018 is the fourth year since the implementation of the Corporate Governance Code began in 2015. Taikisha's management structure has been steadily developed and taken root in line with the essence of the Code.

Taikisha ensures the effectiveness of its Board of Directors by designing a Board of Directors focused on monitoring through the thorough separation of management supervision and business execution in its governance structure. Issues identified by the self-evaluation of the Board of Directors and their countermeasures are clarified via vibrant discussion among all members of the Board of Directors, reflecting the objective analyses of external advisors.

The efficient implementation of the PDCA cycle will be essential to improve the effectiveness of the Board of Directors in the future.

Attentive Explanation from Executives and Free Exchange of Opinions bring Vibrant and Meaningful Discussions at the Board

With the recognition that my mission as an Outside Director is to contribute to the enhancement of Taikisha's corporate value and maximize its stock value through monitoring management and providing accurate advice, I strive to provide input consistently from an independent and objective perspective.

To fulfill such a mission, it is important to fully understand management's thoughts and growth strategies and the real situations at actual sites. At Taikisha, executives provide meticulous explanation prior to the Board of Directors Meeting on the agenda followed by exchanges of opinions. I believe that this process brings extremely vibrant and meaningful discussions at the Board of Directors Meetings.

I heard that the company name "Taikisha" originated from the determination to tackle challenges aggressively pursuing a clean atmosphere amid the pollution of air and other elements that became a serious social problem during the period of rapid economic growth. As a company with a name related to the atmosphere (or *taiki* in Japanese), I expect Taikisha to continue to contribute to the global environment by creating value through its business development worldwide.

Risk Management

Taikisha endeavors to thoroughly manage, avoid and reduce risks on an organizational level.













Basic Policy

Taikisha has upheld the corporate philosophy of "Establish a company which can continuously grow and contribute to society." Guided by this philosophy, Taikisha is working to reduce material risks and minimize risks before they materialize, in order to continue with businesses and achieve their sustainable development. In recent years, Taikisha has had a renewed awareness that compliance is its biggest management risk. Hence, Taikisha has positioned work style reform, prevention of industrial accidents and leakage of important information, among others, as important issues in its management and is striving to strengthen its risk response capabilities. In addition, to prepare for the occurrence of a crisis such as a disaster, an accident or an incident, Taikisha has established a crisis management system and formulated a Business Continuity Plan (BCP).

Risk Management System

Taikisha, in accordance with the Risk Management Rules that has been in place, has established the Risk Management Committee to implement effective, efficient and integrated risk management. The Risk Management Committee is chaired by the President and Representative Director and meets twice a year and as required. The Committee establishes basic policies, responsibility systems, operations, and other necessary measures for group-wide risk management, and keeps all persons involved well informed about the establishment and implementation of policies.

Regarding risks associated with operations assigned to each department, such as quality control, safety control, compliance, and finance, each responsible department extracts risks, selects risks that need to be addressed on a priority basis after determining the risk level (degree of importance) in consideration of "impact on management" and "frequency of occurrence," and then develops priority management policies and goals to be reported to the Risk Management Committee. The Risk Management Committee discusses the risk level assessment and priority management policies and goals of each risk from a group-wide and integrated perspective, and formulates the basic policy. Each responsible department monitors the status of execution of action plans and reports the results to the Risk Management Committee. The Chairman of the Risk Management Committee puts together the status of group-wide risk management and reports it to the Board of Directors twice a year.

The Risk Management Committee held during FY2017 took up long working hours as an immediate company-wide issue and formulated a policy to take a multidimensional approach.

Risk Management Structure

Board of Directors



Report

Risk Management Committee

: President and Representative Director Chairman Representative Director and Executive Vice President, Persons Members responsible for risk management (Chief General Managers, Chief Executive of the Administrative Management Headquarters, Chief

Executive of the Safety Headquarters, General Manager of the Corporate Compliance Dept.) and others appointed by the President Integrated identification and management of risks borne by the Taikisha Group.

- : The Committee shall address the following items to implement risk management effectively and efficiently.
- 1. Formulation of a basic policy for risk management
- 2. Accountability and operations of risk management
- 3. Promotion of risk management
- 4. Establishment of a risk management system
- 5. Other matters regarding risk management as necessary Frequency of: Frequency of meetings: twice a year in principle with additional meetings

meetings as required. Secretariat : Corporate Planning Dept.

Purpose



Report

Entities subject to risk management (Business offices. departments, group companies in Japan and overseas)

Major Risks and Remedial Measures

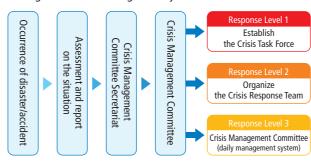
Risk	Content	Remedial Policy and Measures				
Risks involving human lives	A risk of encountering an accident or a crime in dangerous regions overseas	Obtain information on the hazard, call for attention, take countermeasures and thoroughly discuss whether to permit business travel to the area				
Compliance- related risks Violation of laws, ordinances, internal regulations and rules		Establish a framework to prevent measures for legal compliance and recurrence prevention from losing substance Promote a compliance program				
Risks related to personnel and labor	Employees' health impairment, long working hours, occurrence of industrial accidents	Promote work style reform Promote measures to prevent and manage serious and public disasters				
Risk related to IT systems	IT security	Implement countermeasures against cyberattacks and leakage of important information				
Risk related to business growth	Decrease in orders received Rise in construction costs and fixed expenses Delay of delivery	Explore new customers and markets Shift to a sophisticated cost management system Strengthen alliances with subcontractors Maintain thorough management of the construction period				

Crisis Management System

Taikisha has established the Basic Policy for Crisis Management and built the crisis management system to prepare for the occurrence of unforeseen disasters, accidents and incidents in Japan and overseas.

In the event of a crisis, Taikisha classifies crises into three response levels depending on the severity of impact on human lives and business continuity, and implement crisis response measures according to each response level. The Chief Executive of the Administrative Management Headquarters assumes the position of Chairman of the Crisis Management Committee. If it is decided that a particularly serious crisis has occurred, the President and Representative Director takes command as the Head of the Crisis Task Force.

Diagram of Crisis Management System



Overseas Crisis Management System

The Taikisha Group's business fields are continuing to expand globally. For smooth business activities, Taikisha needs to implement crisis management measures overseas to be able to address diverse

From the perspective of prioritizing human lives, for Taikisha employees deployed overseas and those on overseas business travel to be able to engage in business activities without concern, Taikisha has formulated the "Overseas Security Response Manual" to help employees prevent and avoid risks of crimes and terrorism and the "Overseas Crisis Management Guidelines (main vol.)," which stipulates the actions to be taken by Taikisha's headquarters and overseas business offices in the event of an occurrence of a crisis.

Furthermore, to help each employee with his/her own safety management before overseas business travel, an e-learning course is provided to prepare for the trip.

Concerning business travel to a high-risk region, Taikisha investigates and obtains the latest information on the current situation of the country beforehand and takes safety measures such as ensuring safe transportation method, route and accommodation facilities before determining whether to permit the business travel.

To eliminate concern employees might have regarding their situation during and even after overseas travel and so that they can focus on business activities, Taikisha has a contract with a company that provides the referral of a hospital in case of an emergency such as illness or injury overseas, arranges transportation to the hospital and medical translators, guarantees payments of healthcare expenses, etc., and coordinates the transport of the patient for the patient and his/her family.

Business Continuity Plan (BCP)

Taikisha has formulated a business continuity plan (BCP) that sets out procedures and steps for employees to take in order to restore operations promptly in the event of a crisis.

The Crisis Management Manual provides procedures for dealing with crisis situations, centering on large-scale earthquakes, by placing the highest priority on protecting the lives of its employees and their families. At business offices, Taikisha periodically conducts training, such as training on wireless phone communication, taking inventories and checking expiration dates on emergency food stocks. In addition, Taikisha carries out training on how to handle the safety confirmation system. To ensure the safety of employees, Taikisha has organized a company-wide self-defense firefighter team and conducts training activities. To raise employees' awareness of disaster prevention, the company continually conducts evacuation drills, training sessions provided by the self-defense firefighter team as well as training sessions on AED and first-aid rescue. Taikisha continually conducts activities to raise employees' awareness of disaster control measures, such as carrying out a questionnaire to grasp employees' commuting distances assuming disruption of public transportation in the event of a disaster.



A disaster

Information Security

Taikisha has strengthened the Group's overall information management system to prevent the leakage of information of customers and business partners with whom Taikisha has business contact with, as well as personal information of, employees and others.

Taikisha has drawn up the Information Security Rules with detailed rules for all employees and persons with relevant responsibilities, such as persons in charge of IT system/facility development, and rules based on the privacy policy. Taikisha also distributed the information Security Guidebook that shows concrete information security measures. Taikisha has thus been working to raise the awareness of information security among all officers and employees.

Type of measures	Measures
Ensuring thorough	Formation of the Information Security Rules
compliance with	Creation of the Information Security Guidebook
rules and regulations	Provision of e-learning programs to officers and employees
	Encrypting information terminal data
	Password authentication at startup of information terminals
Measures to prevent information abuse	ID and password management
momation abase	Security measures for entrance and exit control
	Automatic encryption of email attachments
	Anti-virus measures
Measures to protect	Automatic application of patches
against malware	Website filtering
and other external threats	Measures to block spam
	Monitoring of unauthorized communication on the company network

Compliance

Taikisha is ensuring compliance with laws and ordinances across the organization.













Compliance System

To conduct fair and sound business activities in accordance with the spirit of the Mission Statement: "Customers First," Taikisha has set out its action guidelines and Taikisha Ltd. Code of Conduct as its behavioral philosophies to be complied with by all officers and employees. Taikisha has also established the Compliance Activity Standards to implement the Code of Conduct. In addition, Taikisha has distributed these behavioral philosophies and the Compliance Manual to all officers and employees to ensure thorough understanding and penetration of compliance.

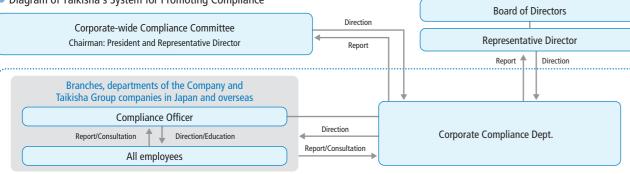
Taikisha's compliance promotion structure is comprised of the Compliance Committee, Corporate Compliance Dept., Compliance Officers, and the Whistle-blowing System.

The Compliance Committee chaired by the President and Representative Director generally meets once a month to discuss and address the compliance issues of Taikisha's overall business activities, inspect and verify the status of observance of laws and ordinances as well as Taikisha's Articles of Incorporation, and verify measures to prevent the recurrence of any violation of compliance that has occurred.

Two of the 12 meetings of the Compliance Committee are attended by all directors as the Compliance Policy Review Meeting. In addition to the above verifications, an annual compliance policy, an annual compliance plan and response measures to any violation are discussed and verified, an outline of which is reported to the Board of Directors. In case signs of a serious situation are identified, a Company-wide Compliance Committee, which is attended by all officers, is promptly convened to address the situation.

The Corporate Compliance Dept. continually implements compliance-related education and enlightenment activities based on the domestic and overseas compliance programs approved by the Compliance Committee, while maintaining independence as a department directly under the Representative Director, and reports on the status of its activities to the Compliance Committee.

Diagram of Taikisha's System for Promoting Compliance



Taikisha assigns a Compliance Officer in each business office and business division in Japan and overseas and establishes directing/ reporting routes from/to the Corporate Compliance Dept. to strengthen the compliance system.

Monitoring of Compliance Risk

The Corporate Compliance Dept. regularly visits business offices in Japan and overseas to monitor the compliance risk management system. The Corporate Compliance Dept. assesses the monitoring results of each business office on a four-point grading scale of S, A, B and C and provides guidance on PDCA toward recognition of issues and improvement.

In the monitoring of business offices in Japan, the Corporate Compliance Dept. broadly checks and verifies the status of compliance with laws and ordinances, including the Antimonopoly Act, and internal rules, and the status of compliance and its management system, as well as the status of dissemination of the Whistle-blowing System and issues regarding the work environment. On the other hand, in overseas business offices, the Corporate Compliance Dept. checks and verifies risks specific to each business office based on the conditions of the country, the status of compliance with laws such as the Competition Act and the Anti-Bribery Act, and the status of dissemination of the Whistle-blowing System.

By taking these measures, Taikisha aims to establish its autonomous compliance system that detects even minor cases and implements remedial measures on their own while preventing material legal violations both in Japan and overseas business offices.

Risk Rating of Legal and Compliance for Taikisha's Monitoring

- KIS	Nisk hatting of Legal and Compliance for Talkisha's Monitoring								
Grade	Four grades of evaluation								
S	No violations of laws recognized. (Any recognized weakness is minor)								
А	Minor violations of laws recognized, but detected and controlled properly by ourselves.								
В	Non-minor violations of laws recognized.								
С	Material violations of laws recognized that could threaten the								

Efforts to Firmly Establish Compliance

Taikisha has designated October of each year as the Compliance Promotion Month to promote the penetration and establishment of compliance awareness. During the Month, Taikisha holds readthrough sessions of the Compliance Manual at each business office and department targeting all employees and solicits compliance slogans internally.

Compliance slogans are collected widely throughout Taikisha's business offices in Japan and overseas. The best slogans selected from among those submitted are used on compliance posters, which are posted at business offices in Japan and overseas.

As part of efforts to ensure thorough understanding of its mission statement and behavioral philosophy as well as education for legal compliance, Taikisha provides an e-learning program targeting all employees. The content of this e-learning program is reviewed as needed and the frequency and the method of conducting the program have been optimized for effectiveness.

Whistle-blowing System

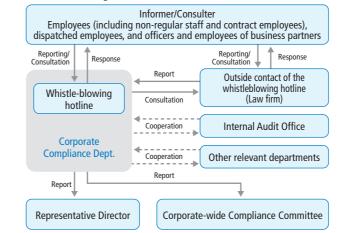
Taikisha has established a whistle-blowing hotline through which any legal violation, violation of internal rules, misconduct, or unethical conduct can be reported directly to the Corporate Compliance Dept. or an outside law firm. The whistle-blowing hotline can be used by employees of Taikisha and its group companies as well as dispatched employees, and officers and employees of business partners.

Taikisha launched the whistle-blowing hotline in Japan in FY2006. In FY2015, Taikisha started developing the whistle-blowing hotline at its overseas business offices. As of the end of March 2018, the whistle-blowing hotline is in service at Taikisha's 23 overseas business offices.

In operating the whistle-blowing hotline, Taikisha takes all possible means to protect the privacy of whistleblowers, such as strict management of the content of whistle-blowing reports received by the whistle-blowing hotline in accordance with Taikisha's Whistleblowing Rules and enlightenment activities for employees.

In FY2017, Taikisha received eight whistle-blowing reports in Japan. Taikisha has taken appropriate responses to all these cases after speedily conducting investigations into them.

Whistleblowing Flow Chart



Compliance posters





For overseas business offices

Status of Implementation of Compliance Training

The Corporate Compliance Dept. provides compliance training targeting employees at Taikisha's business offices in Japan and overseas, with the purpose of thoroughly getting across important laws, ordinances and internal rules that have a high compliance violation risk and reducing such risk.

In FY2017, Taikisha held 46 training sessions in Japan with the main themes of the Mission Statement, prevention of Antimonopoly Act violations and harassment, case studies and dissemination of the Whistle-blowing System, and a total of 994 employees attended.

At its overseas business offices, Taikisha held 18 compliance training sessions and a total of 609 people attended. The main themes were the Mission Statement, the overseas compliance program, the Competition Act, the Anti-Bribery Act, case studies, and the Whistle-blowing System. In this way, Taikisha is endeavoring to raise the awareness of compliance of local staffs in its overseas business offices.

The Compliance Manual was completely renewed to include respect for international norms on human rights and the prohibition of discrimination and harassment of LGBT persons as part of harassment prevention.

Compliance Manual





Environmental Management

Taikisha continuously operates the environmental management system to raise awareness of the environment and reduce environmental risks.













Environmental Management Vision

Taikisha strives to improve environmental value for its customers and to protect the global environment using Taikisha's solution technologies as a company engaged in business related to the environment.

1. Improving Environmental Management

Actively engage in finding solutions for social issues related to the global environment by accurately understanding social trends changing day by day.

Continuously apply environmental management system and reduce environmental risks.

Actively disclose environmental information to the public while improving environmental education and awareness in its offices.

2. Promoting Environmental Business

Promote energy management in life cycles and reduce CO₂ emissions during the operation of systems Taikisha supplies.

Develop technologies for exhaust gas and effluent treatment and contribute to the prevention of environmental pollution

Promote R&D of new eco-friendly technologies and products.

3. Developing Environmental Conservation Activities

Check and minimize energy consumption in its offices and laboratories.

Implement thorough measures regarding the surroundings, construction by-products and harmful materials at its workplaces.

Promote green procurement.

Operation and Promotion System

At Taikisha, the officer in charge of CSR takes the initiative to draw up company-wide action plans, check and assess the status of efforts, and review goals, with the purpose of promoting its efforts for environmental protection based on the "Environmental Management Vision." Taikisha will strive to raise its environmental protection activity level by continuously making improvements through the operation of the environmental management system. Taikisha distributes its environmental policy, which is based on the ISO14001 standard, to its business partners and requests their full cooperation in observing the policy.

• Environmental Management System Operation and Promotion System Chart

Corporate Policy Review Meeting (attended by all Directors) Administrative Management Headquarters (Officer in charge of CSR) Corporate Planning Headquarters/Safety Headquarters Paint Finishing System Division Green Technology System Division General Manager of General Manager of Branch Offices Business Offices **Environmental Protection Environmental Protection Department/Construction Sites**

Environmental Management Activities

Taikisha has set out the Business Division Environmental Policy and Branch Office Environmental Policy, based on the Company-wide Environmental Management Vision and Environmental Management Master Plan. Taikisha also evaluates the environmental impact in business processes and creates an environmental impact evaluation sheet. Each department breaks down into a development plan, design policy plan, and project policy plan for each project and development theme, and promotes day-to-day environmental management activities.

The effectiveness of environmental management policies and activities are confirmed at the Corporate Policy Review Meeting, Domestic Business Office General Manager Meeting, Branch Office Management Review Meeting, Development Review Meeting, Design Examination Meeting and Construction Review Meeting, in order to confirm the status of environmental management activities.

Development of the Environmental Management Activities

Corporate-wide (Corporate Policy Review Meeting) Environmental Management Vision Environmental Management Master Plan Business Division (Domestic Business Office General Manager Meeting)

Business Division Environmental Policy

Branch Office (Branch Office Management Review)

Branch Office Environmental Policy

Construction: Design Policy Plan

Compliance with Laws and Regulations and Responses to Complaints Regarding Environmental Issues

Taikisha stores information in an internal database about revisions to environment-related laws and regulations that need to be taken into account in conducting business operations and information on ordinances of prefectures and designated cities to disseminate the information to all employees. In addition, Taikisha puts information on laws and regulations relevant to each business process in the Quality Assurance System Diagram to further ensure compliance with such laws and regulations. Taikisha records complaints regarding environmental issues that came up in Taikisha, including information on causes of complains, remedial measures and preventive measures, in the internal database to share information within the group.

There was no major complaint regarding environmental issues that occurred in FY2017.

Taikisha conducts employee education in all business offices to prevent the recurrence of complaints that occurred in the past, and provides guidance and education through on-site patrols and other measures.

Status of Acquisition of ISO Certification

The Green Technology System Division and the Paint Finishing System Division integrated quality and environmental management systems and were certified with ISO Standards 2015.

Taikisha Group's Status of Acquisition of ISO Certification

Country name	Company name	ISO 9001	ISO 14001
Japan	Taikisha Ltd.	•	•
China	Wuzhou Taikisha Engineering Co.,Ltd.	•	•
Taiwan	Taikisha (Taiwan) Ltd.	•	
Thailand	Taikisha (Thailand) Co.,Ltd.	•	•
Vietnam	Taikisha Vietnam Engineering Inc.	•	•
Philippines	Taikisha Philippines Inc.	•	
Singapore	Taikisha (Singapore) Pte. Ltd.	•	•
Malaysia	Taikisha Engineering (M) Sdn. Bhd.	•	
Indonesia	P.T. Taikisha Indonesia Engineering	•	
India	Taikisha Engineering India Pvt. Ltd.	•	•
USA	TKS Industrial Company		•
Italy Geico S.p.A.		•	•

The certification acquisition rates at domestic business offices were 100% in both business divisions.

Environmental Accounting

Taikisha calculates the cost and economic effects of environmental protection based on the basic concept of the Environmental Accounting Guidelines issued by the Ministry of the Environment.

Environmental protection cost	Amount of cost	Main activities
The cost within the business area	334 million yen	Waste disposal cost, introduction of eco-friendly cars
Management activities cost	8 million yen	In-house environmental management system operation cost, environmental education
Research and development cost	618 million yen	Research and development cost for eco-friendly products and services
Social activity cost	1 million yen	Donation to environment conservation groups
Total	962 million yen	
Economic effects of environmental protection measures	Amount	Main activities
Revenue amount	36 million yen	Proceeds from the sales of valuables
Cost reduction	7 million yen	Cost reduction effect of introduction of eco-friendly cars
Total	43 million yen	

Environmental Education (for New Employees)

Taikisha provides introductory education on the Vision and System of Environmental Management and education on the environmental management operations of each department, to new employees every year. They also attend skill training courses for senior operations engineers relative to specified chemical substances, tetraalkyl lead, asbestos, organic solvent work, and hazardous work in oxygen-deficient air or work involving hydrogen sulfide, and obtain certifications. This system ensures that new employees learn the necessary knowledge to handle chemical substances and hazardous substance from their first year.

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[Taikisha Group] Efforts for Realizing a Low Carbon Society

Taikisha is working on reducing GHG emissions in the entire supply chain.













Risks and Opportunities of Climate Change

The United Nations adopted the Sustainable Development Goals (SDGs), a set of 17 global goals to be attained by 2030. These SDGs, based on the recognition that climate change is threatening the sustainability of the earth's life support system, strongly urge organizations to take urgent measures to reduce the impact of climate change. Against such a backdrop, the Paris Agreement governing climate change reduction measures from 2020, adopted at the United Nations Framework Convention on Climate Change (COP21), has come into effect. To realize the aim of the Paris Agreement, which is to limit the rise in global average temperature, it is important to take measures toward realizing low-carbon emissions to reduce greenhouse gas (GHG) emissions and, furthermore, zero-carbon emissions.

Taikisha recognizes that the potential disturbance of the continuity of business by typhoons, heavy rain and other natural disasters as well as business development being affected by the tightening of environmental regulations are climate change risks. On the other hand, Taikisha expects that climate change could expand customer needs for environmental measures and create opportunities for many customers to utilize Taikisha's environmental technologies. By capturing such opportunities accurately, Taikisha will promote "zero-carbon emissions" through its business operations.

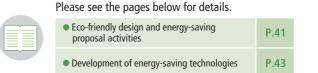
Energy- and Resource-Saving Achievements

Taikisha's power usage in all offices (Japanese offices) in FY2017 was 150 kWh/m². Taikisha will continue to conduct energy-saving and consumption-reduction activities by raising the awareness of each employee to ensure the implementation of energy-saving measures, such as observing Cool Biz and setting air conditioners at energy efficient temperatures.

Grasping the Level of Scope 1 and 2 Emissions to Reduce CO₂ Emissions

Companies are being required to reduce GHG emissions through business operations at construction sites and offices to help curb

Looking at Taikisha's GHG emissions in FY2017, Scope 1 emissions, which are direct emissions from combustion of fuels, etc., were 1.590 t-CO₂, and Scope 2 emissions, which are indirect emissions from use of electricity, etc., were 1,515 t-CO₂. Taikisha will continue to work on saving energy at construction sites and offices.



Breakdown of Scope 3 Emissions

Looking at Taikisha's GHG emissions in the supply chain for FY2017, Scope 3 emissions were 2,884,653 t-CO₂ of which emissions from Category 11 (use of sold products) accounted for the largest portion at 89.03%. Considering that GHG emissions from the operation phase of the facilities Taikisha provides are largest across its supply chain. Taikisha will make greater efforts than ever to provide facilities and systems with high energy-saving capabilities.

Initiatives at the Green Technology System Division

To promote a low carbon society, the Green Technology System Division is focused on making energy-saving proposals at the operation phase of customers' air-conditioning and sanitary facilities.

Taikisha is engaged in the design and construction of airconditioning and sanitary facilities for customers in broad areas, such as factories, office buildings and hospitals in Japan and overseas. The volumes of CO₂ emissions from the operation of those facilities over many years significantly exceed the CO₂ emissions from the construction of buildings. The Green Technology System Division proposes systems that reduce energy consumption throughout the life cycle of buildings and offer superior technologies to reduce carbon emissions and environmental impact.

Initiatives at the Paint Finishing System Division

In addition, Taikisha will further promote green procurement by

cooperating with suppliers and continue to reduce construction

of materials and to help conserve the global environment.

by-products and to appropriately dispose of industrial waste, aiming

to curb GHG emissions from production, transportation, and disposal

The Paint Finishing System Division is engaged in the design and construction of large-scale paint finishing plants of automobile and aircraft makers in Japan and overseas. Reducing CO₂ emissions in the paint process at these plants has become an important issue in the automobile and aircraft industries. Through providing solutions for this issue, Taikisha contributes to customers' low carbon operation.

Taikisha strives to promote the energy efficiency and downsizing of facilities by using an energy calculation model for paint finishing lines and setting medium-term reduction targets. Taikisha also makes proposals to reduce CO₂ emissions by introducing renewable energy and a system to recover waste heat from lower temperature sources.

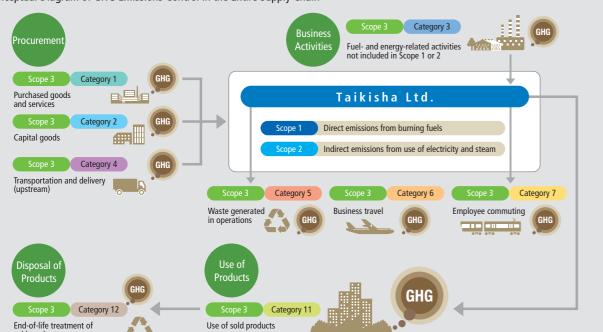
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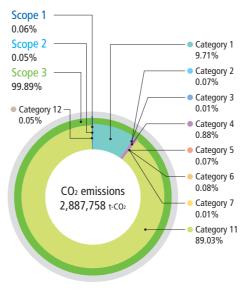
 CO₂ emissions reduction activities from the paint process

 Technology proposal plan for achieving the third medium-term target of 70 kg-CO₂/unit in 2020

Conceptual Diagram of GHG Emissions Control in the Entire Supply Chain



Breakdown of Scope/Category



*Emission factor is calculated based on the Emission Factor Database on Accounting for Greenhouse Gas Emissions throughout the Supply Chain (ver. 2.5) of the Ministry of the Environment and the Ministry of Economy in Japan, Trade and Industry and CFP COMMUNICATION PROGRAM DB ver. 1.01.

	Scope/Category	Accounting methods*	Emission amoun (t-CO ₂)
Scope 1		-	1,590
Scope 2		-	1,515
			2,884,653
Category 1	Purchased goods and services	Calculated from (raw) materials procurement amount (in value terms)	280,25
Category 2	Capital goods	Calculated from amount of capital investment	1,89
Category 3	Fuel- and energy-related activities not included in Scope 1 or 2	Calculated from purchased amount of electricity and fuels	354
Category 4	Transportation and delivery (upstream)	Calculated from transportation costs accompanying procurement of (raw) materials	25,34
Category 5	Waste generated in operations	Calculated from amount of waste discharged by type	1,99
Category 6	Business travel	Calculated from travel expenses paid by mode of transportation	2,32
Category 7	Employee commuting	Calculated from transportation expenses paid to employees	26
Category 8	Leased assets (upstream)	Included in Scope 1 and 2 emission calculation	-
Category 9	Transportation and delivery (downstream)	No relevant activities	-
Category 10	Processing of sold products	There are some products that are relevant, but calculations are ignored because their ratios in sales are extremely small.	-
Category 11	Use of sold products	Calculated from emissions from operation of facilities Taikisha provided, HFC leakage from equipment Taikisha provided, and estimated useful lives	2,570,828
Category 12	End-of-life treatment of sold products	Calculated from weight of main equipment by type	1,39
Category 13	Leased assets (downstream)	No relevant activities	
Category 14	Franchises	No relevant activities	
Category 15	Investments	Calculations are ignored because the validity of the category 15 estimates is low as a result of many portfolio companies not disclosing Scope 1 and 2 emissions and the impact of the category 15 estimates on the entire supply chain is small.	
Total of Sco	ope 1, 2 and 3		2,887,75

[Green Technology System Division]

Efforts for Realizing a Low Carbon Society

Taikisha is helping to reduce GHG emissions at the operation phase of the air-conditioning and sanitary facilities it provides to customers.













Activities in the Field of Air-Conditioning System for Buildings and Factories

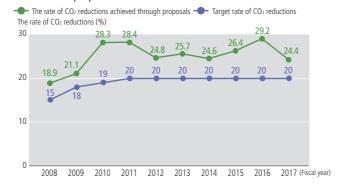
Eco-Friendly Design

The Green Technology System Division, as part of promoting ecofriendly designs, makes proposals for improving the energy efficiency (reducing environmental impacts) of facilities owned by customers. In energy-saving proposal activities, the Division repeats the cycle of energy-saving diagnosis to grasp the current status, make detailed proposals based on customers' future visions, design and construction, and verify the effects in the operation phase.

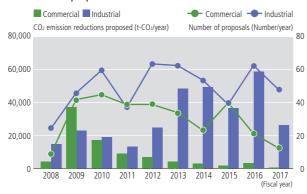
Taikisha defines the rate of CO₂ emissions reduced from facilities owned by customers due to Taikisha's proposals as the rate of CO₂ reductions. The transition in the rate of CO₂ reductions for the past 10 years is shown in Figure 1. In FY2017, Taikisha conducted activities by setting a target for the rate of CO2 reductions of a weighted average of 20% or higher, and Taikisha exceeded the target at 24.4%. The number of proposals and the proposed amount of CO2 emission reductions are classified by commercial customer (for offices and hospitals, etc.) and industrial customer (plants, etc.) and their transitions are shown in Figure 2. The amount of proposed CO₂ emission reductions that corresponds to Category 11 under Scope 3 was about 410,000 t-CO₂ (the effect of 15 years of operation). To contribute to the target reduction in energy-originated CO₂ emissions by FY2030 (25.0% reduction compared with FY2013) under the Plan for Global Warming Countermeasures, a Cabinet decision made in May 2016, Taikisha is promoting the dissemination of the Energy Plant Optimal Control System (in-house development) for overall energy saving of heat source systems, which has a significant effect on reducing CO₂ emissions, and

the development of IoT-related technologies to visualize energy consumption.

 (Figure 1) Transition in the rate of CO₂ reductions through Taikisha's proposals



(Figure 2) Transition in CO₂ emission reductions proposed and number of proposals



Column

An eco-friendly waste treatment plant in harmony with the community

The Suginami Incineration Plant underwent five years of renovation work and was completed in September 2017 to start operation. Taikisha handled the construction of the air-conditioning and ventilation systems for this facility.

This facility, which aims to become a waste treatment plant in harmony with the community and trusted by residents, was designed with the concepts of greening, scenic view and natural energy. Within the premises, an artificial foundation was installed with green landscaping to create a walking path. The exterior of the building was furnished with greenery to blend in with the surrounding environment. Natural energy has been adopted, introducing a solar power generation system as well as an air-conditioning system that runs on geothermal energy for a visitors' room where staff provide explanations to visitors, achieving an eco-friendly waste treatment plant.



[Paint Finishing System Division]

Efforts for Realizing a Low Carbon Society

Taikisha is helping to reduce GHG emissions in the paint finishing process for automobiles, etc.











Activities in the Field of Automobile Paint Finishing Systems

Activities to Reduce CO₂ Emissions from the Paint **Finishing Process**

The Paint Finishing System Division has proposed plans to reduce CO₂ emissions from paint facilities in the automobile manufacturing process.

Since 2000, Taikisha has been promoting activities to reduce CO₂ emissions by calculating CO₂ emissions using the energy estimation model for automobile paint finishing lines.

CO₂ emissions, which were 160.1 kg-CO₂/unit in 2005, decreased to 100 kg-CO₂/unit, which is the first medium-term target, by 2012. By 2015. Taikisha reduced CO₂ emissions further to 80 kg-CO₂/unit, which is the second medium-term target, by promoting facility technologies such as heat pumps and dry filtration booths. Taikisha has set the third medium-term target of 70 kg-CO₂/unit to be achieved by 2020 and will promote proposals for the existing latest technologies.

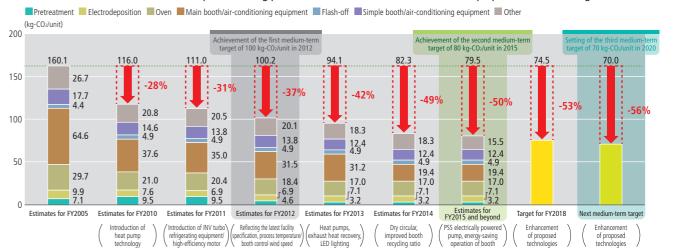
Technology Proposal Plan for Achieving the Third Medium-Term Target of 70 kg-CO₂/unit in 2020

For FY2018, Taikisha has set the target at 74.5 kg-CO₂/unit with an eye on achieving the third medium-term target of 70 kg-CO₂/unit in

Specifically, Taikisha will promote the introduction of renewable energy (solar thermal energy, etc.), consider waste heart recovery from lower temperature sources, and technology development such as downsizing paint finishing systems and enabling lower baking temperatures in drving ovens. Taikisha will consider adopting next-generation energy sources including hydrogen by 2020.

Taikisha aims to help protect the global environment by implementing these technology proposals for paint finishing systems in cooperation with automobile manufactures and other related companies.

CO₂ emissions estimates at automobile paint finishing plants: Transition in CO₂ emission reductions proposed and future target



Column

Geico S.p.A. (Italy) achieved its PARDIS PROJECT target

Italy's Geico S.p.A., which is in alliance with Taikisha, launched its PARDIS PROJECT in 2005 with the aim to design a self-sufficient-energy paint finishing plant by June 16, 2020, dubbed Energy Independence Day. To achieve this objective, Geico S.p.A. worked on advanced technological innovation and environmental research for 12 years and reached the goal in 2017, three years ahead of the planned deadline.

The results led to the reduction of energy consumption for painting one automobile body by 70% (from 900 kWh to 270 kWh). By using renewable energy for the remaining 30%, zero environmental impact can be achieved.



[Exhaust Air Processing Technologies]

Environment Impact Reduction Technologies

Taikisha is striving to reduce environmental impacts by utilizing its technologies cultivated over the years.













Environmental Impact Reduction through Exhaust Gas Treatment Technology

Volatile Organic Compounds (VOC), used in automobile painting and various other fields, are the main causative agent of photochemical smog, etc., and reducing these VOC emissions has become a major social concern in recent years.

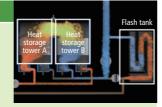
Taikisha has been undertaking the development of high-heatrecovery efficiency, direct fired regenerative thermal oxidizers (RTO) over the years based on its VOC-reduction technologies developed in the automobile paint finishing system business field. The equipment performs oxidative decomposition at a high temperature, allowing most VOC to decompose, and achieves a high thermal recovery rate of 95% or higher. Another feature of the equipment is that it can perform self-sustained combustion operation, whereby hightemperature conditions can be sustained only with combustion heat of a solvent if the level of VOC is high.

Taikisha has a track record of selling more than 350 units of dual-tower RTO and more than 40 units of rotary-type RTO and offers wide-ranging product lines.

Product line of RTO

Dual-Tower RTO

Dual-Tower RTO offers a high heat recovery rate during operation of 95% or higher with minimum energy

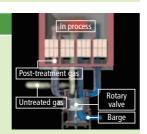


- VOC treatment efficiency of 98% or higher
- Space-saving/cost-saving

Heat storage alternates with heat release repeatedly in the two heat storage towers and efficiently performs oxidative decomposition of VOC.

Rotary-type

Introduction of rotary valves eliminated emissions of untreated exhaust gas and bad odors and further improved the VOC treatment efficiency.

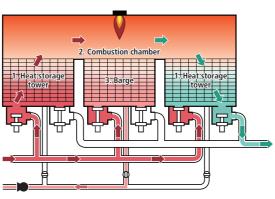


- VOC treatment efficiency of 99% or higher
- Reduction in pressure fluctuation of exhaust air duct Untreated gas will be introduced from the opening of the rotary valve to the combustion chamber and decomposed completely.

Triple-Tower RTO achieves VOC removal efficiency of 99%

Although untreated gas is discharged briefly when switching the gas flow with the conventional dual-tower RTO, the triple-tower RTO prevents the direct discharge of untreated gas to the atmosphere because one of its three towers located in the barge section returns the untreated gas to the inlet of the RTO. Thus, the triple-tower RTO has achieved VOC treatment efficiency of 99% or higher.

To address some customers' request for treatment of a high airflow gas with a low concentration of VOCs, Taikisha also proposes a system with a two-stage VOC concentrator installed as a prior step to the tripletower RTO to absorb such a gas to convert it to a low airflow gas with a high VOC concentration before treatment of the gas with the triple-tower RTO. This system enables overall VOC treatment efficiency of 99% or higher, while at the same time saving energy for operating the RTO. For that reason, an increasing number of units of this system have been adopted in China, where environmental regulations are especially stringent.

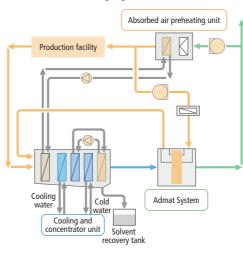


Triple-Tower RTO Flow Chart

Reduction of Environmental Impact by **Utilizing Our Solvent Recovery Technology**

Rapid dissemination and increasing adoptions of eco-friendly cars such as electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs) are seen especially in China, Europe and the United States. As a major energy source of EVs and PHEVs, lithium-ion secondary batteries are the most common. For the production of lithium-ion secondary batteries, N-Methyl-2-Pyrrolidone (NMP) is the essential

Taikisha's NMP Recovery System



solvent. From the manufacturing process of these batteries, high volumes of gases containing NMP are emitted.

Taikisha possesses ample experience in its NMP Recovery System to recover NMP from gases containing NMP, and this system has been adopted by many battery makers.

Feature of Taikisha's NMP Recovery System

Taikisha's NMP Recovery System can recover NMP at a high purity level, containing 5% or less water, and later reduce the NMP concentration to several ppm or lower using Taikisha's proprietary activated charcoal cassette-type concentrator (Admat), achieving an eco-friendly, completely closed system that can return NMP to the production equipment without discharging NMP to the atmosphere.

In addition, because it is possible to establish a system to recover heat from the high-temperature exhaust gas emitted by the production equipment and use it to heat the air that flows into the same equipment, this system contributes to energy saving immensely. By adding a dehumidifier, this system can address aqueous solvents

Taikisha will continue to address customer requests and contribute to the environment by proposing various technologies and

Column

Taikisha's VOC Exhaust-Gas Treatment System Is Increasingly Appreciated in China as a System to Address the Country's Tightening Environmental Regulations

With the recent accelerated tightening of environmental regulations in China, crackdowns by the environmental protection department of the Chinese government and environment-related organizations of local governments are intensifying.

In some regions in China, the emission standards related to air pollution include a limit of total emission volume under constant monitoring. There are a few areas with environmental standards that are stricter than Japan's.

To meet the standards of such strict environmental regulations, high VOC treatment efficiency is required, which is boosting demand for the VOC exhaustgas treatment system drawing on oxidative (combustion) decomposition treatment technology—Taikisha's strength.

The dual-tower heat storage-type, direct fired, regenerative thermal oxidizer (RTO) is especially praised for its technology and enjoying high demand mainly from Japanese companies. In particular, sales of the triple-tower model with high VOC treatment efficiency are growing.

Taikisha sold more than 85 units of VOC exhaust-gas treatment systems throughout China. In addition, Taikisha's local production and procurement structure is now in place in China, which enables us to offer quality products comparable to those of Japan at competitive prices in China.

Going forward, Taikisha will strive to further contribute to reducing the environmental impact in China through ceaseless efforts such as offering information and guidance on China's environmental regulations, as well as attracting attention to its counter-air-pollution technologies to environmental organizations in China.

Track record of construction in China





Recycling-Oriented Society

Taikisha disposes of waste appropriately for effective use of limited resources.













Industrial Waste Disposal and Recycling

Among the industrial wastes generated at sites where Taikisha performs construction work as the main contractor, Taikisha encourages 4R* activities whereby waste is collected in a classified manner for recycling so that landfill at final disposal sites is reduced and the amount of mixed waste is curbed.

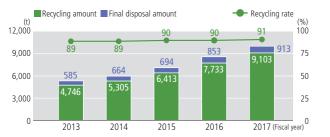
The disposed industrial waste is sorted into the categories of recycling and final disposal for landfill. The ratio of recycled resources are indicated as a recycling rate.

*4R=Refuse (eliminating waste in resource use); Reduce (reducing waste); Reuse (reusing waste); Recycle (recycling waste)

Main efforts for recycling

Recycling of work uniforms	Recycling of heat shield materials
Recycling of helmets	Recycling of specified equipment

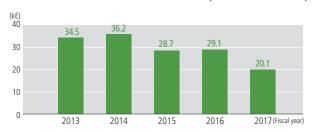
Industrial waste disposal amount and recycling rate



Collection and Management of Hazardous Substances

Taikisha uses Hazardous Substances Collection Control Sheets to manage the collection and proper disposal of hazardous substances (lithium bromide, etc.) generated during renovation work or other projects. Taikisha carries it out from the design and construction stage upon confirming whether there are any substances applicable with its Design Policy Plan and Site Environment Control Plan.

Amount of hazardous substances collected (collection rate: 100%)



Reduction of Waste Generation

Taikisha draws up a plan for reducing waste generation in the site environmental control plan created at construction sites and incorporates such plan into construction plans and drawings. In performing construction works, implemented measures and the reduced amount of waste are calculated, and good improvement cases are updated on the internal document database and shared across the company. Taikisha is reducing CO₂ production by making efforts for preventing waste generation and planning and implementing construction methods and measures, enabling reduction of waste generation.

The amount and rate of CO₂ reduction achieved by curbing waste generation



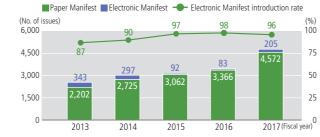
Proper Waste Management

All projects in which the main contractor is Taikisha are listed up and the waste disposal status is monitored to ensure the waste is treated properly.

Also, local government permit information on all industrial waste disposal agencies with which Taikisha has contracts is collected, listed, and regularly updated on its internal database, and Taikisha develops and manages a scheme whereby contracts are conducted only with the listed agencies.

Taikisha has introduced the Electronic Manifest scheme since 2009. It has been promoted by the Ministry of the Environment with the purpose of ensuring proper disposal of industrial waste. Taikisha's current introduction rate is 96%.

No. of Manifest issues/Electronic Manifest introduction rate



Management of Chemical Substances

Taikisha thoroughly manages chemical substances to reduce environmental impacts.













Efforts for Chemical Substance Management

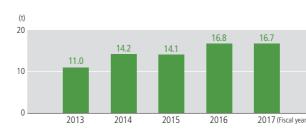
Taikisha manages chemical substances handled in construction sites by creating a Design Policy Plan and Site Environment Control Plan. It then confirms and checks whether there are related substances in the design and construction phases of each project based on the Environmental Impact Assessment Sheets.

The Research and Development Center confirms and checks chemical substances to be handled in the stage of creating the Development Plan for each research and development item.

Efforts for Freon Management

In compliance with the Fluorocarbons Recovery and Destruction Law, each business office creates Freon Collection Control Sheets and manages the status of filling, collection, and proper disposal of Freon (process management system). When conducting Freon collection work, Taikisha draws up Freon collection plans and procedures and endeavors to prevent Freon leaks and other accidents.

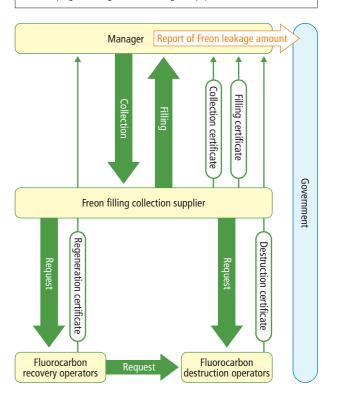
Freon collection amount (collection rate: 100%)



Flow diagram of Freon management

<Implementation items>

- (1) Appropriate installation of equipment, maintenance and management of appropriate usage environment
- (2) Regular inspection of equipment
- (3) Handling leaks of fluorocarbons
- (4) Keeping and filing records relating to equipment maintenance



Column

Processing of Hazardous Emissions at a Paint Finishing Experiment Facility in China

Tianjin Taikisha Paint Finishing System Ltd. is an affiliate of the company in Tianjin, China, with premises spanning 29,800 m². A building for conducting experiments has been installed to simulate the actual production line environment for paint finishing and experiments by utilizing paint booths and robots as an effort to develop paint

Paint sludge, paint cans and materials used for trial paint finishing have been disposed of properly as industrial waste via the Hazardous Substances Disposal System of the City of Tianjin. This system adopts ID management of waste, which allows all related procedures to be handled on the Internet from application/registration, confirmation of pickup schedule and final disposal results to the viewing of the history of items disposed.



Green Procurement

Taikisha is helping to reduce environmental impact through procurement activities conducted based on its own guidelines.















Green Procurement Policy

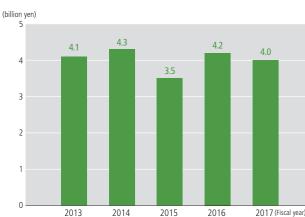
To lead the green procurement described in the Environmental Management Vision, Taikisha strives for preferential procurement and selection of new equipment, systems, working methods and technologies to help reduce environment impact in business activities (design and construction). Taikisha has determined green procurement items based on its own standards, and grasps the results of procurement and conducts periodic reviews on these green procurement items.

Judging Criteria for the Green Procurement Items

Decision on whether or not items are acceptable as green procurement items shall be made after a comprehensive evaluation. This is based on how they contribute to reduction of the impacts on the environment compared to conventional products with equivalent functions. Evaluation criteria are as

- 1 Less impact on the environment when equipment and materials are manufactured or operated (for consumption of energy and resources, etc.)
- 2 Use of recycled resources for production materials
- 3 Less impact on the environment during construction (for waste generation, noise, vibration, etc.)
- 4 Less impact on the environment during operation (for energy consumption, emission of harmful substances, etc.)
- **5** Long life expectancy (durability, easy renewal and convertibility, etc.)
- 6 Easy recycling after disposal
- Easy processing after disposal (easy processing, whether or not it contains harmful substances, etc.)

Performance in Green Procurement



Adoption of Carbon Offset Products

Taikisha selects office supplies for its construction site offices from among the carbon offset applicable items so that Taikisha can help reduce environmental impacts. For example, Taikisha has adopted goods with carbon offset credits attached, provided by Yamanashi Prefecture under the Yamanashi Prefecture Project to Combat Global Warming by Forest Utilization, in an effort to promote procurement with consideration for conserving forest ecosystems.



Tree thinning work to protect the forest (Yamanashi Prefecture)

カーボンオフセット証明書

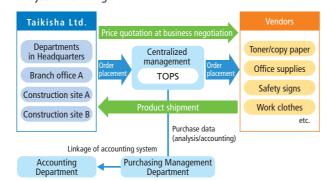
Carbon Offset Certification of a project

Promotion of Paperless Operations with Online Purchasing System

Taikisha has been promoting the use of TOPS, its online purchasing system for indirect materials. Users access the TOPS website to purchase various office supplies, ranging from daily necessities and office stationery to work clothes and safety-related products necessary at construction sites. The use of TOPS eliminates the need for processing individual purchase invoices, and, by linking the online purchase system to the accounting system, drastically reduces the number of account slips used for payment, promoting paperless

During FY2017, the total value of online purchase amounted to 83.007 million yen and the ratio of paperless operations was 85.1%.

System flow diagram



Material Flow Diagram

Taikisha quantitatively grasps the overall picture of the environmental impacts associated with business operations to lead efforts for reducing environmental impacts.



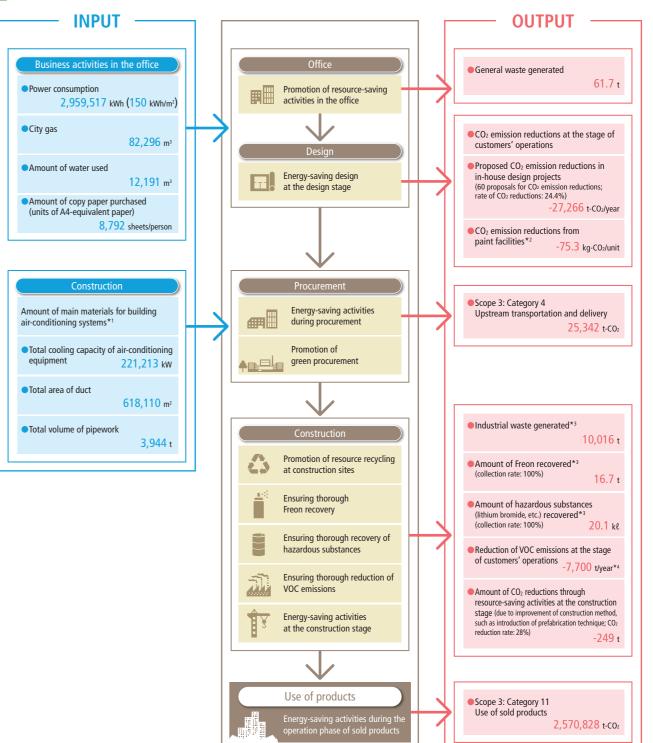












- *1. Projects that meet certain requirements are applicable.
- *2. CO₂ emissions were calculated by using a calculation model for automobile paint lines (assuming the annual production capacity of 240,000 units in Japan).
- *3. All projects are applicable (projects where Taikisha performs construction work as the main contractor)

*4. Including overseas operations.



Initiatives for Industrial Health and Safety

Taikisha aims to build a more comfortable working environment by placing the utmost priority on safety.













Basic Principles of Industrial Health and Safety

Based on an understanding of the importance of human life as its basic principle, Taikisha thoroughly implements safety-first planning and construction and fulfills its social responsibilities as a company in the construction industry out of respect for the law. Taikisha aims to protect the health and lives of employees and workers and makes efforts to build a more comfortable working environment.

Health and Safety Management System and Activities

Taikisha has established its own Taikisha Occupational Health & Safety Management System with respect for human lives and a law-abiding spirit as its basic principle.

Taikisha has established the Safety Headquarters in its Headquarters and the Safety Control Department in each of its business divisions, and they support safety activities of Branch Offices and Offices while supervising and managing industrial safety of the entire group.

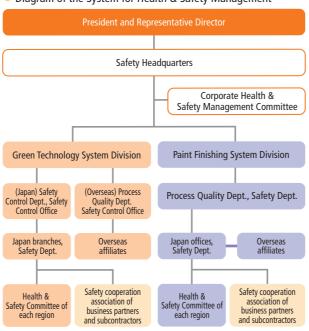
One example of the management initiatives under the Health & Safety Management System is disaster risk management: Prior to starting project operations, the Safety Control Department holds a "Safety Review Meeting" with those who are responsible for onsite operations, such as section managers and onsite managers, focusing on health and safety matters per project at the stage of planning construction work, share disaster risks expected at the construction stage and consider and propose risk-mitigation measures. In addition, a Morning Safety Information E-mail is delivered to each employee every day to enhance their safety knowledge and awareness to enlighten and help them perform day-to-day safety work.

Information and improvement technologies relating to safety management as well as past cases of industrial accidents are disclosed on the Internal Safety Website for all employees to share and put into practice.

Worksites, offices and subcontractors join forces to prevent industrial accidents by engaging in their own safety risk-mitigation activities to reduce disaster risks at their construction sites.

As a result of endeavors to achieve its highest priority goal of zero fatal and serious industrial accidents, Taikisha has maintained zero fatal and serious industrial accidents for more than 10 years.

Diagram of the System for Health & Safety Management



Monitoring of Safety Activity Results

Taikisha measures and monitors the effects of safety activities by using a frequency rate that indicates the frequency of industrial accidents and a severity rate that indicates the severity of accidents as safety indicators. The transition of these indicators is as follows. Scope: Taikisha's construction sites (employees on a non-consolidated basis and

Frequency and severity rate indicators for the past five years in Japan



Number of industrial accidents occurred



Efforts for Improvement of Industrial Health & Safety Management in Overseas Business Offices

There has recently been an increasing difference in the levels of industrial safety & health management among business offices due to differences in safety requirements in each country. In addition, Taikisha has had safety management issues with the increase in employees of diverse nationalities.

In order to solve such issues, Taikisha introduced the Occupational Health & Safety Management System ("OHSMS") in eight main overseas business offices, and is conducting safety activities in the entire organization to maintain and improve industrial

health and safety levels. Specifically, Taikisha invites local staff of overseas business offices to Japan and provides periodic safety education to enhance their safety management capabilities. Taikisha also conducts safety audits led by its Headquarters to confirm the status of health and safety management activities at overseas business offices and provides guidance to maintain and improve their safety management levels.

Overseas Safety Audit

Under the recognition that it is of paramount importance for overseas business offices to carry out high levels of safety activities autonomously, the Safety Headquarters conduct safety audits on items which are difficult to be detected by internal audits, such as

whether OHSMS as lost substance or not and the safety awareness levels of local staff are maintained, to enhance their safety management levels.



Safety Training by Inviting Overseas Local Staff

In order to improve the safety activity levels of business offices overseas, Taikisha invites staff members from the safety department and construction department of each country to Japan every year to provide various education and training programs.

(Safety education items for staff members of overseas business offices)

- (1) Safety activity guidance
- (2) Presentation of safety activities of each country
- (3) Group discussion
- (4) Safety patrol training
- (5) Crisis experience training (6) Education on various safety management capabilities
- (7) Opinion exchange meeting,





Voice ∴



Zhang Lei Safety Manager Vuzhou Taikisha Engineering Co., Ltd.

orkplace Health and Safety in China

We engage in the safety management of our construction work in line with the main principle of safety first and preventive action.

- Specifically, we carry out the following. 1) Not only the company members but also all other persons involved in a project are committed to taking
- responsibility for the safety of construction work. 2) To enhance the safety awareness of onsite workers and create a safety-oriented culture, safety notices and signs are posted at our onsite offices and
- 3) Education regarding entry into worksites is rigorously provided, as well as education concerning special works and special working environments, and

- persons who have not received safety education are not allowed to enter the worksites.
- 4) Periodic safety patrols are carried out to correct any noncompliant practices, thereby preventing accidents. Jigs and tools brought into worksites are inspected before they are used and whenever required, and "inspected" stickers are attached as proof of inspection.

Overseeing safety operations onsite, we are mindful that tolerating minor violations of the rules could cause accidents when we do daily checks of the working environment for any dangers or workers who engage in unsafe acts.

Initiatives for Quality Improvement

Taikisha is continuously working on quality improvement to gain high reputation and trust.













Basic Policy of the Green Technology System Division

The Green Technology System Division has established the basic principle of quality policy: "We will continuously work on business process management and improvement amid changing social requirements and under the quality management system, aiming to achieve product quality that is free from Muda (wasteful), Mura (inconsistent) and Muri (unreasonable)." In addition, it has set out action guidelines for each of the business processes and is conducting quality improvement activities.

Basic Policy of the Paint Finishing System Division

The Paint Finishing System Division has set out the following three quality policy initiatives based on the basic principle of the quality policy: "We will continue to provide paint systems that meet customers' needs and expectations to gain trust from customers and high reputation from society." In addition, it has created a checklist of the Quality Control (QC) Follow-up Sheet and is promoting quality control projects.

- 1 Provide eco-friendly paint systems.
- 2 Strive to improve technology, maintain and improve design quality, and enhance construction quality.
- 3 Increase productivity as a result of the above to reduce costs and meet customers' quality requirements.

Design and Construction Quality Improvement Activities

System designs that meet customers' needs are created and reviewed in the Design Policy Review Meeting and the Examination Meeting during the design process and handed over to the construction division.

Before the commencement of a construction project, the persons responsible at the sales, design, safety, quality, purchase and construction divisions work together in the Construction Policy Meeting and the Review Meeting to identify risks regarding defective work and legal violations. In addition, they take up the following six important quality control issues, and check if they are incorporated in construction plans and implemented during on-site patrols and project completion report meetings.

- Prevention of water leakage in important functional rooms
- Prevention of cross connection
- 3 Prevention of leakage of oil, chemical solutions, and waste
- 4 Prevention of lack of smoke exhaust air flow
- Prevention of frozen coil
- **6** Prevention of stoppage of existing production facilities

Before starting construction, onsite managers, department and section managers and the quality department work together on the following five items.

- Review of design drawings
- Review of construction work instructions
- Preparation of the rules for creating work drawings
- 4 Review of work drawings
- **6** Review of the specifications of delivered equipment

A construction quality inspection at construction sites is conducted in stages: self-inspection by subcontractors, self-inspection by site offices, and quality inspection by the Engineering Dept. and Quality Control Dept. A quality inspection is carried out prior to construction, during the construction and before the construction is completed. The status of correction of defects is checked periodically based on inspection records, and confirmation and follow-up on the status of correction are carried out until correction is completed.

In addition, efforts are made to raise the quality awareness of engineering employees through quality standardization materials and the periodic provision of employee education.



Onsite quality patrol

Efforts for Quality Improvement at Overseas Business Offices

In order to improve the quality of overseas projects, Taikisha identifies priority projects and discusses their quality issues at the Design Examination Meeting and the Construction Review Meeting, and follows up on the projects at regular meetings until the issues are resolved.

Information on defects generated at each business office is collected by the department in charge, and such information is shared at the overseas Engineering Department Manager Meeting held three times a year. In order to enhance the skill of local staff, the department in charge provides technical training to staff members of the Engineering Department at construction sites of each business office.



nsuring earlier reviews of design documents and construction plans to provide user-friendly facility systems from the viewpoint of customers

I oversee quality inspections on a project-by-project basis and the dissemination of actual cases of the company's defects to prevent the recurrence of such cases. In recent years, I have tried to secure quality by checking project design drawings earlier in the process to prevent any complaints during construction

planning, construction work as per the construction drawings or after delivery, and incorporate the entire process in the process chart and make regular site visits so that no problem occurs in terms of facility safety and ease of maintainability. We have always acted with our Mission Statement "Customers First" in mind and render joint efforts with related departments to create user-friendly equipment from the standpoint of customers. Sharing information on priority quality items with the related departments, business partners and other related parties, we will continue all-out efforts to enhance the quality of equipment to

Column

Enhancement of productivity at the construction site of NTT West Training Center Shinkyobashi Building

Taiji Shibuta

Manager, Quality Control Section Process Quality Dept.

Green Technology System Division Osaka Branch Office

In August 2017, construction was completed of NTT West Training Center Shinkyobashi Building, located near JR-West Kyobashi Station. The building is 11 stories above ground, occupied by many NTT West group companies. Taikisha constructed its air-conditioning and

While the construction lead time required was short. Taikisha streamlined the work process to improve productivity and at the same time realized enhanced functions and maintainability of the equipment, which obtained high acclaim and customer satisfaction.

Taikisha facilitated the construction of the air-conditioning equipment by applying the large-temperature-difference air feed system to reduce the duct size, and using the variable air volume system and the prior installation of beam penetration ducts to increase work efficiency after refractory coating. In addition, the switches for the variable air volume system were concentrated to reduce man-hours, while enhancing functionality and ease of operation.

The sanitary equipment was constructed adopting antiseismic high-performance polyethylene pipes for vertical piping to increase

the work efficiency in narrow pipe shafts and reduce the risk of water leakage. For water supply piping in the kitchen floor cinder concrete, the sheath pipe method, i.e. double layer piping, was applied to significantly enhance work efficiency.

Taikisha will continue efforts to reduce man-hours and save labor at the construction site of large projects to further improve



NTT West Training Center Shinkyobashi Building

[Respect for Human Rights and Development of Human Resources] Labor Practices

Taikisha is striving to build an attractive and motivation-oriented company.













Basic Policy on Human Rights

For Taikisha, respect for human rights is one of the top priorities as a company operating globally. In line with this policy, the Taikisha Ltd. Code of Conduct stipulates respect for basic human rights and says Taikisha shall not engage in behavior that would undermine individual dignity, such as discriminatory treatment and harassment. Taikisha respects international legal norms, such as the Universal Declaration of Human Rights, ILO Declaration on Fundamental Principles and Rights at Work, and Guiding Principles on Business and Human Rights. Taikisha endeavors to conduct business activities with consideration to human rights of all stakeholders, including employees and business partners.

Taikisha makes its policy regarding human rights known to all employees. In addition, it makes efforts to grasp conduct that goes against human rights through internal audits and the whistle-blowing hotline, and promptly takes appropriate responses.

Taikisha Ltd. Code of Conduct (abstract)

- I. Principles of behavior
- 3. We act prioritizing contribution to customers, business partners, stockholders, communities/societies and global environment; and give proper consideration to employee rights
- II. Standards of ethical conduct
- 1. Respect for basic human rights and maintenance of sound workplace environment
- (1) We respect basic human rights in corporate activities, and do not discriminate against any employee based on her/his race, religion, creed, origin, sex, disability, physical characteristics, are or other attributes that are not related to the business of
- (2) We prohibit sexual and other harassment using hierarchical relationships or superiority of position, regardless that such harassment is intentional or not.

Corporate Culture Committee

The Corporate Culture Committee was set up in 1975 with the aim of creating an organizational culture that provides material and spiritual job satisfaction based on the spirit of mutual trust and cooperation among all employees. In this committee, the employees broadly exchange opinions about operational improvements or organizational revisions while researching, discussing, and planning in cooperation with related divisions. In addition, it acts as a labor representative in labor and management discussions. It can voice its opinions to a corresponding planning division if any important changes are made in the schemes related to employment treatment, such as labor regulations and others.

Employee data (scope: non-consolidated)

Ite	em		FY2015	FY2016	FY2017
		Male	1,334	1,290	1,314
	Non- consolidated	Female	150	156	164
umber of		Total	1,484	1,446	1,478
mployees as of March 31)		Domestic	1,671	1,638	1,679
	Consolidated	Overseas	3,221	3,064	3,155
		Total	4,892	4,702	4,834
verage length of se	rvice (years)		18.6	18.3	18.1
Fixed-time employee			84	86	87
gular employees	Contract emp	loyees	77	82	87
s of March 31)	Total		161	168	174
		Male	38	40	51
umber of ewly employed	New graduates	Female	2	4	3
mployees (from		Total	40	44	54
pril 1 of the revious year to		Male	17	17	23
larch 31 of the elevant year)	Mid-career employment	Female	5	5	7
	. ,	Total	22	22	30
umber of new grad	uates retaine	d	38 (newly employed in 2013)	33 (newly employed in 2014)	40 (newly employed in 2015)
			34 (as of 2016)	26 (as of 2017)	34 (as of 2018)
etention rate of nev	v graduates (%)	89.5	78.8	85.0
umber of mployees who left	Mandatory re		21	19	26
neir job (from April of the previous	Retirement fo personal reas		27	23	28
ear to March 31 of ne relevant year)	Total		48	42	54
umber of re-employ andatory retiremen	it		83	87	86
ate of re-employme tirement (%)		latory	77.8	94.7	87.0
mployment rate of լ isabilities (%)	persons with		2.18	1.99	2.23

Harassment Prevention

Taikisha has a specialized consultation counter for maternity (pregnancy, childbirth and childcare leave, etc.) and sexual harassment while other types of harassment are handled through internal and external reporting counters.

The informer is protected by Taikisha's Whistleblowing Rules and other similar rules. As soon as a matter is reported for consultation, Taikisha takes quick actions to resolve it. Taikisha offers enlightenment activities to make people aware of the need for countermeasures and the significance of preventing and resolving

Basic Policy for Human Resource Development

Taikisha is an engineering company, and its best asset is its human resources. Human resource development and education is positioned as one of the most important management challenges.

There is a lineup of training schemes available in Taikisha to enhance its members' skills in managing projects and teams and communicating with customers, business partners, supervisors, colleagues and subordinates in addition to improving the expertise of individual employees. Training programs continue to be improved so that they can help employees acquire the knowledge and skills they think they need, thereby providing target-oriented education.

With the aim of developing self-motivated human resources, Taikisha provides education to accelerate the development of professionals and leaders.

Human Development Vision

1. Improving Environmental Management

- They are able to conduct fair and just business activities using global perspectives while observing the norms of society, regulations and laws, and rules
- 2. Develop human resources who are capable of achieving goals and realizing the visions of organizations and individuals through their work
- They are highly creative
- They are cooperative and logical through their actions that are made based on mutual trust in principle

3. Develop human resources who flexibly respond to market change

- They are able to handle operations on a global scale
- They are able to strive for business expansion
- Taikisha Training Programs

Support for Career Advancement and Acquisition of Certifications

Taikisha will introduce career advancement schemes to provide support for employees to advance their career and improve their skills over the medium- to long-term. Based on our Corporate Philosophy that "we aim to be a motivation-oriented company where the employees can demonstrate creativity and vitality through their work responsibilities, "Taikisha will encourage employees to develop their abilities in a proactive manner.

Just and Fair Assessment

Taikisha's personnel assessment is conducted based on the philosophies of fair and transparent operations.

In the performance evaluation, employees are assessed based on their abilities, motivation and conduct required for each employee and the degree of contribution to business performance. The results are given to employees as feedback, and this is expected to lead to enhanced human resource development. The evaluation of skills, which is one area of ability evaluation, is based on a clear and transparent definition of skills according to the grade and type of job.

At the beginning of the fiscal year, members and their supervisors are engaged in target setting through communication at meetings and other occasions. In addition, members conduct a monthly dialogue with their supervisors with the focus on the monthly PDCA cycle for the achievement of targets.

In performing evaluations, Taikisha gives consideration to the abilities of individual employees as well as their performance results to lead to increased motivation of employees, and gives importance to stimulating employees' motivation and pride. In addition, evaluation meetings are attended by members of the Personnel Administration Dept. to ensure their fairness.

Target employees Training by objective Training by job grade Job grade Role recognition by job grade Globalization Engineering and sales practices

[Diversity of Human Resources and Work-Life Balance] Labor Practices

Taikisha is striving to build a company that provides job satisfaction to its employees.











Basic Policy for Achievement of Diversity

For organizations and corporations, making efforts for diversity has become more important in recent years.

Taikisha has various types of human resources with different characters in varying race or gender. Sharing diverse perspectives and values helps an organization to respond to changing environments and needs while creating an attractive and comfortable work environment.

Taikisha considers that its approaches to diversity bring out enhanced human resources and increase their motivation for work.

Promoting Career Advancement of the Overseas Local Staff

Taikisha is promoting a Global Human Resource System to advance the careers of overseas local staff and planning transfers of staff between countries in the future.

This system defines the roles expected of employees to realize the Corporate Philosophy and enables just and fair evaluations and the appropriate level of compensation that reflects such evaluations.

The Global Human Resource System has started introduction since FY2014, and is already operational in India and Indonesia. In Thailand and Vietnam, briefings for employees and other last-minute preparation are being made for roll-out in FY2019.

The system will be spread to other countries thereafter.



Briefing on the Global Human Resource System (in Thailand)

Promoting Women's Career Advancement

As part of Taikisha's efforts for promoting diversity at the workplace, Taikisha is working hard for career advancement for its female employees. Taikisha believes all employees must be allowed to fully demonstrate their individuality and abilities to make Taikisha an attractive company.

Therefore, Taikisha will strive to further enhance training programs for higher skills and systems in order to create a better working environment for female employees and step up support for women's career advancement.

Ratio of female employees in managerial positions Target: Triple that of March 2016 in April 2019

Basic Policy for Improvement of the Work-Life Balance

Taikisha considers that work supports our living base and provides inspiration and joy to our lives. But at the same time, time spent with family and friends and on hobbies is essential in our lives as well. When there is a good balance between them, the inspirations and joys are doubled and our lives are satisfying. A balance between work and life ensures, develops, and radicates high-level human resources that is the driving force and competitive power of Taikisha.

System to Support a Good Balance Between Work and Childcare/Nursing Care

As part of Taikisha's efforts toward improving the work-life balance of employees, it has introduced various holiday/leave benefit systems to help employees strike a balance between work and childcare/ nursing care.

Childcare/Nursing Care Support System

Item	Taikisha Ltd.	Laws and regulations	
Childcare leave	Until the child reaches two years old (maximum)	Until the child reaches one and a half years old	
Short-working-hours system for childcare	Until the child finishes the third grade of elementary school (until March 31 of the applicable year)	Until the child reaches three years old	
Nursing care leave	Employees may choose between taking nursing care leave on a set day of the week or irregularly.		

Status of Use of Support System and Paid Leave (Scope: non-consolidated)

Item	FY2014	FY2015	FY2016	FY2017
Number of employees on maternity leave	6	5	4	2
Number of employees on childcare leave	6	9	7	4 (including 2 male employees)
Ratio of employees who returned to work after childcare leave (%)	100	100	100	100
Retention rate 12 months after returning to work (%)	67	100	100	100
Number of people who left their job within 12 months after returning to work	2	0	0	0
Number of employees who are using the short-working-hours system	15	22	21	22
Average paid leave taken by all employees (days)	5.9	6.2	6.0	7.0

Example of Taikisha's holiday/leave benefits

- Consecutive holidays after peak-time work: If an employee oversees project work that takes more than a month, when such work is completed, he/she is allowed to take at least three consecutive days off.
- Refreshing holidays for long-service employees: If employment has continued for over 25 years and the longservice employment award is given to the employee, he/she is allowed to take 15 days of paid leave in addition to his/her
- Utilization of remaining paid holidays: Employees who have unused and expired paid holidays over the last 10 years are entitled to use them for extended care and nursing care (unpaid under normal conditions).

Physical and Mental Health of Employees

Taikisha has set up the Taikisha Group Health Insurance Association. Health Counseling Dial 24, an online physical and mental health counseling service made available by the Health Insurance Association, provides speedy and appropriate support to help employees and their family members eliminate any concerns and worries about physical and mental health. This is done through counseling given by specialized counseling staff, who are experienced health nurses, nurses, registered dietitians, or doctors, 24 hours a day, 365 days a year. Concurrently with the introduction of the stress check system in accordance with the revised Industrial Health and Safety Act, Taikisha

has established a setting for employees to monitor their mental state and cope with stresses. Taikisha will work to create a pleasant working environment based on the results of group analysis.

Mental Health Support

Prevention 1 Activities to protect the employees from ment unwell conditions.

Internal training to raise awareness of the employees.

Measures to find problems at an early stage and take prompt and appropriate actions.

Appropriate advice and instructions are given upon consultation or communication with the supervisors or the division leader of the person who is unwell. If needed, consultation is available for the employee.

Measures to precisely learn and manage symptoms in order to prevent them from becoming worse.

The Personnel Administration Department at the Administrative Management Headquarters immediately responds, follows and provides support until the employee can return to his/her work.

Average overtime work per month/employee (scope: non-consolidated)



 Monthly net sales of completed construction contracts per employee (scope: non-consolidated)



Voice ∴



hildcare leave taken by men will support family members' state of mind

In the autumn of 2017, my wife was to give birth to our second child at a hospital near our house. To take care of our daughter and household chores, I took three weeks of childcare leave.

Times have changed, and I feel there is more moral support in men taking childcare leave. I think there are still many male employees who are hesitant to take childcare leave, but I would like to remind them that men taking childcare leave not only helps their wives in taking care of family affairs but is also better for her mental health.

Environmental Engineering Office Marketing and Development Dept.

Nariaki Agatsuma

Relationships with Business Partners

Taikisha promotes procurement activities based on the principle of fairness and justice.













Basic Policy for Procurement

Taikisha conducts procurement activities in accordance with the following basic policy based on the principle of fairness and justice.

- Compliance with laws and regulations and the spirit
- Reasonable selection of business partners and proper transactions therewith
- Management of confidential information
- Concern for resource protection and environmental
- Promotion of trusting relationships with business partners

Business Partner Selection System

In order to conduct fair and just transactions, Taikisha has set a basic principle of asking more than one business partner to submit a quote. It then selects business partners based on the evaluation of purchase quality (specifications, performance, delivery time, price, etc.). Price negotiations are carried out based on reasonable grounds (past performance, etc.).

Management of Confidential Information

Taikisha strictly manages confidential information, personal information, and customer information in accordance with the Information Security Regulations. In order to prevent information leakage, Taikisha signs a written pledge on prevention of confidential information leakage to make business partners aware of this issue.

Coordination with Business Partners

In order to maintain favorable relationships with business partners, Taikisha holds a liaison workshop with business partners. There,



participants learn about revisions of laws and regulations related to business transactions, check points to keep in mind, and deepen mutual understanding about a work flow that accommodates changes in society. In FY2017, Taikisha held seven liaison workshops, including in the Tokyo, Osaka, Chubu, Tohoku, Kyushu and Hiroshima areas.

Exclusion of Anti-Social Forces

Taikisha ensures no anti-social forces are involved in its operations and refuses any request from anti-social forces according to the Taikisha Ltd. Code of Conduct. Taikisha also forbids the employees from having any involvement with anti-social forces. In order to clarify the exclusion of anti-social forces in transactions with all business partners, Taikisha signs basic agreements and individual agreements with its business partners that include a clause to exclude anti-social forces. Taikisha signs transaction agreements with new business partners only after it has confirmed that they have no relation with anti-social forces.

Award of "Excellent Green Procurement Company"

Taikisha's Award of "Excellent Green Procurement Company" began in FY2011. It is designed to annually recognize the business partners for their contribution to green procurement and their proactive involvement in environmental activities to further promote green procurement activities. In selecting the award winners, Taikisha conducted an environmental activity survey on business partners, and selected an "Excellent Green Procurement Company" for FY2017 based on the results of the environmental management system (EMS) assessment.

Global Procurement Activities

Taikisha has introduced a centralized control system with procurement data on the overseas business offices to visualize the supply chain and optimize procurement. Taikisha periodically checks the status of execution of agreements with overseas business partners to ensure timely and appropriate fulfillment of agreements.

Contributions to Community

Taikisha is conducting activities to contribute to the community as a member of society (corporate citizen).













Basic Policy

Under the Taikisha Management Vision, Taikisha positions the community and society as important stakeholders and proactively promotes activities to respect culture and customs as well as contribute to their development in addition to participation in community and social contribution activities.

Taikisha is conducting various activities toward resolution of issues faced by communities and society and their development as a member of society (corporate citizen) that builds a favorable relationship with communities and society and coexists harmoniously with society.

Social Contributions

Support for the NPO Environmental Veterans Firm

As part of its social contribution efforts for environmental preservation, Taikisha started offering support in 2017 to the Environmental Veterans Firm (EVF), a nonprofit organization with the aim of supporting sustainable development by "custom-made" environmental energy-system designed for the local area.

The EVF is a group of senior scientists and engineers who have been involved in environmental technologies. Capitalizing on the expertise of such members, it proposes ideas to solve environmental issues addressed by various organizations in Japan and abroad.

Going forward, Taikisha will step up its support by developing joint businesses with the EVF.

The EVF restores abandoned bicycles as dynamo-attached bicycles and donates them to areas without electricity in Africa with the cooperation of local governments (Photo courtesy of JOICFP)



Support for Ms. Hina Hayata of Women's Table Tennis Team Japan

To help promote sporting activities in Japan, Taikisha started offering support in 2017 to Ms. Hina Hayata, a member of the women's table tennis team Japan.

Taikisha will continue to support Ms. Hayata in her challenges spanning the globe.

Born in 2000 in Fukuoka Prefecture. Belongs to Nippon Life Insurance Company As a member of the women's table tennis team Japan, she won the bronze medal in the women's doubles at the 2017 World Table Tennis Championships in Germany. Together with Miu Hirano and Mima Ito, her generation forms the golden age of women's table tennis of Japan.

Community Contribution Activities

Participation in the 14th Shinjuku Year-End Cleaning

On December 15, 2017, about 20 employees of Taikisha participated in the 14th Shinjuku Year-End Cleaning Campaign hosted by Shinjuku Ward to clean the Shinjuku Station west exit area.



(Other activities of business offices in Japan)

Tokyo Head Office: Participation in "Uchimizu (Water Sprinkling) Campaign 2017" in Shinjuku

Osaka Branch Office: Regular cleaning activities around the Hirakata Factory Tohoku Branch Office: Participation in "Hirosegawa River 10,000 People Project" (general cleanup of the Hirosegawa River basin)

Chubu Branch Office: Support for reconstruction from the Great East Japan Earthquake

Initiatives in Overseas Business Offices

GEICO's Youth Employment Support Project

Italy's Geico S.p.A. launched the J-NEXT Project in 2011 to help the local youth get employed by hiring young graduate engineers and offering them professional and personal growth paths in Geico. To broaden the scope, Pardis Foundation was set up in 2014 and gave birth to Gate Bridge Project, an initiative to help high-school and university graduates aged 18 to 30 find jobs at other companies in the local territory.

The goal for both projects was to provide 100 young people with employment opportunities by 2020, but this was achieved in 2017 three years ahead of schedule.



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Involvement with Shareholders and Investors

Taikisha discloses financial data and management information to its shareholders and investors as a company with higher level of transparency.













Information Disclosure Policy

Taikisha promptly discloses important information regarding Taikisha based on the transparency, fairness and consistency stated in the Taikisha Management Vision: "Conduct businesses under free and fair competition in compliance with laws and the spirit thereof; contribute to customers/business partners, shareholders, employees, communities/society and the global environment with transparency and integrity."

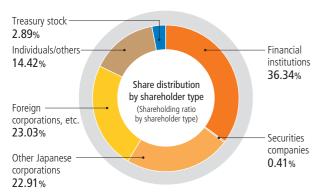
Basic Policy for Shareholder Returns

Taikisha considers providing shareholder return through dividend payouts to be one of the top-priority measures, and strives to pay stable dividends and to target a consolidated dividend payout ratio

Stock information (as of March 31, 2018)

Number of shares authorized: 100 million (100.000.000)

Number of shares issued: 35,082,009 Number of shareholders: 3.016



Transition in annual dividend and dividend payout ratio



IR Events

In addition to the Annual Shareholders' Meeting in June, year-end and half-year financial result briefings are held in May and November. Also, company information sessions take place irregularly but several times a year for individual investors.

In FY2017, Taikisha held financial results briefings for 26 companies (38 participants) in May and for 23 companies (27 participants) in November. In addition, Taikisha participated in the "IR Seminar for Individual Investors" hosted by Nomura Investor Relations Co., Ltd., in September and March.

Information Tools

There are publications that Taikisha distributes to its shareholders: Shareholder newsletters (issued in June and December) and Annual Reports (issued in August).

Taikisha's website has PDF files of the publications, as well as items disclosed at the Tokyo Stock Exchange such as earnings releases, financial results, quarterly reports, mid-term business plans, materials for earning release conferences, and a Fact Book.

External Evaluation

Information given via Taikisha's website is highly acclaimed by external organizations. Taikisha was given the Bronze Award overall in the "Gomez IR Website Ranking 2017" by Morningstar Japan K.K., and received the Excellent Corporate Website Award in the "2017 Website Quality Ranking in All Listed Companies" by Nikko Investor Relations Co., Ltd.

In addition, Taikisha is a constituent of the SNAM Sustainability Index managed by Sompo Japan Nipponkoa Asset Management Co., Ltd. ("SNAM"). Taikisha's addition to this index, which places importance on the ESG evaluation by research firms, reflects its continuous engagement in ESG (environment, society and governance) efforts.





Third-Party Opinion



Mr. Keisuke Takegahara Executive Officer Deputy Chief Research Office Development Bank of Japan In

As indicated in the tool map on the top page, Taikisha's CSR Report is positioned as an integrated tool that provides balanced disclosure of information on both financial and non-financial matters to all stakeholders. While adhering to the basic constitution, the CSR Report 2018 presents a new direction to follow toward the future.

First, Taikisha's approach in addressing CSR and business activities in an integrated manner throughout the report stood out for me. This is guite apparent in the early part of the report. "Value Creation Process," newly added content in CSR Report 2018, and the following special features impressively show Taikisha's determination to seek growth while solving social issues. Content on pharmaceutical manufacturing and aircraft painting plants reflects the solutionproviding capabilities of the Green Technology System Division and the Paint Finishing System Division. By describing the organized schemes to develop technological expertise that supports such capabilities and to nurture the human resources who exercise them, the report skillfully shows concrete examples of Taikisha's value creation efforts. Moreover, Top to Top Dialogue delivers a strong message by showing the words of the top management stressing that Taikisha fulfills its CSR by conducting its business while providing environmental solutions to social issues.

In the latter part of the report, a basic policy is given at the beginning of each section of Governance, Environment and Contributions to Society. The policies stress the importance of these efforts for sustainable corporate growth—an idea consistent with Taikisha's attitude of valuing the connection between business operations and CSR.

Considering these attributes, I feel that this Report is not only a CSR report but an integrated report with an eye on ESG investors. If so, this Report has achieved its objectives successfully, and the elements for which I expect further improvement becomes clear. First, I think it is important to incorporate these CSR policies into a longer time frame. ESG investors value the sustainability of business models that support competitiveness because long-term investment is only made possible under the assumption that the current "strengths" will be maintained in the future when various risks might surface. This report describes Taikisha's current strengths in an organized manner. The following step to be taken is to present new strategies for the maintenance and enhancement of such strengths in the 10- or 20-year time frame. In this context, the processes of value creation cannot be separated from management strategies. Therefore, Top to Top Dialogue will serve as an effective means of presenting them. The elements of Taikisha's Materiality, Key Performance Indicators and Sustainable Development Goals should effectively be used to support this logic as well. I look forward to seeing continued development of your CSR reports.

In Response to the Third-Party Opinion



Masanori Nakagawa In Charge of CSR Director, Managing Corporate Officer

I would like to express my sincere gratitude to Mr. Takegahara for his thought-provoking comments and warm encouragement.

As a means of showing the sustainable growth of the Taikisha Group's corporate value to stakeholders, we attempted to visualize our Value Creation Process for the first time. Based on a comprehensive and medium- to long-range understanding of various factors surrounding us, this attempt was made from the perspective of how we provided and will be able to provide the whole society, which we define as "customers" (all stakeholders), with value. We will take continued steps of growth forward based on the benefits and value we have created so far, thereby enhancing corporate value.

With the Value Creation Process as a foothold, we will continue our efforts to resolve social issues and achieve business growth simultaneously from long-term perspectives, placing value on communications with stakeholders outside the Group. We would like to ask for candid advice and opinions from all our stakeholders.



Taikisha Ltd.

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