

Section 02

ESG Initiatives

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Environmental Initiatives

Helping Combat Climate Change While Conserving Resources and Protecting the Environment

The Takuma Group recognizes the need to promote renewable energy (non-fossil energy), improve energy efficiency, conserve resources and reduce environmental impacts, and use unutilized resources effectively. As one way to do that, we will work to alleviate the global issue of climate change and to reduce environmental impacts while helping realize a sustainable society by supplying products and services that draw on technologies for effectively utilizing energy and protecting the environment that we have developed over more than 80 years of history.

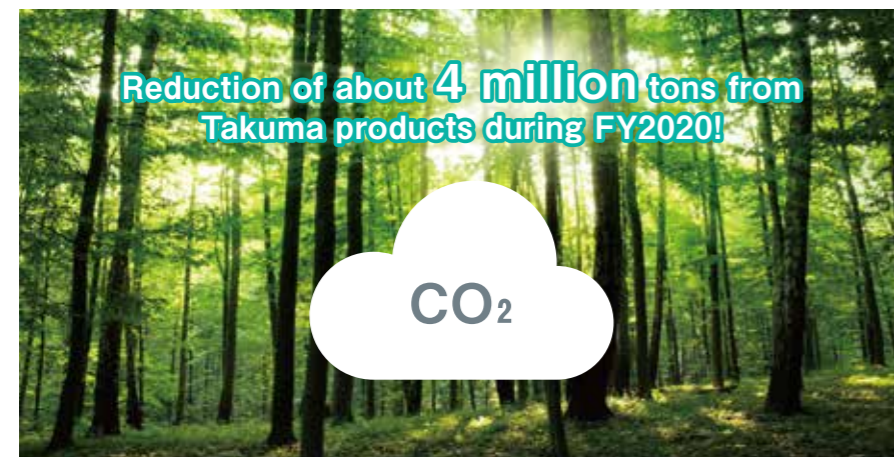
TAKUMA Environmental Policy

Our company has established the "TAKUMA Environmental Policy" as follows, aiming to ensure employees contribute to global environmental conservation. We will help resolve the issues faced by society. This policy applies to the activities of all company departments.

Environmental Philosophy	Takuma is committed to preserving the environment and realizing an affluent society through business activities under the Company Motto: "Value Technology, Value People, Value the Earth".
Operational Guidelines	<ol style="list-style-type: none"> All Takuma Group companies will recognize the importance of maintaining a balance between preservation of the environment and business activities. Continuously develop activities to preserve the environment that comply with applicable environmental laws and ordinances, and ensure environmental control and assessment systems conform to international environmental standards. Promote development of improved technologies and products for society that preserve the environment. Address resource conservation, energy efficiency, recycling, and minimization of waste generated by all business activities. Enhance employees' awareness and understanding about the importance of preserving the environment through environmental education and internal promotional activities. Provide the community with information on the activities of Takuma to preserve the environment.

Takuma's contribution to reducing CO₂ emissions

The municipal solid waste incineration plants and biomass power plants that we supply help save about 4 million tons of CO₂ emissions every year by converting waste and biomass into energy.



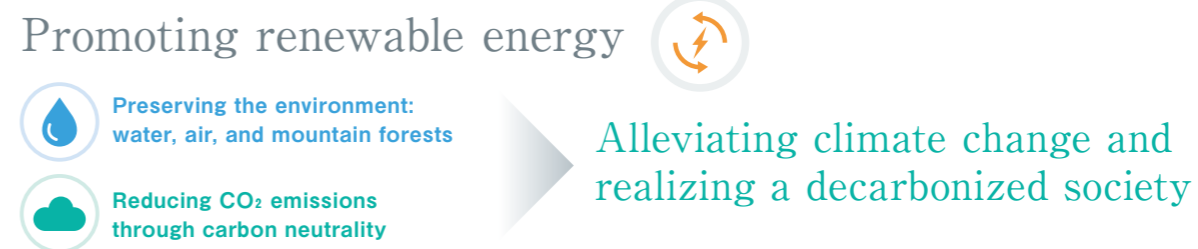
Reduction in CO ₂ emissions from municipal solid waste incineration plants delivered by Takuma	Approx. 500,000 tons per year!
Reduction in CO ₂ emissions from biomass power plants delivered by Takuma	Approx. 3.5 million tons per year!

Helping combat climate change Initiatives through our Energy Plant Business

Takuma has helped resolve customer issues for many years by delivering numerous boilers and energy plants of various types and specifications as a pioneer of the boiler industry. In recent years, alleviating climate change and realizing a decarbonized society have been identified as issues that should be addressed on a society-wide level, and renewable energy in the form of solar, wind, geothermal, small- and medium-scale hydro, and biomass will play an important role in that effort.

Because trees absorb CO₂ through photosynthesis during the growth process, wood biomass from forest thinning and other sources has the characteristic of being carbon neutral, in that use of energy from timber does not impact the atmospheric concentration of CO₂. We will help resolve issues faced by customers and society by promoting renewable energy through utilization of wood biomass.

Contributing to society through business activities



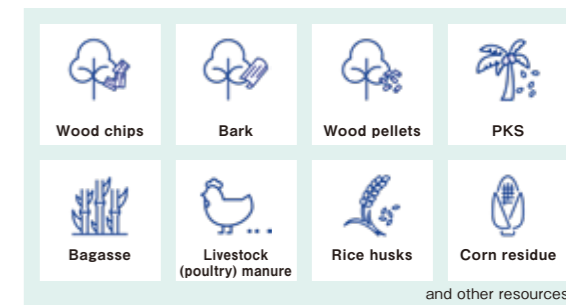
1 Realizing stable, long-term operation of energy plants

Advanced plant designs that can withstand stable operation over the long term are essential so that we can ensure customers can operate our energy plants with a sense of assurance. We design each plant after choosing the optimal combustion method based on customer requirements, the technology we have developed over our long history, and our extensive track record of delivered facilities. We also offer service (through maintenance and our O&M business) designed to ensure that plants can operate in a stable manner over the long term with security and reliability.



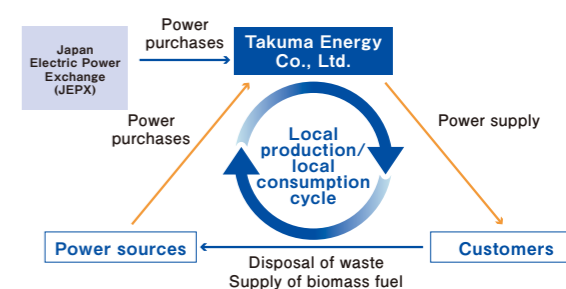
2 Making effective use of unutilized resources

Since biomass fuels are not uniform in terms of their properties, such fuels are characterized by the difficulty of realizing stable combustion. We specialize in drawing on our extensive experience and advanced technology to utilize various types of biomass effectively by burning them in a stable manner. We continually strive to increase energy efficiency in our plant designs so that resources can be utilized to the greatest extent possible.



3 Initiatives to create a regional Sound Material-Cycle Society

Since establishing Takuma Energy Co., Ltd., in 2015 to operate its Power Retail Business, the Takuma Group has worked to realize a regional Sound Material-Cycle Society through energy plants, for example by promoting the local production and consumption of power through an initiative in which Takuma Energy purchases power generated by Takuma-built plants and supplies it to regional public facilities and other consumers.



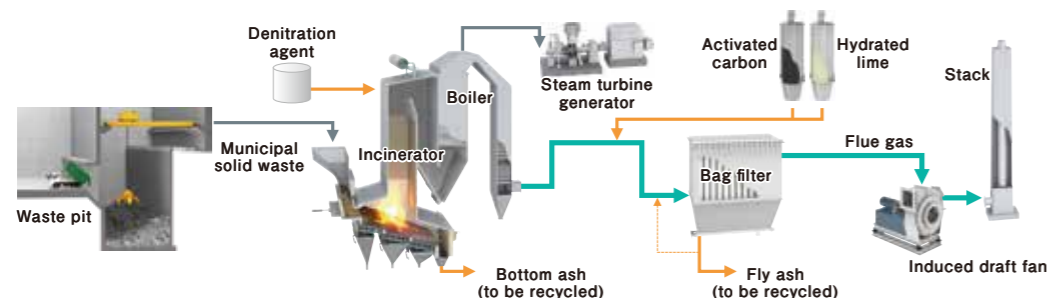
Environmental Initiatives

Conserving resources and protecting the environment

Initiatives through the Municipal Solid Waste Treatment Plant Business

Since delivering Japan's first fully continuous mechanical waste incineration plant in 1963, Takuma has built and delivered more than 360 municipal solid waste treatment plants, making Takuma the No.1 manufacturer in Japan. Most of the treatment technologies used in our plants are the result of in-house R&D by Takuma, which continues to embrace the highest standards of excellence while working to refine its technologies in order to accommodate the needs of society as they change over time.

Takuma contributes to resource conservation and environmental protection through a broad product line and after-sales service based on an extensive track record as the industry's leading company.

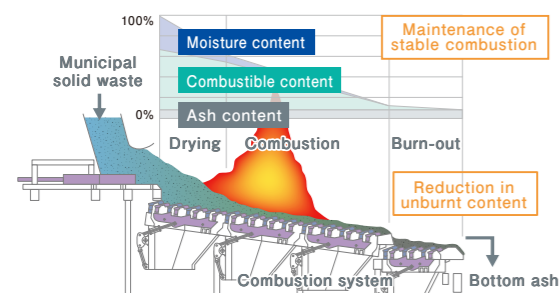


1 Resource conservation initiatives

We contribute to the formation of a Sound Material-Cycle Society by working to improve incineration and flue gas treatment technology, promoting recycling of ash, and reducing use of chemical agents.

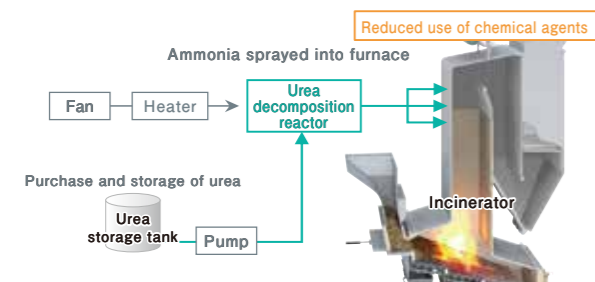
High-performance stoker furnace

We draw on the treatment experience that comes from having Japan's No.1 track record of deliveries to improve our stokers. We pursue the recycling business by maintaining stable combustion despite a diverse range of waste properties and creating bottom ash with few embers that exhibits uniform properties, making it well suited for use in cement production.



Denitration system using urea decomposition equipment

This system, which offers excellent denitration performance, consists of technology for converting an aqueous solution of urea into ammonia gas using a urea decomposition reactor. It can reduce use of chemical agents thanks to its superior reaction performance compared to conventional uncatalyzed denitration technology, which injects aqueous solution of urea into the furnace.

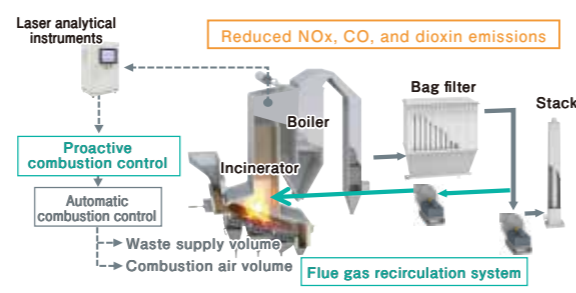


2 Environmental protection initiatives

We safeguard the surrounding region's environment by utilizing flue gas treatment technology as well as various technologies across combustion and maintenance management.

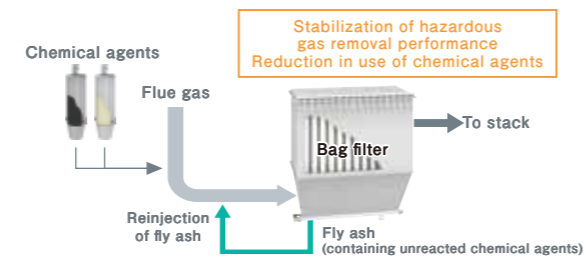
Advanced combustion system

Through the development of our advanced combustion system, which consists of components like proactive combustion control, an approach that uses laser analytical instruments to increase response, and a flue gas recirculation system, we are minimizing hazardous substances that are given off during waste incineration, including dioxins, nitrogen oxides, and carbon monoxide.



Fly ash circulation system

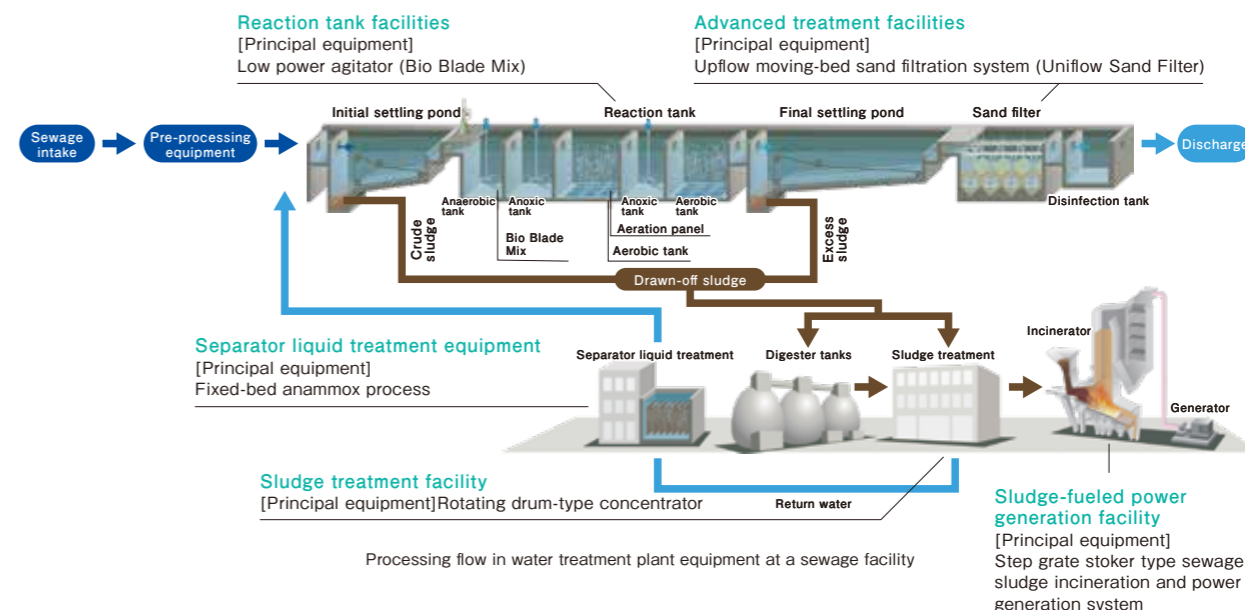
In the past, fly ash collected by bag filters contained chemical agents used to remove hazardous substances that retained some amount of removal capacity (specifically, hydrated lime and activated carbon). This system, which consists of technology for circulating use of fly ash that contains these chemical agents, makes it possible to stabilize hazardous gas removal performance without increasing use of chemical agents.



Conserving resources and protecting the environment

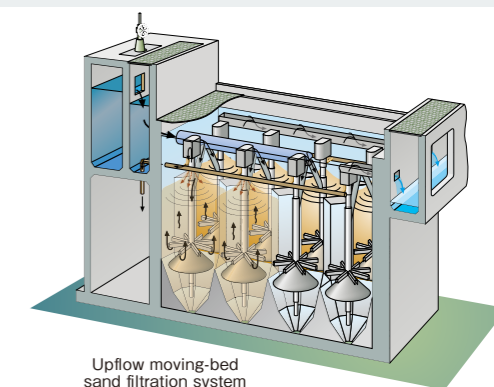
Initiatives through the Water Treatment Plant Business

We have operated our Water Treatment Plant Business with a focus on sewage facilities for more than 50 years, and during that time we have worked to conserve water resources and the water environment required by society by providing a variety of water treatment technologies. In recent years, companies in this sector have been called upon to address social needs involving priorities such as energy conservation, energy creation, and Life Cycle Cost (LCC) reductions. In response, we have helped realize sustainable sewage systems by taking advantage of the reliable technology and extensive experience we have developed to date.



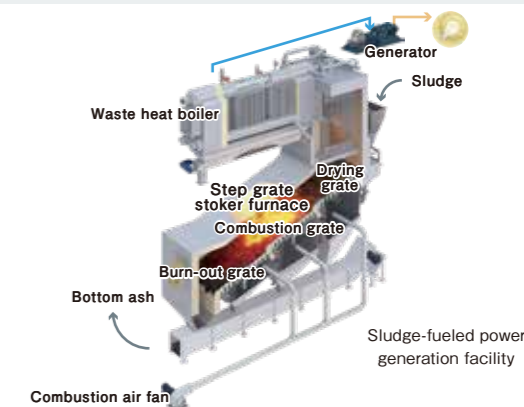
1 Upflow moving-bed sand filtration system

Our upflow moving-bed sand filtration system (Uniflow Sand Filter), which removes Suspended Solids (SS) from water, is primarily used for final treatment at sewage treatment plants to allow clean, treated water to be released into rivers. Some treated water is also reused at the facility, helping to conserve water resources. Uniflow Sand Filter systems boast top domestic market share in moving-bed sand filtration systems, and we have delivered more than 2,700 of these long-selling products, which feature water quality purification technology, in Japan. In recent years, many of the systems we have delivered have been a new high-speed model that delivers two to three times the treatment volume with the same area as conventional fixed-bed sand filtration systems. We are also seeing more projects that replace fixed-bed sand filtration systems with this system while retaining existing foundation work and related infrastructure.



2 Step grate stoker type sewage sludge incineration and power generation system

Sludge generated by the sewage treatment process is a type of biomass, and such resources are expected to be used as renewable energy. Conventional sludge incinerators were net consumers of energy because they required auxiliary fuel and used large amounts of electricity, but this system draws on the core Takuma technologies of combustion technology and boiler technology to make possible an energy-creating system that generates more power than the incinerator consumes while using sludge as fuel, as long as it operates at or above a certain scale.



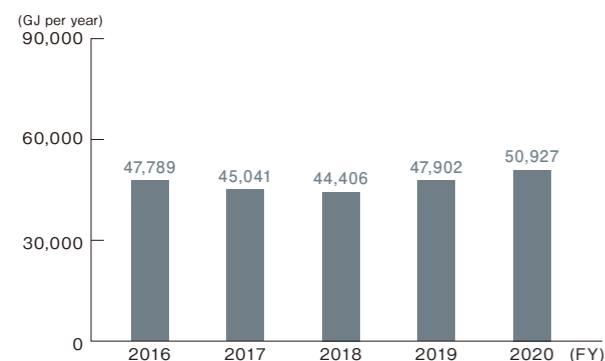
Environmental Initiatives

Environmental reporting

Takuma reports the environmental impact of its business activities as well as the manner in which it takes environmental considerations into account in accordance with the Environmental Reporting Guidelines (issued by the Ministry of the Environment). This environmental reporting program includes not only environmental information extracted from our overall business activities from an environmental standpoint, but also information about related economic and social aspects of those activities.

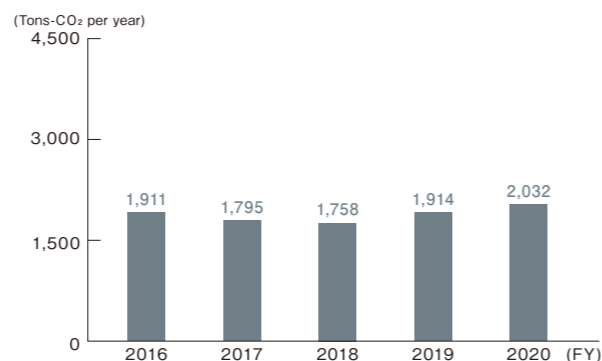
Environmental data (non-consolidated)

Total energy input volume



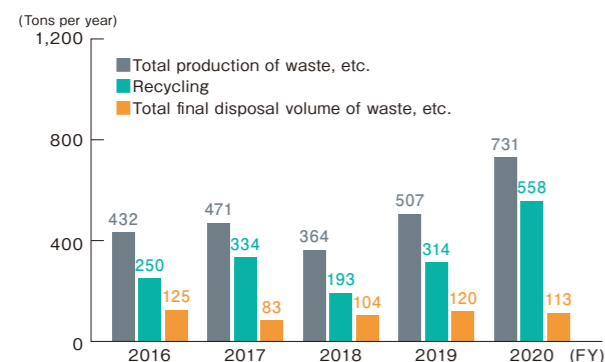
The total energy input volume of the fuel and the electricity consumed at Takuma during FY2020 rose slightly compared to FY2019 levels. We will continue to promote energy savings from here on out.

Greenhouse gas emissions



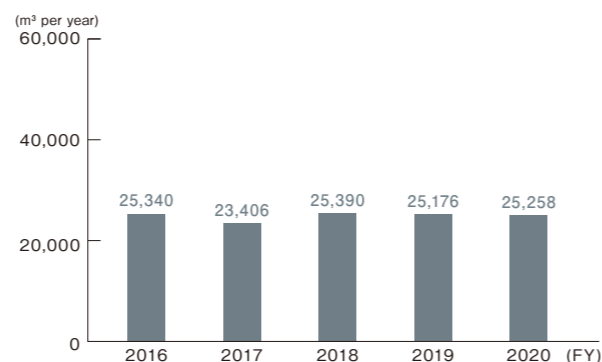
The greenhouse gas emitted by Takuma is limited to carbon dioxide (CO₂). The amount of CO₂ emissions in FY2020 rose slightly compared to FY2019 levels. We will continue striving to reduce CO₂ emissions.

Total production of waste, etc.



Although total production of waste, etc., grew during FY2020 compared to FY2019, total final disposal volume of waste, etc., fell thanks to appropriate treatment such as recycling. Going forward, we will work to further reduce the amount of waste we generate. Although we work to recycle and reuse waste, waste that cannot be reused is disposed of in accordance with the Industrial Waste Control Manifest System.

Input volume of water



Water resource input during FY2020 rose slightly compared to FY2019. We will continue striving to reduce water resource inputs.

PRTR target substance emissions

Although our business activities do not involve a wide variety of chemical substances on a massive scale, we use a few designated chemical substances. Consequently, we report and register such chemical substances designated under the Pollutant Release and Transfer Register (PRTR) Law, in accordance with relevant laws and ordinances, with the local government.

Dichloromethane (CAS No.75-09-2)

FY	2016	2017	2018	2019	2020
Emissions (tons per year)	0.43	0.45	0.27	0.08	0.00

Ethylbenzene (CAS No.100-41-4)

FY	2016	2017	2018	2019	2020
Emissions (tons per year)	0.14	0.96	0.98	1.34	1.41

Toluene (CAS No.108-88-3)

FY	2016	2017	2018	2019	2020
Emissions (tons per year)	0.09	0.07	0.06	0.09	0.07

Xylene (CAS No.1330-20-7)

FY	2016	2017	2018	2019	2020
Emissions (tons per year)	2.85	1.18	1.12	1.47	1.54

These materials are used for antirust painting of boiler structures and so on.

Environmental accounting

Environmental accounting is the process by which companies and other entities recognize the cost of environmental conservation in their business activities as well as the effects of those activities and measure and communicate them in as quantitative a manner as possible (either in terms of monetary amounts or amounts of materials) with the goal of pursuing environmental conservation initiatives in an efficient and effective manner while maintaining a good relationship with society so as to facilitate sustainable development.

We have disclosed our own environmental accounting system since FY2006 when we introduced it based on the "Environmental Accounting Guidelines 2005" issued by the Ministry of the Environment. As our business activities mainly involve environmental conservation plants and their equipment, Takuma Group employees have a significant awareness of the need for environmental conservation, and we have been implementing approaches toward such issues within the Takuma Group.

Environmental conservation cost

Item	Investment (thousand JPY)	Costs (thousand JPY)
Business area costs		
Pollution prevention costs	3,291	21,904
Global environmental conservation costs	21,339	22,724
Resource circulation costs	-	16,984
Administration costs		
Administration costs	-	26,170
R&D costs	42,420	1,607,800
Social activity costs	-	10,442
Total	67,050	1,706,024

Investments and expense related to the prevention, reduction, and/or avoidance of environmental impact, removal of such impact, restoration following the occurrence of a disaster, and other activities are measured in monetary value.

Economic benefits of environmental conservation measures

Breakdown of benefits	Income from the sale of waste for recycling, etc. (thousand JPY)
	7,110

Economic benefits of environmental conservation measures, defined as contributions to the profit of a company or other entity derived from having pursued environmental conservation measures, are measured in monetary value.

Environmental conservation effect

Item	FY2019	FY2020
(1) Environmental conservation benefit related to resources input into business activities		
Total energy input volume (GJ)	100,973	103,839
Input volume of water (m ³)	47,340	47,295
(2) Environmental conservation benefit related to waste or environmental impact originating from business activities		
Volume of greenhouse gas emissions (tons-CO ₂)	4,273	4,422
Total waste emissions volume (tons)	1,047	1,209
Final waste disposal volume (tons)	155	164
Wastewater volume (m ³)	47,340	47,299

Environmental conservation benefits are measured in physical units and are the benefits obtained from the prevention, reduction, and/or avoidance of environmental impact, removal of such impact, restoration following the occurrence of a disaster, and other activities.

Period covered: April 1, 2020, to March 31, 2021
 Scope: Figures include the following companies.
 In Japan: Takuma Co., Ltd., (Head Office, other offices [including overseas sites], and the Harima Factory); Nippon Thermoener Co., Ltd.; Takuma Technos Co., Ltd.; Hokkaido Sanitary Maintenance Co., Ltd.; Takuma Technos Hokkaido Co., Ltd.; Sunplant Co., Ltd.; Takuma Engineering Co., Ltd.; Takuma System Control Co., Ltd.; Dan-Takuma Technologies Inc.; Kyoritsu Setsubi Co., Ltd.; Kankyo Sol-Tech Co., Ltd.; and Takuma Plant Co., Ltd.
 Overseas: Taiden Environtech Co., Ltd., and Siam Takuma Co., Ltd.

Environmental Management

The situation concerning the acquisition of ISO 14001

Our Harima Factory has acquired ISO 14001 certification and has been implementing environmental management activities based on an environmental management system established to comply with international standards. Our group companies Nippon Thermoener Co., Ltd.; Takuma Technos Co., Ltd.; Hokkaido Sanitary Maintenance Co., Ltd.; and Dan-Takuma Technologies Inc. have also acquired ISO 14001 certification.

Social Initiatives

Strengthening Relationships of Trust with Customers and Communities

Working through initiatives to pursue customer satisfaction, ensure the stable and continuous operation of plants and equipment, and create new value for regional resource recycling and communities, the Takuma Group will maintain and strengthen relations of trust with customers and communities by supplying high-quality products and services that facilitate stable, long-term operation on an ongoing basis in the form of infrastructure that supports regional society and customers' businesses.

Pursuing customer satisfaction

With the level of consumer (stakeholder) attention to quality in a broad range of areas in addition to manufacturing and service growing in recent years, Takuma's Head Office, branch companies, and other business offices have earned certification under the ISO 9001 international standard on quality management systems, and the Harima Factory has earned certification under the ISO 9001 and ISO 14001 international standards on quality management systems and environmental management systems, respectively. Operations comply with the latest version (2015) of both standards.

In addition to working to improve the quality of our products in accordance with our Quality Policy and quality management system, we are pursuing activities that emphasize customer satisfaction. In order to produce products and plants that customers truly appreciate, it is necessary not only to boost the quality of the product itself, but also to improve the operations and quality as well as employees' operational skills in each process from plant planning to delivery (sales, planning, design, procurement, manufacture, construction, and management).

1 Quality Policy

Takuma Co., Ltd., has adopted the following Quality Policy in order to provide satisfying products that meet customer expectations and earn a high level of trust while continuously improving the effectiveness of its quality management system.

Quality Policy | Manufacturing products that result in customer satisfaction

Based on that Quality Policy and the three priority items described below, Takuma is working to improve the quality of its products and services through a variety of initiatives that address every process, including in sales, planning, design, procurement, manufacture, construction, and management.

2 Priority items

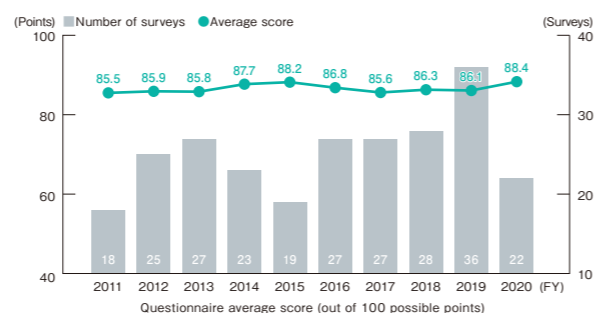
- Creating value to earn customer satisfaction** Ascertaining customer needs and making improvements based on past experience
- Carrying out risk management** Addressing changes in the business environment and human error
- Implementing human resources management** Implementing human resource development and ensuring skills are passed down to younger employees

3 Principal initiatives to improve quality

- Establishing quality targets for each division's processes; monitoring, measuring, and evaluating implementation status (twice a year)
- Holding QM Committee meetings (quality management reviews, twice a year)
- Carrying out internal quality audits to verify the soundness of each division's processes (once a year)
- Using an Operational Skill Achievement Checklist designed to improve employees' operational skills (once a year)

Customer satisfaction survey

We administer questionnaires targeting customers who had construction work done by asking them to assess the overall experience, including the nature of the work performed, suitability of the delivered equipment, and the level of service provided by Takuma staff. The QM Committee analyzes the status quo and studies measures to improve quality based on customer feedback while working to improve Takuma's operational quality and the quality of products supplied to customers by quickly applying measures across the company's organization. Scores averaging higher than 85 points for each of the last 10 years indicate a positive evaluation of these efforts.



Participation in the Community

Takuma and its group companies strive to build relationships of trust with local communities and safe plants that inspire peace of mind and trust on the part of local residents by working actively to participate in area activities and foster interactions with those residents, for example by disclosing information in an appropriate manner; hosting events that bring together residents, for example clean-up activities in areas around its facilities across Japan; and establishing shelters for use in the event of a natural disaster. During FY2020, although the effects of the COVID-19 pandemic forced a reduction of the scale of our activities, we continued to pursue these initiatives while working to combat the pandemic. This section introduces some examples.



Imabari City: Imabari City Waste Management Center ("Bari-Clean")

We joined Imabari High Trust Co., Ltd., which Imabari City has contracted to operate Imabari City Waste Management Center (informally known as "Bari-Clean"), in hosting the Imabari Environmental Festival 2020 in October 2020. More than 1,400 local residents came to the festival, which implemented a series of measures to prevent COVID-19 infections, including taking attendees' temperatures and ensuring everyone wore masks. Attendees enjoyed attractions including a flea market, events designed to raise awareness of environmental issues, and a dining area with numerous food stalls.

Suita City: Resource Recovery Energy Center

Suita City, to which we delivered a municipal solid waste treatment facility, holds the Suita Environmental Education Festa, a participatory event conceived to foster environmental conservation and creation, each year in order to deepen cooperation among stakeholders including residents, businesses, schools, and government agencies. In FY2020, the festival was held online due to the COVID-19 pandemic. We created and exhibited a video introducing the Suita City Resource Recovery Energy Center, which Takuma delivered.



Neighborhood of the Lake Administrative Affairs Association: Suwa Lakeside Clean Center

Suwako High Trust Co., Ltd., which operates Suwa Lakeside Clean Center under contract, has been holding eco Poppo Fellowship Festivals (as a venue to offer reports on facility operations) since FY2017 to inform a broad audience of residents about the role of the facility, its importance, the state of its operations, and other information. In FY2020, the festival was canceled due to the COVID-19 pandemic. Although it was not possible to host the event, we continued to work to promote understanding on the part of local residents by publishing *EcoPon News*, a newsletter featuring a profile of the facility and useful information for resident lifestyles.

Social Initiatives

Pursuing Partnerships and Innovation

Conventional products and services are undergoing a dizzying evolution against the backdrop of progress in the fourth Industrial Revolution and the evolution of information and communications technology, fueling fast-paced change in society. Working through initiatives to utilize digital technologies and promote open partnerships and innovation, the Takuma Group will look to further bolster its strengths by focusing on proposals based on society's and customers' needs, R&D to facilitate them, and technological improvements so that it can keep up with social change.

Utilization of digital technologies (AI, IoT, robots, and more)

Progress in the fourth Industrial Revolution and the evolution of information communications technology are driving fast-paced change in the nature of conventional products and services. Plant Engineering, Procurement, and Construction (EPC), operation management, and maintenance are no exception, and we believe that the transition to digital technologies will only accelerate going forward against the backdrop of trends including labor shortages and the widespread adoption of telework. We are pursuing development and other initiatives from a medium- and long-term perspective so that we can create added value, including to realize remote operation and full automation technologies for customers' plants, streamlining and labor savings in the operation business through the use of data, and strengthening of our competitiveness in EPC and after-sales service.

1 Increases in the added value of facilities and plants

In addition to 24-hour remote monitoring and operational support, Solution Lab, Takuma's remote monitoring and operational support facility, is striving to realize stable plant operation, for example by optimizing maintenance through the collection and analysis of operating data from various plants.

Topics

Development of AI-based automatic combustion stabilization technology

We developed a combustion Artificial Intelligence (AI) that can make judgments concerning incinerator operation on par with those of an experienced operator. By combining the AI with a conventional automatic combustion control system, we have reduced manual control inputs from incinerator operators by 99% while maintaining stable combustion.



2 Strengthening of competitiveness in EPC operations, operation management, and maintenance service

Plant EPC, operation management, and maintenance require many years of experience and expertise, and one of Takuma's strengths is the experience it has accumulated in this area since its founding. To provide higher-quality EPC and after-sales service, we are working to ensure that expertise and skills are reliably passed down to younger employees and to further improve individual workers' skills while making use of digital technologies. Additionally, we are working to strengthen our competitiveness in EPC and after-sales service by working to improve productivity, for example through streamlining initiatives based on the use of Robotic Process Automation (RPA) and other technologies.



Open partnerships

To ensure that we can consistently supply the products and services demanded by customers and society, we will accelerate R&D as well as efforts to strengthen our proposal capabilities through further deepening of partnerships with other companies and organizations.

1 Enhancement of resources and creation of synergies

We are pursuing partnerships and alliances with companies in related fields as well as M&As in order to strengthen our EPC capabilities.

Topics

Acquisition of Techno Links Inc.

We have acquired a 100% stake in Techno Links Inc., a manufacturer with operations spanning the design, fabrication, and installation of environmental recycling systems*, as well as associated after-sales service. By augmenting Takuma's overall plant design capabilities with this new subsidiary's ability to design custom equipment to suit the properties of specific waste streams, we will gain the ability to build more efficient sorting systems.

*Equipment that makes up recycling plants (equipment for crushing, sorting, compacting, and transporting drink containers; equipment for sorting and compacting other plastics; belt conveyors, etc.)



2 Initiatives to contribute to the maintenance and expansion of existing businesses

In an effort to strengthen our ability to produce proposals for solving issues facing customers and communities, we are pursuing collaboration with knowledgeable companies and organizations.

Topics

Initiatives at Imabari City Waste Management Center

Having adopted the concept of Phase Free^{*1} operations at waste treatment facilities, Takuma built and operates Imabari City Waste Management Center as a new type of waste treatment facility that contributes to its community during both normal times and times of emergency. The plant has a role as a disaster-prevention base to safeguard residents in the event of an emergency as well as serving as a familiar presence to residents during normal times, other than incinerating waste. In addition to providing functionality to serve as a shelter where people can take refuge with peace of mind, the facility is improving its ability to deal with any contingencies that might arise in the event of a disaster and strengthening its cooperative structures by joining the city, a Special-Purpose Company (SPC)^{*2}, and local NPOs as well as residents to hold annual training involving opening itself as a shelter and carrying out improvements based on that training. Moreover, the Center is earning praise not only for playing a role in times of emergency, but also for operating as a Phase Free facility that maintains a familiar presence for residents in regular times by allowing them to enjoy sports and events.

*1: A concept that augments daily operations with the ability to play a role in the event of a disaster.
*2: Imabari High Trust Co., Ltd., a Special-Purpose Company (SPC) established with investments by Takuma and Takuma Technos Co., Ltd., which is part of the Takuma Group, is tasked with operating Imabari City Waste Management Center.



3 Initiatives to create new businesses by promoting open innovation

In addition to joint research with universities and other companies, we are working in partnership with other companies to develop new businesses and decarbonization technologies.

Pursuit of innovation

As demands have grown in recent years for realizing a decarbonized society through carbon-neutral technology and better protecting the environment against the backdrop of the problem of climate change, we are focusing on R&D and technological improvement in order to develop the technologies and products that are required by society and customers.

Topics

Development of a CO₂ supply system for SARA Inc.

We developed a system for supplying a large volume of CO₂ in a safe, economical manner from combustion flue gas from a biomass power plant and delivered it to SARA Inc. By locating the biomass power plant that incorporates this system next to a greenhouse, we have realized a biomass tri-generation system that uses heat, electricity, and CO₂ in vegetable cultivation. Through this system, which combines the expertise of SARA Inc., an expert in vegetable cultivation, with Takuma's flue gas treatment technology, we are contributing to smart agriculture that utilizes the fertilizing effects of CO₂ while realizing economic, carbon-negative^{*} operation. The system received the Japan Machinery Federation Chairman Prize at the Federation's 2020 Equipment and System Awards for Excellence in Energy Savings.

*The system absorbs more CO₂ than it gives off (making it carbon-negative) as its CO₂ source is combustion gases from wood biomass, which is carbon-neutral, and because it makes effective use of the CO₂ in those gases.



Social Initiatives

Promoting Activities of Human Resources

The Takuma Group's human resources have fostered and passed down key strengths in the form of technology, expertise, and trust-based relationships with customers. Through initiatives to strengthen the hiring and development of human resources as well as to promote diversity and improve employee satisfaction, we will continue to ensure that the Group's strengths are effectively passed down and strengthened by using human resources effectively so that employees embodying a diverse range of values can take full advantage of their abilities, and by putting in place structures to keep employee motivation high.

Respect for human rights and the abolition of discrimination

Our company sets out its respect for basic human rights and prohibition of discriminatory acts in Takuma Group Ethics Charter, Takuma Group Code of Conduct, and labor regulations. In addition, we also support respect for human rights, without contributing to human rights violations, elimination of forced labor/child labor, and the abolition of discrimination through participation in the UN Global Compact. We are also working to promote employment of disabled and elderly individuals.

- **Takuma Group Ethics Charter (excerpt)**
4. We shall respect fundamental human rights and never practice discrimination.
- **Takuma Group Code of Conduct (excerpt)**
[Respect for basic human rights]
9. Prohibition of discriminatory actions
10. Respect for personality, individuality, and privacy of employees
11. Safe work environment

Working with our employees

Making the most of each and every employee's abilities and using human resources effectively by ensuring employees feel engaged and motivated while working over the long term are top priorities for Takuma as it works to promote activities of human resources.

Employee data	
Number of employees	894 (Including 819 men and 75 women)
Average age	43.1
Average years of service	15.3
Attrition rate	5.5% (past 3 years)

*As of March 31, 2021

1 Securing and training human resources

Initiatives related to securing human resources

In addition to utilizing a variety of techniques in our hiring activities to ease the labor shortage, we made 62 new and mid-career hires in FY2020, making active use of online interviews due to the COVID-19 pandemic. Going forward, we will continue to focus on securing human resources, including by taking advantage of the Internet to hold information sessions for job-seekers in distant areas and approaching other interested applicants.



Number of new regular employees (based on when new employees began working for Takuma; number of female employees in parentheses)

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021 *New hires only
New hires	18 (1)	24 (2)	21 (2)	20 (2)	25 (3)	26 (2)
Mid-career hires	11 (1)	10 (0)	22 (1)	25 (1)	37 (2)	-
Total	29 (2)	34 (2)	43 (3)	45 (3)	62 (5)	26 (2)

Initiatives related to human resources development

We offer grade-specific educational programs, from new hires to management candidates. We are also making use of the New TAKUMA Building (Training Center), which was completed in October 2020, to improve employees' abilities, technical skills, and management skills.

- ▶ New-employee training
- ▶ Technical presentation by 2-year employees
- ▶ Thesis discussion by 5-year employees
- ▶ Presentation by 10-year employees
- ▶ Mid-career training
- ▶ Management training



2 Promoting diversity

Initiatives to increase female participation

In addition to putting in place a workplace environment that provides flexible workstyles and continuous employment, we have continued to pursue initiatives that encourage employees to understand Takuma. As a result, the number of female employees in management positions and the number of female employees on the main career track (including individuals who have been tentatively offered positions) as of March 31, 2021, increased to 25, which would be double the corresponding number as of March 31, 2016. We will strengthen these initiatives over the next five years in an effort to increase the number of female employees on the main career track and in management positions by a factor of at least two over corresponding numbers for the most recent five-year period (to 35 or more employees).

Initiatives to increase hiring of disabled individuals

In addition to hiring people with disabilities to work primarily in general work in various departments and creating the Office Support Section in the Human Resources Department to manage work by people with disabilities and "outsource" internal tasks to them as part of an effort to promote more broadly-based hiring, we currently employ five* workers with disabilities who clean offices, perform light work and other tasks, and help maintain and manage an employee social welfare facility (cafe space). (*As of April 30, 2021)

3 Improving employee satisfaction

Programs to ensure employees can work over the long term with peace of mind

We have introduced the following programs to facilitate healthy work-life balance and to help employees make the most of their skills and abilities while balancing their work with child-raising and nursing-care responsibilities. Additionally, we will work to increase utilization of parenting support programs to at least 25%, which would double current levels, by further enhancing those programs and spreading awareness of them.

- Half-day annual paid leave program
- Childcare leave program
- Nursing-care leave program
- Flex time program
- Telework program
- Staggered working hours program
- Leave program for husbands whose wives are giving birth
- Shortened working hours program

Impressions from an employee who has taken advantage of Takuma's flex time program

I was worried about whether I would be able to continue working while raising my child, but the flex time program eased those concerns. The most helpful part of the program is the ability to see my elementary school-age child, who leaves the house before 8:00 in the morning, off to school before heading to work. Even when I am scheduled for crossing-guard duty, which is 15 times a year, I am able to get to work by core time without taking a half-day of paid leave in the morning. Naturally, the understanding and cooperation of my coworkers and supervisor help make this possible. (Clerical female employee in her 40s)

Initiatives to support career development

We have established the following programs to support the development of employees' careers.

- Supervisors schedule two interviews with each subordinate every year to review progress toward operational goals and listen to their wishes and advice directly.
- A self-reporting program session is held every three years to facilitate long-term career development.
- A work group transfer program facilitates movement from clerical and labor positions to the main career track.

We have also introduced programs that give talented employees promotions without regard to whether they were a new or mid-career hire.

Social Initiatives

Ensuring Safety and Health

The Takuma Group will work to further strengthen its core strengths of technology and expertise as well as relationships of trust with customers while preventing a decline in the quality of its products and services or in the level of trust it enjoys from society by safeguarding workers' physical and mental health and building an environment in which it is easy for employees to do their jobs. Specifically, we will accomplish these goals by ensuring occupational safety and health, managing employee health, and putting in place an employee-friendly workplace environment.

Occupational safety and health initiatives

Since FY2006, we have introduced TK-COHSMS based on an occupational safety and health management system for the construction industry and worked actively and independently to improve our safety and health activities. We believe that among these efforts, the manner in which (1) safety inspections, (2) mandatory safety and health education (education for construction site representatives), and (3) creation of pre-work safety procedure checklists known as SSAs have been steadily adopted by all departments and used to consistently improve the level of knowledge about Takuma's safety and health is particularly noteworthy.

We have adopted the following safety and health objectives for FY2021: eliminating fatal accidents and accidents that result in work stoppages (of four or more days); pursuing a thorough program of safety and health education, ensuring adherence to safety inspection guidelines, and implementing the branch safety patrol plan; and strengthening collaboration with the Safety and Health Cooperative Association. Branches, worksites, and involved contractors will work together to revitalize safety and health activities companywide by reliably fulfilling their respective roles.

Rather than contenting ourselves with the status quo, we will pursue new safety and health initiatives to foster a strong awareness of the concept that underlies our safety and health policy — "Understanding the need for respecting people and giving top priority to safety and health" — on the part of everyone who is involved in our operations.

Safety and health activities and their results

1 Safety inspection system

We maintain a system where any construction or installation work starts only after the safety and health manager or other responsible official in each department conducts a successful safety inspection based on safety and health plans for the construction or installation work as prepared by our primary partner companies.

We strive to ensure a safe work environment at all construction sites by eliminating risk factors identified by those inspections before work begins.

●Number of safety inspections completed in FY2020:99



A safety inspection meeting

2 Safety patrols and safety lectures

Based on an annual plan, safety patrols are carried out at worksites by the Safety and Health Committee (comprised of committee members and advisors), Safety Control Department, and Construction Division along with safety lectures in a precisely targeted and efficient manner.

Safety patrols focus on identifying and eliminating risks as early as possible, while safety lectures are conceived to prevent occupational accidents and raise employees' safety awareness by offering an opportunity to hand out and explain materials such as examples of accidents. Both programs help ensure safety at worksites in the field.

●Number of safety patrols implemented in FY2020
 By Safety and Health Committee (members, advisors)..... 40
 By Safety Control Department 110
 By Construction Division 255



Safety patrols

3 Safety and health education (education for construction site representatives)

We continuously provide specialized safety and health education at branches and worksites to increase the levels of safety awareness and knowledge of our employees and partner companies.

We are putting in place mechanisms for preventing accidents, including by assigning workers with extensive knowledge in areas such as safety and health-related laws and ordinances thanks to an education program that began on April 1, 2004, to individual construction sites.

●April 2004 to March 2021 Cumulative number of trainees 36,470
 Number of trainees passing the completion exam 19,804



Head Office venue (left) and Tokyo Branch venue (right)

4 Education that lets employees experience a hazard (falling) via Virtual Reality (VR)

In FY2020, we began offering education based on Virtual Reality (VR) at the Head Office, Tokyo Branch and other branches and worksites as part of an effort to prevent occupational accidents by increasing sensitivity to hazards and raising safety awareness.

●Number of participants during FY2020 Takuma employees 458
 Attendees from partner companies 128



Education that lets employees experience hazards via VR

Safety and health awards in the Construction Division / Safety and Health Promotion Meeting

Takuma recognized employees who worked to prevent occupational accidents at worksites and set zero-accident records at an internal award ceremony held on the anniversary of the company's founding. Although we had planned to similarly recognize primary partner companies who helped set zero-accident records at the Safety and Health Promotion Meeting, we were forced, with great regret, to cancel the event along with the awards ceremony in FY2020 due to the COVID-19 pandemic. However, we were able to recognize award recipients who set zero-accident records by sending them a commemorative award.

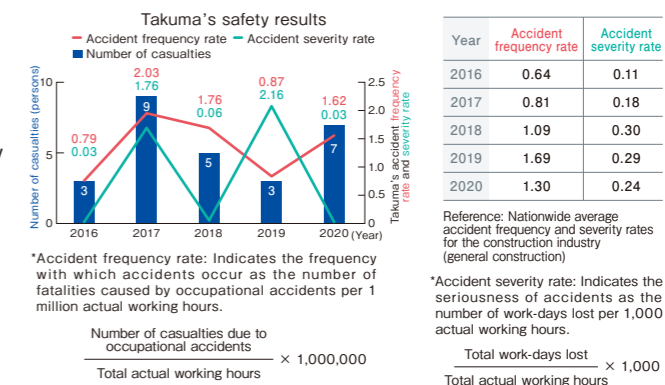


Internal presentation of a zero-accident record award

Occurrence of occupational accidents at Takuma in recent years (Number of casualties, accident frequency rate, and accident severity rate)

The total actual working hours for Takuma in 2020 was about 4.3 million hours. Both the number of occupational accidents and accidents resulting in work stoppages increased significantly from 2019.

Although the accident severity rate was significantly lower than the national average, the accident frequency rate exceeded the national average, posing a serious problem that needs to be addressed. We will work to eliminate occupational accidents through a unified and redoubled effort by all involved to halt this trend while strengthening risk management and enhancing our safety and health management structures.



Managing employee health

We follow up on employees' regular check-ups by working with industrial physicians to recommend tests and treatments to individual employees and to provide health guidance from industrial physicians. Additionally, we are working to assist employees who work excessively long hours, for example by assessing the conditions under which they work, conducting interviews as necessary, and having their supervisors consider possible remedies. Furthermore, we offer assistance to defray the cost of using cafeteria plans as an initiative to increase employee health.

Strengthening Corporate Governance

Through efforts to strengthen corporate governance, enhance risk management, and implement thorough compliance, the Takuma Group is working to build structures that make possible highly transparent and appropriate decision-making and to maximize its corporate value by assessing and managing risk in an appropriate manner and by preventing the cessation of business operations and loss of social trust from violations of laws and regulations.

Corporate governance structures

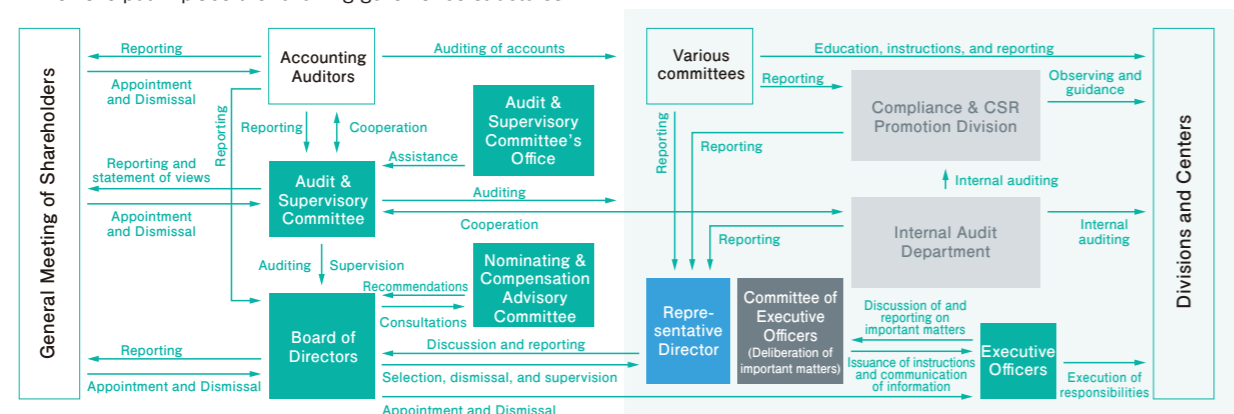
1 Basic policy on corporate governance

In order to safeguard and steadily increase Takuma's corporate value over the long term, it is essential not only to ensure the development of the company's businesses, but also to clearly define governance in corporate operations—that is, to ensure that shareholders' oversight of operations is carried out appropriately and that officers carry out their operational responsibilities by means of a process that is clear, rational, efficient, and legally compliant. For that reason, we believe that understanding the Corporate Governance Code and putting it into practice in an autonomous and systematic manner are top-priority management issues.

2 Takuma's governance structures

We have put in place the following governance structures:

*As of June 25, 2021



3 Board of Directors

As of June 25, 2021, the Board of Directors was comprised of six directors (excluding directors who are members of the Audit & Supervisory Committee) and five directors (of whom four were outside directors). The Board of Directors meets regularly once a month as a rule and whenever else it is necessary to make decisions about important issues related to business management and issues established by law and ordinances, as well as to oversee the execution of the directors' duties.

Directors: 11 (10 men and 1 woman), including 4 outside directors (3 men and 1 woman)

4 Executive Officers

In order to accelerate management decision-making and clarify where management responsibilities are placed, we have adopted an executive officer system in which we appoint executive officers who are entrusted with the responsibility of executing our business activities. As of June 25, 2021, there were 15 executive officers (including those who also serve as directors). Moreover, we have also established a Committee of Executive Officers, which is chaired by the president/chief executive officer, as an organization that deliberates matters that are brought up at meetings of the Board of Directors and other important issues related to the execution of our business activities. This committee communicates and provides direction about items decided by the Board of Directors and other important items related to the execution of our business activities appropriately to the divisions that are to execute them.

5 Audit & Supervisory Committee

An Audit & Supervisory Committee that consists of five members, of whom four are outside directors, is responsible for accounting and operational audits. Members of the committee attend important meetings, including those of the Board of Directors and the Committee of Executive Officers, and they strive to understand and observe the status of business execution in a timely and appropriate manner. Drawing on their professional background and experience, they express their opinions as necessary from an objective perspective, and they conduct strict auditing of the business execution performed by the directors. To facilitate the effectiveness of audits carried out by the Audit & Supervisory Committee, the representative director holds regular meetings with committee members to ensure good communication.

6 Audit & Supervisory Committee's Office

Takuma has established an Audit & Supervisory Committee's Office to help carry out the committee's work.

7 Nominating & Compensation Advisory Committee

To augment the structures described above, we have established a Nominating & Compensation Advisory Committee comprised of independent officers, representative directors, and the officer in charge of human resources. The purpose of the committee, a majority of whose membership consists of independent outside directors, is to increase transparency and objectivity in the selection of candidates for director and executive officer positions and in the determination of the compensation and other terms so as to enhance the oversight function of the Board of Directors.

Appointment and dismissal criteria for directors and executive officers

1 Policy on the appointment and dismissal of executives

To maintain an appropriate number of members who can conduct effective discussions and assure that the body can appropriately carry out its role of decision-making on basic policies and important matters related to the company's management and supervision of directors' and executive officers' execution of their job responsibilities, Takuma takes various steps to ensure that the Board of Directors' membership exhibits a good balance of knowledge, experience, and ability. The Policy on the Appointment and Dismissal of Executives put in place by the Board of Directors establishes appropriate processes for appointing and dismissing executives along with basic requirements for director candidates and executive officers; criteria for appointing director candidates, executive officers, and other positions; and criteria for dismissing directors and executive officers.

2 Procedures for appointing and dismissing executives

The Nominating & Compensation Advisory Committee, whose membership consists of independent officers, representative directors, and the officer in charge of human resources (with a majority of independent outside directors), discusses the appointment and dismissal of directors and executive officers, including the position of president and CEO, in accordance with the Policy on the Appointment and Dismissal of Executives put in place by the Board of Directors. The Board of Directors makes final decisions in such matters after sufficient discussion based on factors including directors' past and present performance of their responsibilities while respecting reports and advice from the Committee.

Selection criteria for independent executives

Takuma designates all outside executives who satisfy certain qualifications as independent executives.

We assess the independence of outside directors based on standards of independence adopted by the Tokyo Stock Exchange as well as our own internal Standards for Determining the Independence of Outside Executives.

Standards for Determining the Independence of Outside Executives

In Takuma's view, the following individuals do not exhibit sufficient independence to qualify as an independent executive:

- (1) Individuals/entities whose principal business partner is Takuma*1 and their officers*2
- (2) Principal business partners of Takuma*3 and their officers
- (3) Consultants, accounting experts, and legal experts who are receiving financial compensation or other assets in excess of a certain amount*4 from Takuma, apart from executive compensation (If the entity receiving such assets is an organization such as a corporation or an association, then this criterion refers to individuals belonging to that organization.)
- (4) Individuals/entities that receive donations or aid in excess of a certain amount*4 from Takuma, apart from executive compensation (If the entity receiving such assets is an organization such as a corporation or an association, then this criterion refers to individuals belonging to that organization.)
- (5) Major shareholders*5 of Takuma and their officers

*1: "Individuals/entities whose principal business partner is Takuma" refers to individuals and entities that earned at least 2% of their consolidated net sales during the most recent business year from Takuma.

*2: "Officers" refers to managing directors, executive officers, and other personnel.

*3: "Principal business partners of Takuma" refers to individuals and entities whose payments to Takuma constituted at least 2% of Takuma's consolidated net sales during the most recent business year.

*4: "A certain amount" refers to at least JPY 10 million (for individuals) or at least 2% of gross sales (for organizations) during the most recent business year.

*5: "Major shareholder" refers to an individual or entity that holds at least 10% of the total voting rights.

Governance Initiatives

Compensation and other remuneration paid to directors (Except Audit & Supervisory Committee members)

1 Matters relating to the General Meeting of Shareholders' resolution concerning director compensation and other remuneration

Meeting on June 28, 2016, the 112th Annual General Meeting of Shareholders resolved to limit compensation and other remuneration paid to directors (except Audit & Supervisory Committee members) to JPY 350 million per year. When the Annual General Meeting of Shareholders in question ended, there were six directors (not counting Audit & Supervisory Committee members).

Meeting on June 26, 2019, the 115th Annual General Meeting of Shareholders resolved to pay monetary compensation rights not greater than JPY 90 million per year to directors (except Audit & Supervisory Committee members) for use in acquiring restricted stock, separate from the above compensation limit. (The resolution limited the total number of shares of Takuma common stock issued or disposed for this purpose to 120,000 shares per year.) When the Annual General Meeting of Shareholders in question ended, there were six directors (not counting Audit & Supervisory Committee members).

Meeting on June 28, 2016, the 112th Annual General Meeting of Shareholders resolved to limit compensation and remuneration paid to directors who are members of the Audit & Supervisory Committee to JPY 72 million per year. When the Annual General Meeting of Shareholders in question ended, there were four directors that were members of the Audit & Supervisory Committee.

2 Method for formulating policies for determining of compensation and other remuneration

Takuma's Policy on Executive Compensation and Other Remuneration, which was established by resolution of the Board of Directors, codifies Takuma's policies for determining compensation and other remuneration for directors (except Audit & Supervisory Committee members). The policy is revised as necessary by resolution of the Board of Directors following consultation with, and consideration of recommendations submitted by, the Nominating & Compensation Advisory Committee.

3 Overview of policies for determining compensation and other remuneration

(1) Basic policies

Takuma has adopted the following basic policies concerning the determination of compensation:

- Compensation should be suited to the role and responsibilities of the director in question, and it should help the company secure talented human resources.
- The compensation system should reflect appropriate consideration of the need to motivate directors to increase fiscal year performance as well as corporate value over the medium- and long-term.
- The process used to determine compensation should exhibit transparency and objectivity so that the company can fulfill its obligation of accountability to shareholders and other stakeholders.

(2) Compensation system

Compensation for directors and executive officers consists of fixed compensation, bonuses paid according to fiscal year performance, and stock compensation (compensation in the form of restricted stock), which is used to motivate recipients to increase medium- and long-term corporate value.

- Fixed compensation
Fixed compensation is set depending on the role and responsibilities of each position and paid on a monthly basis.
- Bonuses
Takuma has adopted a set of standards for calculating bonuses based on indicators such as fiscal year performance and achievement of targets, and the Board of Directors determines whether to pay bonuses and, if so, in what amount using those standards as a guide. Bonuses are paid at predetermined times each year. As a general rule, bonuses are capped at a maximum of 25% of fixed salary (annual amount).
- Stock compensation
Stock compensation takes the form of shares of restricted stock that are granted in advance. Monetary compensation rights set depending on the role and responsibilities of each position are allocated at predetermined times each year, and shares in Takuma are granted in exchange for the pay-in of those rights. As a general rule, stock compensation is capped at a maximum of 30% of fixed salary (annual amount), with the percentage increasing with seniority of position.

(3) Procedure for determining compensation

The Nominating & Compensation Advisory Committee, whose membership consists of independent officers, representative directors, and the officer in charge of human resources (with a majority of independent outside directors), discusses matters related to compensation and remuneration programs, the amount or calculation standard for each director's compensation and other remuneration, and other executive officers' compensation and other remuneration in accordance with the Policy on Executive Compensation and Other Remuneration and reports the results to the Board of Directors. Having received that report, the Board of Directors makes final decisions on related matters after sufficient discussion while respecting the Committee's report.

In determining the amounts of individual compensation packages, the suitability of those packages is verified based on factors including the Group's performance, compensation levels for executives at other companies, and employee salary levels.

Compensation and other remuneration for the business year under review were discussed by the Nominating & Compensation Advisory Committee, which addressed the amounts and calculation standards for each director while referring to executive compensation research data from an outside research organization, and determined by the Board of Directors based on the Committee's report.

(4) Justification for the Board of Directors' determination that the compensation and other remuneration for individual directors for the business year under review are in line with applicable policies

The suitability of compensation and other remuneration for directors during the business year under review was verified by the Nominating & Compensation Advisory Committee based on factors including the Group's performance, compensation levels for executives at other companies, and employee salary levels by means of a transparent and highly objective process in accordance with Takuma's Policies on Executive Compensation and Other Remuneration, and the individual compensation packages were finalized by the Board of Directors after sufficient discussion while respecting the Committee's report. As a result, the Board of Directors has determined that the contents of those compensation packages are appropriate and in accord with applicable policies.

(5) Matters related to performance-linked compensation

Because the Group's business operates primarily on a build-to-order basis and because it considers consolidated ordinary profit to be the most important management indicator, consolidated order value and consolidated ordinary profit serve as key performance indicators in calculating bonuses that are based on fiscal year performance.

Specifically, a calculation table is used to calculate a coefficient based on the consolidated ordinary profit for the business year in question, the rate of growth relative to the average consolidated ordinary profit for the most recent three years, the extent to which the consolidated ordinary profit target has been achieved, and the extent to which the consolidated order value target has been achieved. Bonus amounts are then determined based on this coefficient. (Consolidated ordinary profit performance figures are calculated before deducting executive bonuses at companies included in consolidated accounting.) Performance forecasts included in the financial briefing announced in May are used as target values in the evaluation.

Targets and results for these indicators during the business year under review were as follows: actual consolidated order value of JPY 188,563 million versus a target of JPY 180,000 million, and actual consolidated ordinary profit of JPY 11,234 million (before deducting executive bonuses) versus a target of JPY 11,500 million.

(6) Non-monetary compensation and remuneration

Takuma offers directors stock compensation in the form of shares of restricted stock as a medium- and long-term incentive and as a means of sharing shareholder value. Transfer is restricted for a period of 30 years from the date on which the allocation of Takuma common stock is made, and the restriction is removed when that period ends or if the individual in question passes away, completes his or her term, retires, or otherwise ends his or her involvement with the company before the period ends for a legitimate reason approved in advance by the Board of Directors.

(7) Total amounts of compensation and other remuneration for directors

Executive category	Total compensation and other remuneration (millions of yen)	Total compensation and other remuneration by type (millions of yen)			Number of executives included	
		Basic compensation	Performance-linked compensation and other remuneration	Non-monetary compensation and other remuneration		
Director (except Audit & Supervisory Committee member)	283	196	40	45	6	*Performance-linked compensation and other remuneration consists of bonuses awarded to directors (except Audit & Supervisory Committee members).
Director (Audit & Supervisory Committee member) (outside director)	56 (36)	56 (36)	-	-	7 (6)	*Non-monetary compensation and other remuneration consists of shares of restricted stock granted to directors (except Audit & Supervisory Committee members).

Evaluation of the effectiveness of the Board of Directors

In order to increase the effectiveness of the Board of Directors, all directors participate in a questionnaire and interviews about the body's effectiveness. Those results are then analyzed, evaluated, reported to the Board by the executive in charge of the evaluation process, and discussed by the Board.

In the FY2020 evaluation, the effectiveness of the Board of Directors was analyzed and evaluated from four perspectives: the body's composition, its operation, the responsibilities of its members, and its overall effectiveness. This evaluation found that the Board had operated in an effective and efficient manner, for example by holding meetings online and working to provide materials on a paperless basis, and that it was implementing ongoing initiatives to improve its functionality and ensure its effectiveness, for example by evaluating items recorded in meeting minutes, from the standpoint of facilitating energetic meetings and enhancing discussions. As a result, the Board was determined to be functioning in an effective manner. At the same time, the process identified areas where improvements could be made, including discussing and providing information about progress towards strategic themes informed by a long-term perspective. We will continue to work to improve the effectiveness of the Board of Directors based on the results of this analysis and evaluation.

Internal control

Takuma has adopted a Basic Policy for Establishment of an Internal Control System (the full text is available on our website) in accordance with the Companies Act. We continue to review and improve this policy in response to changing circumstances. Working towards thorough compliance, Takuma built a compliance promotion organization in FY2006 in order to continuously implement enlightenment and educational activities that make corporate ethics, related laws and ordinances, and internal rules fully understood. To control the danger of loss, we have also prepared a "Risk Management Code" that determines the person in charge of each risk, and we set up our risk management organization according to that Code. When the unexpected occurs, emergency headquarters are established with the company president as the director in charge of risk management, and an organization is put in place in order to minimize and prevent further damage through prompt action.

Internal control, constructed and evaluated in order to report on and prevent misstatements in our financial reporting, is based on the Financial Instruments and Exchange Act. This internal control on financial reporting for the Group has resulted in reports that indicate this system has been effective. In this way, we will continue to work in the future to ensure thorough compliance while carrying out business properly and efficiently while also deepening risk management.

Governance Initiatives

Executive Profiles

*As of June 25, 2021

Directors



Hiroaki Nanjo
President and Representative Director & Chief Executive Officer

- April 1982 Joined the Company
- April 2009 General Manager of Environmental Engineering Department 1, Project Center, Engineering Group
- September 2010 General Manager of Energy Engineering Department 1, Project Center, Engineering Group
- April 2013 Executive Officer of the Company
- Deputy Executive Manager of Project Center, Engineering Group and General Manager of Energy Engineering Department 1
- April 2014 Executive Manager of Project Center, Engineering Group
- June 2015 Director & Executive Officer of the Company
- April 2016 Director & Managing Executive Officer of the Company
- Executive Manager of Engineering Group and Executive Manager of Management Center
- April 2018 Director & Senior Managing Executive Officer
- April 2019 President and Representative Director & Chief Executive Officer (up to the present)

Mr. Hiroaki Nanjo has mainly been engaged in the Planning Technology Division, and currently supervises the overall management as Chief Executive Officer, after serving as a Director & Senior Managing Executive Officer and Executive Manager of the Engineering Group. He possesses abundant experience and knowledge regarding operations and management of the Company.



Tsuyohito Nishiyama
Director & Senior Managing Executive Officer

- April 1985 Joined the Company
- April 2012 General Manager of Project Administration Department 1, Business Administration Division, Corporate Marketing Group
- April 2014 General Manager of Corporate Planning Department, Corporate Planning & Administration Division
- April 2015 Executive Officer of the Company
- Deputy Executive Manager of Corporate Planning & Administration Division and General Manager of Corporate Planning Department
- April 2016 Executive Manager of Corporate Planning & Administration Division
- June 2016 Director & Executive Officer of the Company
- April 2018 Director & Managing Executive Officer
- April 2019 Director & Senior Managing Executive Officer (up to the present)
- Executive Manager of Corporate Marketing Group and Executive Manager of Business Administration Division (up to the present)

Mr. Tsuyohito Nishiyama has mainly been engaged in the Business Administration Division, the Marketing Division and the Corporate Planning & Administration Division, and currently serves as a Senior & Managing Executive Officer and Executive Manager of Corporate Marketing Group that supervises overall marketing. He possesses abundant experience and knowledge regarding operations and management of the Company.



Keizo Masugi
Director (Audit & Supervisory Committee Member)

- January 2001 Joined the Company
- April 2014 General Manager of Accounting Department, Corporate Planning & Administration Division
- April 2016 General Manager of Corporate Planning Department, Corporate Planning & Administration Division
- April 2018 General Manager of General Affairs Department and General Manager of Legal Affairs Department, Corporate Services Division
- April 2021 Assistant General Manager of Audit & Supervisory Committee's Office
- June 2021 Director (Standing Audit & Supervisory Committee Member) of the Company (up to the present)

Mr. Keizo Masugi has mainly been engaged in the accounting department and Corporate Planning & Administration Division, and served as General Manager of General Affairs Department and Legal Affairs Department handling shareholder response and other general affairs duties and as well as preventive legal work and other legal affairs. He currently serves as a Standing Audit & Supervisory Committee Member. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Osamu Iwahashi
Outside Director (Audit & Supervisory Committee Member)

- April 1974 Joined the National Police Agency
- March 1985 First Secretary, Embassy of Japan in Thailand
- August 1995 Chief Constable of Kumamoto Prefectural Police
- August 1999 Director General for Crisis Management Policy Coordination of Cabinet Security and Crisis Management Office, Cabinet Secretariat
- June 2004 Director General of Commissioner-General's Secretariat, National Police Agency
- March 2005 Director General of Kinki Regional Police
- October 2006 Joined ALL NIPPON AIRWAYS CO., LTD. (currently ANA HOLDINGS, INC.)
- Senior Advisor
- September 2007 Outside Corporate Auditor of SANKO MARKETING FOODS CO., LTD.
- June 2012 External Auditor of the Company
- November 2013 Retired from ANA HOLDINGS, INC.
- December 2013 Executive Director of Public Interest Incorporated Foundation Japan Police Scholarship Association
- June 2016 Director of the Company (Audit & Supervisory Committee Member) (up to the present)
- September 2019 Resigned from Outside Corporate Auditor of SANKO MARKETING FOODS CO., LTD.

Mr. Osamu Iwahashi has served in many important positions in the National Police Agency, and in addition to possessing abundant experience and a high level of insight regarding various types of risk management, has served for many years as an External Auditor and Director who is an Audit & Supervisory Committee Member of listed companies, including the Company, and possesses knowledge regarding financial and accounting from his experience participating in audit and supervisory operations.



Hideki Takeguchi
Director & Senior Managing Executive Officer

- April 1985 Joined the Company
- April 2012 Deputy General Manager of Environmental Engineering Department 1, Project Center, Engineering Group
- April 2014 General Manager of Environmental Engineering Department 1, Project Center, Engineering Group
- April 2015 Executive Officer of the Company
- Deputy Executive Manager of Project Center, Engineering Group and General Manager of Environmental Engineering Department 1
- April 2016 Executive Manager of Project Center, Engineering Group
- June 2016 Director & Executive Officer of the Company
- April 2018 Director & Managing Executive Officer
- April 2019 Director & Senior Managing Executive Officer (up to the present)
- Executive Manager of Engineering Group and Executive Manager of Management Center (up to the present)

Mr. Hideki Takeguchi has mainly been engaged in the Planning Technology Division, and currently serves as a Director & Senior Managing Executive Officer and Executive Manager of Engineering Group that supervises overall engineering. He possesses abundant experience and knowledge regarding operations and management of the Company.



Koji Tanaka
Director & Managing Executive Officer

- April 1986 Joined the Company
- April 2009 Deputy General Manager of European Operations Department, Corporate Planning & Administration Division
- August 2011 General Manager of Corporate Planning Department, Corporate Planning & Administration Division
- April 2014 General Manager of Human Resources Department, Corporate Services Division
- April 2017 Executive Officer of the Company
- Executive Manager of Compliance & CSR Promotion Division, Executive Manager of Corporate Services Division and General Manager of Legal Affairs Department
- June 2017 Director & Executive Officer of the Company
- April 2018 Executive Manager of Compliance & CSR Promotion Division and Executive Manager of Corporate Services Division
- April 2021 Director & Managing Executive Officer (up to the present)
- Executive Manager of International Division and Executive Manager of Compliance & CSR Promotion Division
- June 2021 Executive Manager of International Division (up to the present)

Mr. Koji Tanaka has mainly been engaged in the Information Systems Division, neutral divisions such as human resources, Corporate Planning & Administration Division and the International Division, and currently serves as a Managing Executive Officer and Executive Manager of the International Division, which is responsible for the Company's overseas business. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Tomomi Fujita
Outside Director (Audit & Supervisory Committee Member)

- October 2004 Registered as Attorney at Law (Osaka Bar Association)
- Joined Kitahama Partners
- January 2012 Partner of Kitahama Partners
- March 2016 Left Kitahama Partners
- April 2016 Founded Innoventier
- Partner of Innoventier (up to the present)
- February 2017 Director, Licensing Executive Society JAPAN
- April 2018 Assistant Lecturer, Kyoto University Law School (up to the present)
- June 2019 Director (Audit & Supervisory Committee Member) of the Company (up to the present)
- June 2019 Outside Auditor of TAIYO YUDEN CO., LTD. (up to the present)
- February 2020 Vice President of Licensing Executives Society JAPAN (up to the present)

Ms. Tomomi Fujita is involved in management of law firm Innoventier as a Partner while serving as Vice President of the Licensing Executive Society Japan and Assistant Lecturer of Kyoto University Law School. She possesses abundant experience and expertise regarding corporate law covering intellectual property, business revitalization, M&As, and the Companies Act. In addition to serving as Outside Director who is an Audit & Supervisory Committee Member of the Company, she serves as an Outside Auditor for a listed company.



Yoshiaki Ito
Outside Director (Audit & Supervisory Committee Member)

- October 1985 Joined Showa Ota & Co. (currently Ernst & Young ShinNihon LLC)
- July 2001 Partner, Showa Ota & Co.
- July 2008 Senior Partner, Showa Ota & Co.
- June 2014 Resigned, Showa Ota & Co.
- July 2014 Representative, Ito Certified Public Accountant Office (up to the present)
- March 2015 Outside Director, NAIIGA TRANS LINE LTD. (up to the present)
- June 2020 Director (Audit & Supervisory Committee Member) of the Company (up to the present)

Mr. Yoshiaki Ito has engaged in audit business, IPO support and consulting business, etc., for listed companies for many years while he was serving at Showa Ota & Co. (currently Ernst & Young ShinNihon LLC). After serving as Senior Partner at Showa Ota & Co., he has been also serving as Outside Director of a listed company for many years, and possesses abundant experience and expert knowledge on finance and accounting as well as abundant experience and knowledge on audit and supervision.



Kunio Hamada
Director & Executive Officer

- July 1990 Joined the Company
- April 2012 Deputy General Manager of Cost Control & Project Administration Department, Management Center, Engineering Group
- June 2013 General Manager of Cost Control & Project Administration Department, Management Center, Engineering Group
- April 2018 Executive Officer of the Company
- Deputy Executive Manager of Corporate Planning & Administration Division and General Manager of Corporate Planning Department
- April 2021 Executive Manager of Corporate Planning & Administration Division (up to the present)
- June 2021 Director and Executive Officer of the Company (up to the present)

Mr. Kunio Hamada has mainly been engaged in the engineering division and cost management division, and currently serves as Executive Officer and Executive Manager of Corporate Planning & Administration Division responsible for finance and formulation and implementation of corporate plans. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Hiroshi Oishi
Director & Executive Officer

- April 1988 Joined The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.)
- January 2008 Deputy General Manager of Human Resources Department, Mizuho Securities Co., Ltd.
- January 2013 Deputy General Manager of Corporate Planning Department
- April 2013 General Manager of Securities & Trust Promotion Department, Mizuho Bank, Ltd.
- April 2016 General Manager of Customer Service Department and General Manager of Management Department, Mizuho Financial Group, Inc.
- August 2019 Executive Officer of the Company
- Deputy Executive Manager of Energy Plant Division, Corporate Marketing Group
- April 2021 Executive Manager of Corporate Services Division (up to the present)
- June 2021 Director and Executive Officer of the Company (up to the present)

Since joining The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.), Mr. Hiroshi Oishi engaged in various operations at the bank and its group companies including deposits, money transfers, loans, currency exchange, business planning, human resources and customer service. At the Company, he has engaged in product and service sales in the marketing division, and currently serves as Executive Officer and Executive Manager of Corporate Services Division responsible for general affairs and human resources. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Tetsuya Kaneko
Outside Director (Audit & Supervisory Committee Member)

- April 1981 Joined The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.)
- September 2000 Deputy General Manager of Singapore Branch, The Dai-ichi Kangyo Bank, Ltd.
- April 2002 Deputy General Manager of Singapore Branch, Mizuho Corporate Bank, Ltd. (currently Mizuho Bank, Ltd.)
- November 2004 Associate Director of International Administration Department, Mizuho Corporate Bank, Ltd.
- April 2005 General Manager of Yokohama Sales Department, Mizuho Corporate Bank, Ltd.
- April 2008 General Manager of International Sales Promotion Department, Mizuho Corporate Bank, Ltd.
- April 2010 Deputy Director of Human Resources Management Department, Mizuho Corporate Bank, Ltd.
- July 2010 Deputy Director of Corporate Planning Department, Mizuho Financial Group, Inc.
- Seconded to Mizuho Research Institute Ltd., Senior Executive Officer, General Manager of Education Business Department
- November 2010 Senior Executive Officer, General Manager of Education Business Department, Mizuho Research Institute Ltd.
- May 2011 Left Mizuho Research Institute Ltd.
- June 2011 Director of KANEMATSU CORPORATION
- June 2014 Managing Executive Officer of KANEMATSU CORPORATION
- June 2019 Resigned from KANEMATSU CORPORATION
- June 2019 Standing Auditor, Yushu Building Co., Ltd. (currently Yushu Corporation Ltd.)
- June 2020 Director (Audit & Supervisory Committee Member) of the Company (up to the present)
- June 2020 President, Yushu Corporation Ltd. (up to the present)

Mr. Tetsuya Kaneko has served as Director and Managing Executive Officer at a global company, KANEMATSU CORPORATION, for many years. He possesses abundant experience and knowledge on corporate management, as well as knowledge on overseas business from his abundant experience working overseas while he was serving at The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.).

Executive Officers

Ryoji Tani
Managing Executive Officer
Executive Manager,
Construction Center

Mitsuaki Adachi
Managing Executive Officer
Executive Manager,
Energy Plant Div.

Hidetoshi Tomita
Executive Officer
Executive Manager,
Environmental Plant Div.

Keiji Nakamura
Executive Officer
Deputy Executive Manager,
Construction Center

Kiyoshi Shibata
Executive Officer
Deputy Executive Manager,
Engineering Center

Norito Uchiyama
Managing Executive Officer
Executive Manager,
Engineering Center

Akira Taguchi
Managing Executive Officer
Executive Manager,
Technology Center

Norio Maeda
Executive Officer
Executive Manager,
Project Center

Yasushi Enomoto
Executive Officer
Executive Manager,
Compliance & CSR Promotion Div.

Governance Initiatives

Messages from Outside Directors

I became an outside auditor at Takuma nine years ago after working for more than 32 years as a civil servant, primarily at the National Police Agency, and then serving in a variety of positions, including as an outside auditor at another listed company. At the time, I was only one of two outside executives at Takuma, but our number subsequently grew to three and then four. Today, our diversity has grown thanks to the appointment of a female member, and all of us have become directors who are members of the Audit & Supervisory Committee, strengthening the institutional underpinnings of our role. Of course, it is not possible to prevent fraud and misconduct merely by putting in place formal structures. Ensuring that such structures function in a substantial and meaningful manner requires unceasing effort on the part of both the company and its outside executives. Takuma addresses this challenge by working to deepen the understanding of outside directors, for example by hosting regular sit-downs with the president for candid exchanges of views, holding interviews with executive officers, and orchestrating tours of subsidiaries and worksites, opportunities which we as outside directors actively take advantage of.

The company also takes a more proactive approach to disclosing information than it did nine years ago, and I believe steps like enhancing IR briefings and the website are helping increase transparency from the standpoint of outside stakeholders. It is also a welcome development that Vision 2030, Takuma's long-term vision, has set the target of doubling ordinary profit, which is an ambitious goal for a company in a mature industry. I expect that the way the vision has clarified the relationship between Takuma's business targets and the Sustainable Development Goals (SDGs) will also serve to promote the company's ESG-centric stance.

Osamu Iwahashi

Outside Director (Audit & Supervisory Committee Member)



One year has passed since I began serving as an outside director (Audit & Supervisory Committee Member) at Takuma in 2020. I have gained a new appreciation of how Takuma prizes the values of fairness and sincerity, and how it is characterized by a high level of compliance awareness, confirming the impression I had before accepting the position. All important matters are brought before the Board of Directors as resolutions, and managing directors engage in sufficient discussion of new projects and projects that encountered problems in the past. As a result, I think that the Board has established a sufficient level of transparency in the company's management.

Vision 2030, Takuma's long-term vision, and the 13th Medium-Term Management Plan both started in FY2021. These documents offer detailed content that provides a more concrete vision for the company's future while focusing on expanding its businesses and strengthening its profitability. They address not only Takuma's domestic businesses, but also its advance into overseas markets. With regard to the latter, careful attention will be essential as risk management is the paramount consideration. The vision and plan also give sufficient consideration to environmental conservation in line with the SDGs, and I am confident that they deserve high expectations.

Finally, I look forward to working closely with my three counterparts in contributing as outside directors.

Yoshiaki Ito

Outside Director (Audit & Supervisory Committee Member)



FY2020 began during the global chaos of the COVID-19 pandemic. In the midst of that confusion, Takuma went about its daily business while taking steps to prevent the spread of the disease, for example by moving quickly to enhance staggered working hours and telework programs, so that the company could contribute to society through its environmental and energy plant business. I believe that the Board of Directors, along with committees and councils, has been able to utilize online meetings and paperless meeting systems effectively to facilitate the candid exchange of views. While we as outside directors are not responsible for carrying out the company's operations, each of us takes advantage of the specialized knowledge he or she has gained to offer opinions and contribute to robust discussions with Takuma's inside directors.

With FY2021, a new stage has begun for Takuma under the 13th Medium-Term Management Plan. Environmental conservation and utilization of renewable energy have become important global issues, and I believe that the development and expansion of Takuma's businesses will serve the interests of its stakeholders as well as society in general. I look forward to contributing to Takuma's growth as one of its outside directors.

Tomomi Fujita

Outside Director (Audit & Supervisory Committee Member)



I have participated in meetings and discussions of the Board of Directors and other bodies as an outside director, and I feel that those discussions are always sincere and fruitful. The number of meetings convened online has grown, and they have been held so as to ensure that all participants feel involved.

Those discussions have left me with an impression that the high level of trust Takuma has built with customers through its business model, which is characterized by long-running customer relationships, serves as the basis for the expansion of its businesses, and that the company is steadily investing in future technological innovation, as symbolized by the completion of the New TAKUMA Building (Training Center) and the start of construction of the new Harima Factory. A strategy that focuses on both the present and the future is exactly what Takuma needs, and I believe that spirit has been reflected in the long-term vision (Vision 2030) and in the 13th Medium-Term Management Plan, both of which started with FY2021.

I have high expectations towards the further development of Takuma as it takes advantage of its current strengths and a favorable environment where the SDGs are becoming a central theme in the global economy.

Although I was not able to see much with my own eyes over the last year due to the COVID-19 pandemic, I look forward to visiting plant sites once things calm down and making a contribution that is based on a more finely attuned appreciation of what is going on out in the field.

Tetsuya Kaneko

Outside Director (Audit & Supervisory Committee Member)



Governance Initiatives

Strengthening risk management

Risk management structure

We consider it necessary to effectively address risks that could interfere with the group's achievement of its business goals so that we can safeguard and steadily increase our corporate value over the long term.

Takuma follows a "Risk Management Policy" that connects company-wide risks and separately classifies them into project risks related to our core business, i.e., plant construction; DBO project risks and DBO project operation, maintenance and management risks related to our DBO business; and potential risks, actualized risks, and financial reporting risks related to other corporate business activities.

Group companies also work to develop and strengthen approaches to risk management through the Takuma Group Coordinating Committee for Compliance & CSR Promotion.

Risk Management Policy

[Basic purpose of risk management]

Risk refers to all phenomena that interfere with the Group's ability to achieve its business objectives or cause losses or harm to the interests of stakeholders.

The Takuma Group practices risk management with the goal of increasing its corporate value by working to maximize returns while minimizing the negative impacts of risk.

[Risk management action guidelines]

1. The president and CEO is responsible for risk management at Takuma.
2. All officers and employees participate in risk management activities.
3. Risk management activities are carried out in accordance with applicable guidelines such as the Risk Management Rules.
4. Risk management activities are carried out in line with the Medium-Term Management Plan and annual plan, and we work to make improvements on an ongoing basis.
5. When risk manifests itself, we respond by taking responsible action quickly to minimize any damage and creating provisional organizational entities as necessary.
6. Group companies carry out risk management activities in accordance with their own policies and plans, with support from Takuma.

Business continuity plan (BCP)

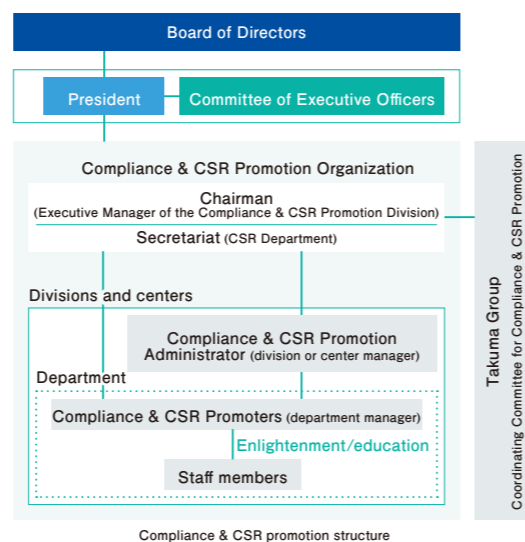
In addition to formulating a "Business Continuity Plan" based on the policies listed to the right to ensure proper and appropriate continuity of business operations in the event of a large-scale disaster, pandemic, or other emergency, Takuma conducts disaster prevention exercise and other training on a regular basis.

1. In addition to implementing disaster-related measures to secure the safety of corporate officers and employees, maintain structures so as to enable continuity of business operations while minimizing damage in an emergency.
2. Strive to respond to customer needs and recover from damage quickly by working closely with suppliers and partner companies to maintain business operations.
3. Earn the trust of numerous stakeholders, including employees, their families, shareholders, and nearby residents, and fulfill social needs by maintaining business operations.

Ensuring compliance

Compliance & CSR promotion structure

Takuma works to promote compliance and CSR through the Compliance & CSR Promotion Organization, which was established in order to spread awareness of compliance and CSR issues among employees. This organization is composed of a chairman (the Executive Manager of the Compliance & CSR Promotion Division), a secretariat (positioned in the CSR Department), and an executing organization in each division, center, and department. As the person in charge of promoting compliance and CSR in his or her division, each division or center manager is appointed as a Compliance and CSR Promotion Administrator. As persons who implement enlightenment and education in compliance and CSR in their respective departments, department managers are appointed as Compliance and CSR Promoters. The initiative includes an annual regular meeting at which Compliance & CSR Promotion Administrators discuss the state of compliance and CSR promotion throughout the company as well as quarterly departmental meetings at which Compliance & CSR Promoters are given training to help them better carry out related activities in their departments. Additionally, we established the Takuma Group Coordinating Committee for Compliance & CSR Promotion, which brings together representatives of group companies to help ensure that compliance and risk management are implemented throughout the group.



Fair business practices

Compliance measures

[Initiatives to ensure compliance with the Antimonopoly Act]

Towards ensuring permanent compliance with the Antimonopoly Act, Takuma enacted "Regulations Concerning Management of the Pledge of Antimonopoly Act Compliance", which provides for the submission of a written oath in regard to observing the Antimonopoly Act. When employees interact with the sales department of a competitor, they must apply and receive approval from the affiliated division or center manager in advance to ensure fair business contact.

[Introducing a Legislation Information Service]

Takuma has introduced a Legislation Information Service in order to gain a continuous grasp of the latest changes to laws and ordinances.

[Utilizing the Compliance Manual]

We distribute a Compliance Manual that includes an explanation of the rules and standards of conduct as well as an FAQ to all employees in accordance with Takuma Group Ethics Charter and Takuma Group Code of Conduct. This manual is utilized in the course of daily operations and departmental training.

Compliance & CSR promotion education

Takuma offers compliance and CSR promotion education through the Compliance & CSR Promotion Organization, which was established in order to spread awareness of compliance and CSR issues among employees. We offered the following four compliance and CSR promotion education sessions during FY2020. We also host regular CSR lectures for members of the company's executive leadership.

- 1st term: Corporate misconduct: Mechanisms that lead to fraud Intellectual property rights: Copyright, trademark rights, and design rights
- 2nd term: Environmental course: Thinking about environmental problems from a familiar perspective
- 3rd term: Overview of security export controls, Takuma's CSR comprehension test 2020
- 4th term: Internal reporting system, insider trading

Number of sessions per year:	4
Number of participating departments:	45
Total number of attendees:	4,453

CSR lecture for executives

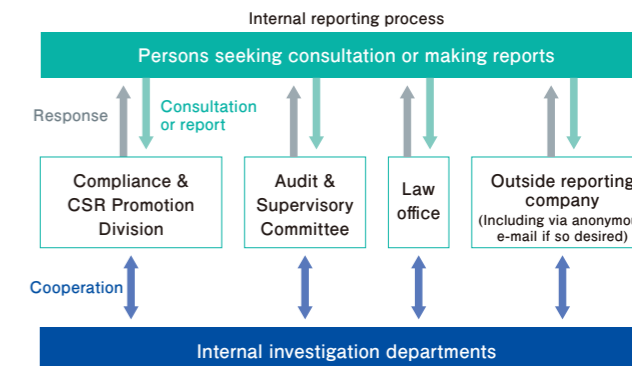
Date	October 28, 2020
Lecture theme	Promoting ESG management
Lecturer	KPMG AZSA Sustainability Co., Ltd.



Internal reporting system

Takuma has been operating an internal reporting system since FY2006, with the aim of promoting compliance management by preventing illegal or unfair acts, uncovering them as early as possible, and undertaking corrective measures.

Reporting hotlines are set up internally at our Audit & Supervisory Committee and Compliance & CSR Promotion Division as well as externally at an outside law office and a dedicated outside company for anonymous e-mail reporting. Our "Internal Reporting Code" and "Takuma Group Code of Conduct" further declare that no informant shall be subjected to disadvantageous treatment simply because he or she filed a report.



CSR awareness survey

We conduct an annual CSR awareness survey in order to quantitatively assess the level of compliance and CSR awareness along with the effectiveness of related promotional and educational efforts. The results of this survey are used when summarizing the activities of each fiscal year and in formulating the upcoming year's action plan, as well as in future compliance and CSR promotion activities. We make active use of survey results, for example by offering additional education, particularly in areas that received lower scores than in the previous survey.