

Environment-Creator™

**TAKASAGO
CORPORATE
REPORT**

2022

Achieving environmental creation needed by the Earth and people as an

Environment-Creator™

Takasago Thermal Engineering Group, as an “Environment-Creator™,” will commit to the creation of comfortable and optimum spaces and the conservation of the global environment through the development of a one-stop service business targeting building spaces with HVAC construction at the core and the establishment of innovative business fields in the energy sector, among other sectors.





SCIENCE
BASED
TARGETS

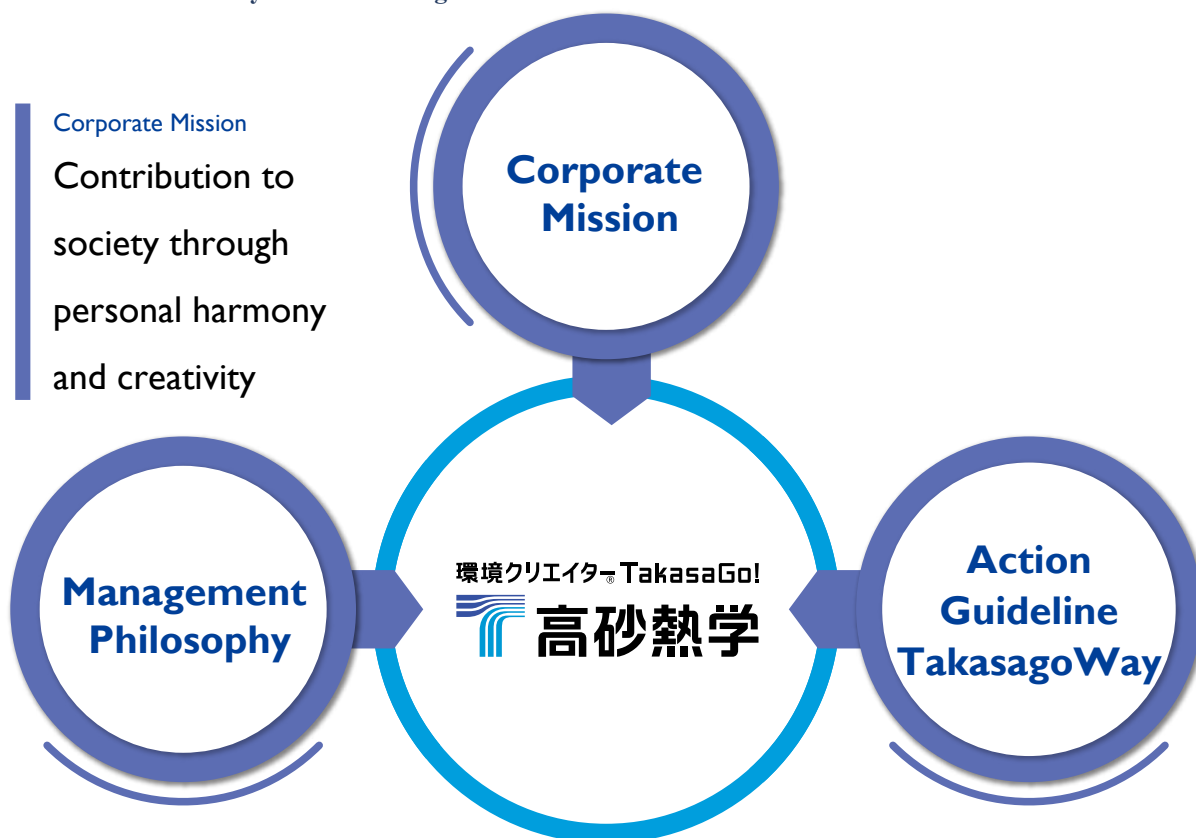
TCFD

TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES

Corporate Mission, Management Philosophy, and Action Guideline

As a pioneer of HVAC technology, Takasago Thermal Engineering, with adherence to the Corporate Mission of “Contribution to society through personal harmony and creativity,” has been working on the provision of the best product quality, ingenious technological development, and the development of human resources that can live up to these two.

We will remain committed to raising different stakeholders’ hopes and contributing to society after the 100th anniversary of our founding as well.



Corporate Mission

Contribution to society through personal harmony and creativity

Corporate Mission

Management Philosophy

環境クリエイター TakasaGo!
高砂熱学

Action Guideline TakasagoWay

Management Philosophy

- 1 To serve society through the development of business activities that focus on the creation of the best product quality
- 2 To develop distinctive technology that serves our customers’ needs and utilizes the creativity of all employees
- 3 To enhance personal character and harmony between people by nurturing talent and promoting mutual respect

Action Guideline TakasagoWay

Beyond Offer more value than is expected

01. If anything is needed but not available, we will make it ourselves
02. Take it not as someone’s matter but your own matter
03. Place yourself in the other person’s position
04. Go beyond conventional frameworks

Pride Get through a task openly and squarely

05. Takasago as a company respecting safety, Takasago as a company respecting compliance
06. Respectable behaviors
07. Have eagerness and sincerity for whatever you do
08. Give it a try, offer opportunities to give it a try

Trust Ties with other people are a fortune

09. It is people, not organizations that you please
10. Respect all people involved
11. Help and supplement each other
12. One for All, All for One

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Editorial Policy

The Takasago Thermal Engineering Group started to issue the Corporate Report (an integrated report) in 2017, and this is the sixth report. We have endeavored to ensure this report contains useful information for those who are interested in the current situation and medium- to long-term future of the Takasago Thermal Engineering Group. We will continue to improve the quality of the report based on your feedback and suggestions.

●Target organizations for this report

Takasago Thermal Engineering Co., Ltd. (all offices both in Japan and overseas) and Takasago Thermal Engineering Group companies

* The entire Takasago Thermal Engineering Group is referred to as "the Takasago Thermal Engineering Group" or "our Group," and Takasago Thermal Engineering Co., Ltd. alone is referred to as "Takasago Thermal Engineering" or "we."

●Reporting period

April 1, 2021 to March 31, 2022 * Some information before/after this period is included.

●Date of issue

November 2022

●Referenced guidelines

"International Integrated Reporting Framework," International Integrated Reporting Council (IIRC, now the IFRS Foundation)

"Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation," Ministry of Economy, Trade and Industry (METI)

"Sustainability Reporting Guidelines" (standards), Global Reporting Initiative (GRI)

Relationship of Major Reporting Materials



For details, see the website of Takasago Thermal Engineering <https://www.tte-net.com>



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Toward making even greater strides beyond our 100th anniversary

Using our resilient Group capabilities to respond to changes in the external environment

Risks posed by the external environment on business continuity continue to grow, including the global pandemic, natural disasters that grow more severe each year, and Russia's invasion of Ukraine which began at the beginning of this year. Takasago Thermal Engineering Group has faced challenging business environments numerous times through now. Together with our partner companies, we have overcome these situations and achieved growth. I still vividly remember how we worked together with Kowakai, which is composed of our partner companies, at the time of the Great East Japan Earthquake to support disaster recovery while leveraging our respective areas of expertise. Our strong Group capabilities, which are united with our partner companies, have created a firm structure in terms of health and safety, which should be a top priority in the construction contracting industry. These organizational capabilities are highly appreciated by our clients. Founded in 1923, Takasago will mark its 100th anniversary next year. We would like to express our gratitude to our employees, partner companies, and other stakeholders for their support which has enabled us to progress this far.

Climate change countermeasures are a theme directly related to our business of air conditioning. We contribute to the global environment by working together with our partner companies.

Contributing to a decarbonized society while transforming the construction process with air conditioning at the core

The essence of our main air conditioning business has changed with the times. At the time of Takasago's founding, HVAC systems were being actively introduced to control temperature and humidity in the spinning industry, which would become one of Japan's leading industries. Since 1960, we have accumulated a variety of achievements centered on air conditioning, such as comfortable, high-quality air conditioning, including cooling, for building complexes, department stores, and other such locations, as well as district heating and cooling, including the Shinjuku subcenter. In the process of working on HVAC systems for large facilities, we have combined air conditioning equipment developed independently by various manufacturers, including ducts and piping, and have always taken on the challenge of developing new systems and proposing solutions that satisfy our customers. Amidst the movement toward global decarbonization in response to the recent worsening of climate change, as a company whose business is HVAC construction, which uses the majority of energy in buildings, we are aware of our responsibility to contribute to energy conservation and reduction of environmental impact, and we also feel that there is great potential for growth in this area. In addition, we have started hydrogen business utilizing our water electrolysis-based system and other equipment that we have been developing ourselves toward realizing a carbon-neutral society and making hydrogen a potential new source of energy. Furthermore, we are focusing on efforts to reduce industrial waste, such as packaging materials for air conditioning equipment. In May 2022, we launched T-Base®, a project to transform the construction process from on-site construction to off-site production. The objective of this is partially to cope with the decline in the working-age population in Japan, reform work styles, and improve on-site productivity. But another of the main objectives is to reduce the environmental impact of all supply processes, including procurement, production, and transportation to the site. As we achieve firm growth in our core HVAC system business, we will take on challenges in new areas such as the hydrogen business, and contribute to the realization of a decarbonized society as an "Environment-Creator™."

Leveraging human capital under a pioneering governance structure

As Chairman of the Board of Directors, I have been working to strengthen Takasago's management infrastructure based

on the belief that it is important to not only shape and establish the governance structure, but also to put spirit into it and enhance its substance. Our Board of Directors has a pioneering governance structure in the industry, with a high ratio of six outside directors. The system we have established also incorporates diverse perspectives into our management by targeting them while using a skills matrix and in light of our business strategy. We will continue to enhance our diversity in terms of nationality and gender while assigning the right human resources to the right positions. President Kojima has succeeded me as president of the company. I personally selected several specific candidates and spent time discussing them with the members of the Nomination and Remuneration Committee to decide on the current management structure. With regard to fostering the next generation of human resources, we will foster and produce our successors via both practical and class-based learning through strategic personnel transfers, including the cultivation of global and group perspectives, beyond the president level to decision-makers in the business divisions.

Tackling the challenge of diversifying our revenue base for making great strides beyond our 100th anniversary

Takasago Thermal Engineering Group has continued operating to this day with the support of our employees, partner companies, suppliers, investors, shareholders, and all other stakeholders. Beyond our 100th anniversary as well, we will continue our business by inheriting the DNA expressed in our corporate mission, "Contribution to society through personal harmony and creativity," which we have cherished since our founding, as our important historical tradition and corporate culture. Also, while HVAC construction is our core business, we will continue to diversify our revenue sources by building innovative business domains in the energy field and other areas to achieve sustainable growth while contributing to society and the global environment. In the next few years, we plan to strengthen upfront investments to foster new business looking beyond our 100th anniversary and to make even greater strides in the years to come. I would like to ask all of our stakeholders for their continued warm support of our Group.

Atsushi Ouchi
Chairman and Representative Director, CEO

大内厚

Showing the essence of an Environment-Creator™ based on environmental technology cultivated with air conditioning

Seizing the opportunity of environment changes to create a new vision

Next year, Takasago Thermal Engineering will celebrate the 100th anniversary of our founding. Our 100-year history reveals that with air conditioning at our core, our company has pioneered the development of new products and technologies in the industry with the spirit of “making creations never before seen in history.” In our 70th anniversary commemorative publication produced about 30 years ago, there was a question asking, “What kind of a company is Takasago Thermal Engineering, and what kind of company will it be in the future?” In response, there were comments stating, “A company with creative characteristics, with creative development functions at the company core” and “Our key phrase in the 21st century will be respecting and pursuing people.”

Based on our history and accomplishments, I envisioned the concept of “Environment-Creator™” as what our company should aspire to be beyond our 100th anniversary. This concept encompasses our desire to be a company that creates not only air conditioning technology for human environments such as buildings and factories, but also environmental technology that contributes to the global environment as climate change becomes more serious. Immediately after we began calling ourselves an “Environment-Creator™” in 2020, the Government of Japan accelerated its efforts for decarbonizing society by announcing at the end of 2020 its goal for achieving carbon neutrality by 2050. The increasingly important movements for ESG and carbon neutrality are none other than an opportunity for an Environment-Creator™.

Therefore, in May 2022, we decided to drop our “iNnovate on 2023 go beyond!” four-year mid-term plan ending in FY2023, and to take one year to reconsider our vision for the future. FY2022 is the “landing of the stairs” toward growth beyond our 100th anniversary. We will formulate our vision for 2040, including environmental business investment for decarbonization, as an Environment-Creator™ after updating our recognition of the business environment, including future shortages of materials and equipment which are a concern due to the prolonged COVID-19 pandemic,

Russia’s invasion of Ukraine, and other global situations, as well as soaring materials and equipment prices due to the impact of currency exchange rates, and rising labor costs due to construction process delays and human resources shortages. While keeping our core business of HVAC construction as our main source of profit, we will strengthen the cultivation of our second and third businesses, centered on the Carbon Neutral Business Development Division which was established in April 2022, in order to link the creative actions that Takasago has continuously undertaken to the next generation.

It is important for us to leave for posterity the DNA that we have established through now. With this in mind, I have overhauled our Action Guideline and formulated the “TakasagoWay.” I formulated the TakasagoWay from what I heard while interviewing about 200 employees, including executives and younger employees, at all business sites for about an hour each starting in April 2020. We have created and globally shared an animation in multiple languages that introduces our three core values of “Beyond: Offer more value than is expected,” “Pride: Get through a task openly and squarely,” and “Trust: Ties with other people are a fortune.”

The strength of “Takasago as technology” will expand our business areas as an Environment-Creator™

Takasago Thermal Engineering has been repeatedly “making creations never before seen in history.” We have established the strength of “Takasago as technology” through our repeated efforts to improve our technological capabilities as our customers’ requests become more demanding. We do not stop at conducting our own R&D. For example, when developing clean rooms, we have worked with customers to develop technologies to create dust-free spaces while controlling temperature and humidity. Air conditioning equipment is an essential environmental condition for the manufacturing processes of industrial machinery. We believe that our contribution to the development of our customers’ businesses is one of the forms of social value we create.

Message from the COO

Kazuhiro Kojima
President and Representative Director, COO

小島 和人





In the process of improving our technology by specializing in the area of air conditioning, we have recently expanded beyond the air conditioning field to include carbon neutral initiatives such as net zero energy buildings (ZEB) and the use of hydrogen. We have been refining our heat and energy control technologies to achieve both comfort and energy conservation in building spaces. Although the COVID-19 pandemic has recently made many people aware of the importance of ventilation in preventing infections, we have been conducting research on the introduction of outside air and energy loss for quite some time. In addition, since 1980, we have also been conducting research on thermal storage using water and ice as a medium, which led to our research and development of hydrogen energy and the development of technology to generate high-purity hydrogen through the electrolysis of water. Renewable energy, which is essential for the realization of a decarbonized society, is characterized by the fact that the amount of electricity generated is easily affected by weather conditions. We are contributing to solving this problem by utilizing our water electrolysis-based hydrogen production system. In addition, in 2011, we provided our hydrogen energy technology, which electrolyzes water, to the Japan Aerospace Exploration Agency (JAXA). Our technological strength in responding to the needs of our customers and society is reflected in the number of patents we have obtained. As of March 31, 2022, we had 758 patents (including patents, utility models, designs, and trademarks), placing us in the top class of our industry. However, rather than withholding those technologies by using patents, we have provided them widely with the stance of “working together with others to make creations never before seen in history.” Our stance will not change in the future. We will continue to contribute to society and grow our business through open innovation.

Improving profitability by implementing company-wide optimal order receipt and reforming the construction process

We have announced the withdrawal of our mid-term management plan. With regard to our growth strategy aimed at “strengthening of management infrastructure,” which was set forth in the previous medium-term management plan, the implementation of various measures such as company-wide optimal order receipt has improved the profitability of construction work and has also had an effect in terms of strengthening our business in Japan. During the fiscal year ended March 31, 2021 around when the COVID-19 pandemic began, our international business experienced very difficult results and our business in Japan was also affected by investment restraint. However, in the fiscal year ended March 31, 2022, construction work progressed steadily, especially for large-scale projects such as redevelopment projects and factories, resulting in increased sales and profits. In the construction industry, it takes about two to three years for received orders to be reflected in business results. Thus, the 13.7% ratio of operating income to net sales in the previous fiscal year, which reached a record high, reflects our efforts to date. We have also seen strong growth in orders received and carried forward construction work, which we believe was achieved through the three-factor combination of our customers, our employees, and Kowakai which is composed of our partner companies.

Since I became president, I have been striving to change the attitude toward order receipt within the company. Today, Japan’s construction industry is facing the major challenge of the decreasing number of workers due to the shrinking workforce and changing attitudes toward work styles, such

Message from the COO

Simultaneously promoting profitability improvement and work style reforms centered on “company-wide optimal order receipt”

as work-life balance. We are changing direction under the belief that it is important to have “company-wide optimal order receipt” that maintains optimal order receipt for employees and our partner companies, rather than partial optimization where each branch is competing for orders.

While our performance figures have stabilized as expected, we are aware of the challenges we face. One of these challenges is the need to raise the engagement of employees and technicians. As an upper limit on working hours will enter into the law in 2024, the construction industry must take a step further and implement work-style reform.

One solution to this challenge is T-Base®, a new platform facility established in Yashio City, Saitama Prefecture in May 2022. I am introducing it as a secret base for creating the construction sites of the future. It will be the core facility of our project to transform the construction process in the construction industry. Shifting from conventional site-by-site construction management to off-site production management will reduce the workload of on-site operations and achieve high-quality construction, while at the same time contributing to the reduction of CO₂ emissions. The building itself is powered entirely by renewable energy, and the facility also incorporates an element of an educational facility where workshops are held to improve the skills of the technicians. T-Base® enables a production line where everyone can work, regardless of their age, nationality, or gender, and even people who have never worked in the construction industry before, under the guidance of

professionals. It also serves as a base for developing standardized technologies and promoting DX (digital transformation).

What we value for T-Base® is the happiness of the people who work there. Many people think of a break area on a construction site as being a plank and steel chairs. I believe that the construction industry has no future unless we change the very ideas that have become entrenched in the traditional industry. That is why the T-Base® break area is designed to resemble a cafeteria. There is much room for improvement in the travel and waiting time of technicians at construction sites, and T-Base® will help improve productivity and reduce long working hours. As the labor shortage problem in the industry becomes more serious, we believe that T-Base® can contribute to solving the problem by improving working environments.

In the fiscal year ending March 31, 2023, we will continue our efforts for company-wide optimal order receipt as we promote rationalization of construction, as exemplified by T-Base®, in order to improve profitability. As a challenge to tackle for our environmental business, we are currently planning active investments to increase the size of our water electrolysis-based system for small-scale hydrogen production. We will invest in carbon neutrality and human resources first. We believe that these investments will lead to growth over the medium to long term.

Capturing growing decarbonization opportunities domestically and internationally while addressing population decline

Looking at medium- to long-term growth, the current market environment has strong demand for construction in the industrial air conditioning field for factories, mainly for semiconductors, as well as for general air conditioning systems, such as redevelopment of urban areas. An increase in orders is a great business opportunity that directly leads to increased income and profit. On the other hand, we believe that receiving orders that exceed our capacity leads to risk of losing the trust of customers due to a shortage of technicians, delays in responding to designs and drawings, and other factors. With regard to the market related to



Strengthening new businesses that will lead the decarbonization era as an Environment-Creator™

carbon neutrality, we recognize that business opportunities are expanding not only in Japan but also in regions where we have overseas locations. In Ishikari City, Hokkaido, we constructed a small-scale microgrid using solar power and green hydrogen, and started its operation in April 2022. This initiative aims to supply new green power through local production for local consumption based on the lessons learned from the region-wide power outage following the 2018 Hokkaido Eastern Iburi earthquake. It won the grand prize in the NIKKEI Net Zero Carbon Award 2021 as a project that contributes to building disaster-resistant communities. Such collaboration with local governments is also being conducted in other regions leading decarbonization efforts in Japan. Even if small in scale at first, we will seize carbon-neutrality opportunities as we accumulate a track record to further expand our business. In addition, for water electrolysis-based systems, the energy management system (EMS) is even more important than hydrogen production. We will openly promote “Tsunagu” (connective) EMS connecting the generation, storage, and consumption process toward overall decarbonization through the use of AI and collaboration with outside companies.

On the other hand, we recognize procurement of materials and equipment as well as currency exchange rates as short-term risks. The construction industry has been facing the challenge of semiconductor shortages since the COVID-19 pandemic began two years ago. Takasago Thermal Engineering has established a business flow that takes into account component procurement risks. By knowing in advance the timing of air conditioner deliveries, we have established initiatives such as asking customers to accelerate the timing of their orders.

One of the chief mid- to long-term risks is the decrease of the working-age population. One solution to the issue of how to change work styles is the aforementioned transformation from construction management to production management as well as DX using T-Base®. We will change from the conventional style of “people moving to work” to “working by moving created things.” For example, rather than sending workers from Kyushu to a construction site in Okinawa, it would reduce costs and CO₂ emissions to transport materials from T-Base® in Saitama. We also believe it is necessary to work on the standardization of

three-dimensional building information modeling (BIM) data for facility construction. In February 2022, we announced a strategic partnership with Autodesk, Inc. of the United States to promote DX for the construction process.

Aiming for sustainable business growth while strengthening initiatives for ESG, which is becoming increasingly important

In order to achieve sustainable growth, it is important for us to diversify our business by developing the carbon neutral development business and new businesses as our second and third business pillars, while maintaining our core business of HVAC construction as a stable source of revenue. Takasago Thermal Engineering discloses information in accordance with the Task Force on Climate-Related Financial Disclosures (TCFD) framework and has acquired Science Based Target (SBT) initiative certification. We are considering changing our greenhouse gas (GHG) reduction target from our current “less than 2°C” to the higher hurdle of “less than 1.5°C” in terms of global warming.

In promoting sustainability management, we place great importance on human resources. In March 2022, Takasago Thermal Engineering was selected for the first time for the “Health & Productivity Stock Selection 2022” which only one company per industry is selected for. That being said, we need to make further improvement for efforts to create comfortable work environments, such as addressing long working hours at construction sites. We are also actively promoting human resource development measures such as digital training and recurrent education to improve job satisfaction. In addition to our employees, this is also available to the managers of the partner companies that make up Kowakai, in order to create an environment where each individual can work with a high level of motivation and a sense of happiness.

Message from the COO

Enhancing diversity is also a major issue in relation to human resources. We are focusing on issues such as increasing the number of female managers, enhancing various support systems for work-life balance, and improving engagement. In 2021, the ESG Promotion Committee was established under the direct control of the President. Three working groups have been established to promote full-fledged efforts to reduce CO₂ emissions, improve engagement, and promote diversity.

With regard to our governance structure, since the June 2022 General Meeting of Shareholders, outside directors have accounted for the majority of our Board of Directors. Through active discussions by members with diverse knowledge and backgrounds, we will continue to further enhance the effectiveness of governance.

Diversifying our revenue base and achieving sustainable enhancement of corporate value

Takasago Thermal Engineering will firmly seize this opportunity to achieve sustainable growth amid the global

trend toward decarbonization. In our core business, while we firmly strengthen our revenue base through new initiatives exemplified by T-Base®, we will also create new businesses that contribute to carbon neutrality, such as hydrogen, and fulfill our mission as an Environment-Creator™ for the next 100 years. The Ishikari Atsuta project and HAKUTO-R project, which we are tackling as environmental business challenges, are aimed at contributing to regional disaster resilience and building a lunar economic zone. We are taking on challenges for value that is different from that offered by conventional HVAC construction companies. We would also like to link our efforts as an Environment-Creator™ to the strengthening of our brand power, and to create a synergistic effect in improving employee engagement.

FY2022 has been a year for formulating our vision that will contribute to growth beyond our 100th anniversary. We will steadily increase our corporate value by meeting the expectations of all stakeholders, including our employees as well as our partner companies, shareholders, and local residents. We look forward to your continued support.



History of our value creation

Since its founding in 1923, the company, mainly covering HVAC system construction and its peripheral fields, has engaged in technological advancement through designs and construction living up to customers' trust and the development of optimum systems and devices.

Using technologies accumulated so far, we aim to achieve a low-carbon and sustainable society, and will pursue technological advancement.

Establishment of Takasago Heating Works Co., Ltd.

On November 16, 1923, our predecessor Takasago Heating Works Co., Ltd. was established.

In 1924, the year after the company was founded, it installed a temperature and humidity control system at the residence of Ryoji Oda (in Torii-zaka, Azabu, Tokyo), which is said to be the first air-conditioned private residence in Japan. In 1927, we constructed Mitsukoshi Hall (currently Mitsukoshi Theater), which attracted attention as the first fully air-conditioned theater in Japan.



Mitsubishi Hall
(currently Mitsukoshi Theater)

1923

1930s

Successive development of the first domestically-produced products

Large air conditioners of the day that were needed to create cold air had to be imported, and were very expensive because of transport expenses and engineers' travel expenses added to the price of the main body. Masanosuke Yanagimachi, future first President of Takasago Thermal Engineering Co., Ltd., developed the first domestically-produced product Takasago Ebara turbo refrigerator after years of research. In addition, we developed Japan's first heat pump heating and cooling system and industrial cooling tower.



Takasago Ebara turbo refrigerator
(catalog at the time)

Postwar reconstruction followed by the period of high economic growth

On July 1, 1943, our company name was changed to the current name, Takasago Thermal Engineering Co., Ltd.

Large-scale construction increased as Japan entered the period of rapid economic growth after WWII. We installed air conditioning systems for the Tekko Building No. 1 in Yaesu, Tokyo, a symbol of the first building construction boom, as well as Tetsudo Kaikan building at the Yaesu exit of Tokyo Station and Tokyu Kaikan in Shibuya. During the second building boom that followed, our company constructed the World Trade Center Building (40 floors above ground in Hamamatsu-cho, Tokyo), the second skyscraper ever built in Japan.

1940s

1950s



World Trade Center Building

Development of cleanrooms

In response to the growing demand for clean, contaminant-free air at manufacturing and medical care sites in Japan, Takasago Thermal Engineering quickly entered the cleanroom market right from the start. As exchange with foreign countries resumed after WWII, we took every opportunity to gather knowledge of new technologies and products. With the support of an American company, we constructed our first full-fledged cleanroom, the Nihon Denso cleanroom research building, in 1968.



Takasago laminar flow cleanroom

1960s

1970s

Promoting overseas business for globalization

We started our global business by opening a Singapore resident office, a Macao branch, and a Hong Kong branch in 1974. In order to expand our technology overseas beyond national borders, we accelerated our progress by establishing our Overseas Business Headquarters in 1980.

Technological advancement along with industrial development

In the 1990s, with the booming DRAM semiconductor market, mass production of lithium-ion batteries began in Japan. A low-humidity environment is essential for the production of these lithium-ion batteries. In order to generate this unique environment, we developed the low humidity environmental control room known as Dry Room®, which is still used to manufacture lithium-ion batteries.

From an environmental engineering company to an Environment-Creator™

Technology made significant advances in the 2010s. The issue of optimizing data center air conditioning systems emerged due to the increased heat generated because of larger amounts of data being processed and the improved performance of ICT equipment. In 2011, as an air conditioning system that fundamentally solves this issue, we jointly developed the IDC-SFLOW® wall outlet type air conditioning system.

From construction management to production management: T-Base® for the transformation of the construction process

The T-Base® Project is being promoted to solve issues in the construction industry, including the decline in the working-age population, compliance with overtime work hour limits, and contribution to conservation of the global environmental.

We will transform the way construction is carried out by shifting from site-by-site “construction management” to platform-based “production management.” T-Base®, the facility at the core of the transformation, was opened in May 2022, accelerating our operations throughout Japan.

100th anniversary in 2023
100th anniversary

2023

2020s

2010s

2000s

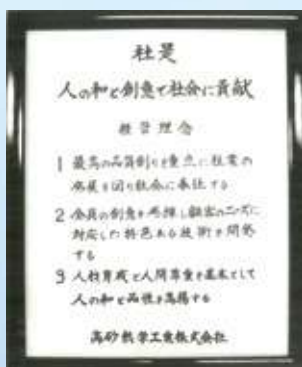
1990s

1980s

Clarification of our corporate mission and management philosophy

In October 1980, we stipulated our corporate mission and management philosophy which had been thus far implicitly inherited from the time of our company's establishment.

With regard to the term “personal harmony” in our corporate mission, we have passed down through many years the sentiments at the time of our founding of “We have no factories nor assets. We only have advanced expertise and employees who leverage it. The capabilities of each individual are fully demonstrated through the concerted efforts of all employees.”



Optimum operations of HVAC and development of energy-saving technologies

In 2005, in response to growing social momentum for energy conservation, we developed the data gathering analysis software GODA® to keep track of the operational state of an HVAC system adequately for its resulting optimum operations. We also developed the Swirling Induction type TAKASAGO HVAC System SWIT® to improve the comfort level of the living environment in large spatial facilities like factories, which also enabled improvement in energy-saving performance and a reduction in system costs.

Tackling social issues as an Environment-Creator™

Amidst the demand for companies to take high-level initiatives toward the realization of ESG, the SDGs, and a decarbonized society, we have been working on technological development of hydrogen, which is viewed as next-generation energy, since 1996. In April 2020, we released Hydro Creator®, a water electrolyzer system generating hydrogen, making efforts for the expansion of its practical use. In FY2021, we implemented the project for a “microgrid that realizes low carbon emissions with disaster prevention functions” in the Atsuta district of Ishikari City, and are now steadily advancing its practical application.



SWIT®



Hydro Creator®

The Value Creation Process

Achieving environmental creation needed by the Earth and people as an Environment-Creator™.

Aims

Establishment of the second and third core businesses

Strengthening of business in Japan

Growth strategy

Commitment to the environmental business

Air conditioning equipment business

Input

Management resources that support the value creation



Intellectual capital (non-consolidated)

Number of patents **758**
(as of the end of March 2022)

Awards given by the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan **128**

Number of qualified employees

Professional engineers **35**

Qualified persons for energy management **172**

First-class architects **45**

First-class plumbing work operation and management engineers **1,181**

* Current employees as of March 2022



Financial capital

Total assets **300.7**
billion yen

Shareholder's equity **132.8**
billion yen

Equity ratio **44.2%**
(as of the end of March 2022)



Social capital

Cumulative income from completed construction **Approx. 8.9**
trillion yen

Number of Kowakai* Companies **1,950**



Human and organizational capital

Number of Group employees **6,018**
(as of the end of March 2022)

Overseas bases **1** branch
9 overseas subsidiaries

Domestic business sites **59**

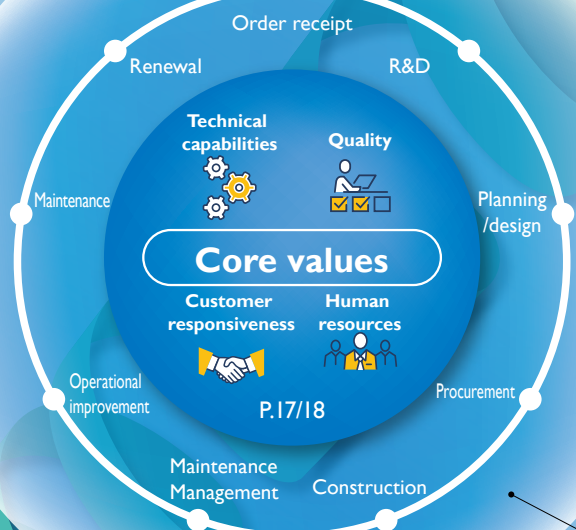


Natural capital (non-consolidated)

Energy consumption **1,789kl**
(crude oil equivalent)

Kowakai was organized with our partner companies as the members in 2003 to enhance cooperation with the partner companies working on the construction sites. The organization shares information on quality, health and safety, environmental conservation and other subjects of management with Takasago Thermal Engineering and also gives such information to the members to ensure proper management.

Value chain



Corporate Mission

Management Philosophy

Action Guideline
TakasagoWay

P.03

Environment-Creator™

Steady evolution into a multi-disciplinary equipment business

Further engagement enhancement

Reform of international business



Potential issues and risks

- Countermeasures against climate change issues (contributions to energy conservation and reduction of CO₂ emissions)
- Population decline
- Emerging awareness of ESG

Material issues

P.43/44

Reuse of resources

Output

Achievements from business activities

Provision of comfortable spaces friendly to people

Air conditioning aimed at the preservation of people's health and the creation of a comfortable living environment in various spaces (General air conditioning)

Environment for the manufacturing of high-quality products

Provision of a highly controlled production process environment where cleanliness, temperature and humidity are controlled such as cleanrooms and Dry Room® (Industrial air conditioning)

The most advanced energy-saving operation

Provision of optimum total facility management and solutions to customers' problems (Eco-Tuning, energy saving)

Technologies that contribute to the global environment

Creation of solutions that help solve social challenges by applying the technologies we have acquired to new areas

Results in FY2021

(as of the fiscal year ended March 2022)

- Consolidated net sales: 302.7 billion yen
- Consolidated ordinary income: 15.6 billion yen
- ROE: 8.7%
- Consolidated dividend payout ratio: 35.4%
- Dividend per share: 60 yen
- Bond rating (JCR): A
- CO₂ emissions reduction (from FY2019)

31.1% reduction

(Scope 1 and 2: Direct emissions, indirect emissions from purchased energy)

6.3% reduction

(Scope 3: Other indirect emissions)

Outcome

New value creation

Intellectual capital

- Improvement in environmental technologies that help realize a low carbon society or recycling-oriented society
- Strengthening of the structure for innovation (open innovation)
- Reform of the construction process

Financial capital

- Enhancement of medium- to long-term shareholder value
- Stock dividends

Social capital

- Strengthening of the relationship of trust with Kowakai and stakeholders
- Contribution to the solution of local communities' challenges

Human and organizational capital

- Development and production of employees with advanced expertise
- Improved job satisfaction

Natural capital

- Reduction in environmental impact

29,652t-CO₂

Sum of reduction shared as a significant reduction example in the CO₂ subcommittee

The four core values of Takasago Thermal Engineering

Takasago Thermal Engineering will leverage its four strengths of “Technical capabilities,” “Customer responsiveness,” “Quality,” and “Human resources” and continually refine them. As we do so, we will create social value, including contributing to a decarbonized society, creating comfortable spaces that are friendly to people, creating manufacturing environments for high-quality products, and conducting the latest energy-saving operations.



Technical capabilities

Strengths

- Accumulated extensive expertise in engineering and construction management related to air conditioning equipment
- Development of new technologies that contribute to solving social issues

Awards given by the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan

128

Initiatives for deepening our capabilities

- Sophistication of existing technologies and their horizontal development on a global scale
- Development of new technologies and new construction methods
- Research and development for the use of renewable energy
- Exploration of businesses in new fields based on advanced technologies

Number of patents

758 (as of the end of March 2022)



Customer responsiveness

Strengths

- Experience in a wide variety of building construction projects and network with customers
- Creation of new added value through provision of solutions

Cumulative income from completed construction (Consolidated)

8.9 trillion yen

Initiatives for deepening our capabilities

- Creation of new customer value with solutions
- Provision of proposals and designs that meet customer demand and also exceed their expectations
- Customer relationship management (CRM) for strengthening of the relationship of trust with customers



Quality

Strengths

- Provision of optimal air quality within the construction period under any construction environment
- Achieving safety and high quality in construction

Initiatives for deepening our capabilities

- Provision of comfortable spaces of the highest quality
- Reform of the construction process for productivity improvement on site
- Establishment of strong partnership with partner companies

Number of Kowakai companies
1,950

Standardization technology
with T-Base®

FY2021 frequency rate
0.084%
(achieved target of 0.15%)



Human resources

Strengths

- Diverse backgrounds
- Employees with abundant expertise
- A corporate culture that encourages growth and taking on challenges

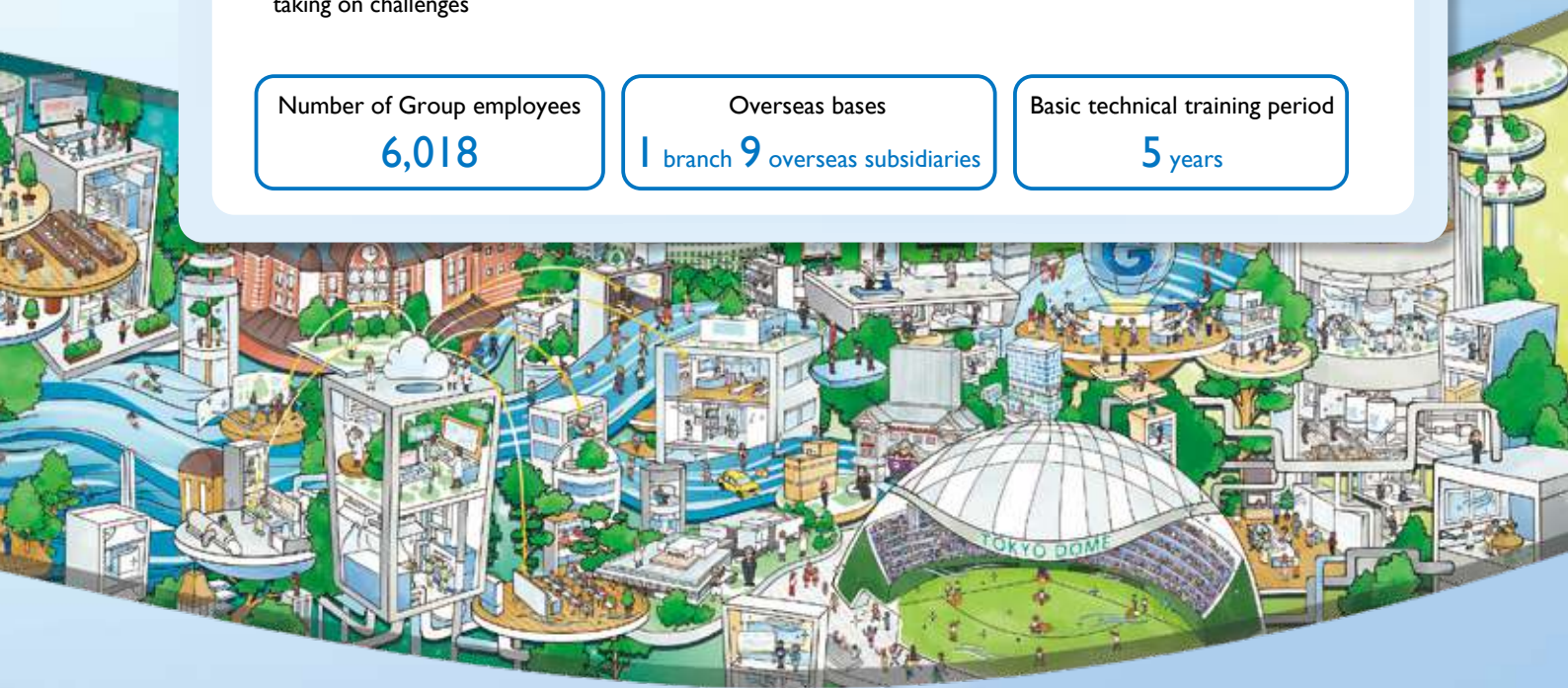
Initiatives for deepening our capabilities

- Further improvement of engagement
- Human resource development and skill development
- Establishment and dissemination of a code of conduct

Number of Group employees
6,018

Overseas bases
1 branch **9** overseas subsidiaries

Basic technical training period
5 years



Special
feature

Strengthening of business in Japan T-Base® project

From “construction management” to “production management”

The construction industry faces a variety of challenges, including the aging of the working-age population and the shrinking manufacturing workforce, the application of overtime work limits that will be implemented in FY2024, and addressing environmental issues.

To resolve these challenges, we are promoting the “T-Base® Project,” an initiative aimed at transforming processes in our core business of on-site construction.

Challenges surrounding the construction industry and our initiatives

“Reform of the construction process” is our initiative to change the way construction is carried out, with a shift from single-item production on sites that are unique to the construction industry (in other words, site-by-site “construction management”) to platform-based “production management.”

Through this initiative, we will contribute to solving problems in the industry through manpower and labor reduction and decreasing the environmental impact of the construction process.

In May 2022, we opened T-Base®, a facility that serves as the core of our planning, production, and logistics. Centered on this facility, we have been developing and manufacturing standardized products and new unit construction methods, as well as developing a central production system linking our partner companies, suppliers, and worksites, and have begun full-scale operations throughout Japan.

Features and effects of T-Base®

T-Base® is a platform for transforming the construction process.

Until now, blueprints have been created and on-site one-product construction has been conducted for

each construction site (onsite). Going forward, we will utilize T-Base® to standardize common parts and repetitive work regardless of the site, and produce and supply them from off-site. This will reduce on-site labor, equalize on-site processes, and improve construction quality.

It will also contribute to the promotion of diversity by providing employment opportunities at off-site locations for people who have not previously worked in the construction industry.

Initiatives to contribute to the environment centered on T-Base®

We are promoting three major environmental initiatives with T-Base®.

- (1) Reduction of waste materials brought on-site through decreasing packaging of materials in cooperation with manufacturers and distributors, adopting returnable packaging, and eliminating packaging of products produced at T-Base®
- (2) Reduction of CO₂ emissions in the production stage by adopting renewable energy
- (3) Reduction of transportation burden through logistics & modal shifts by combining cargo and vessels in transportation to sites

Through multiple initiatives, we are working to contribute to the environment in the production and supply cycle of the construction industry.



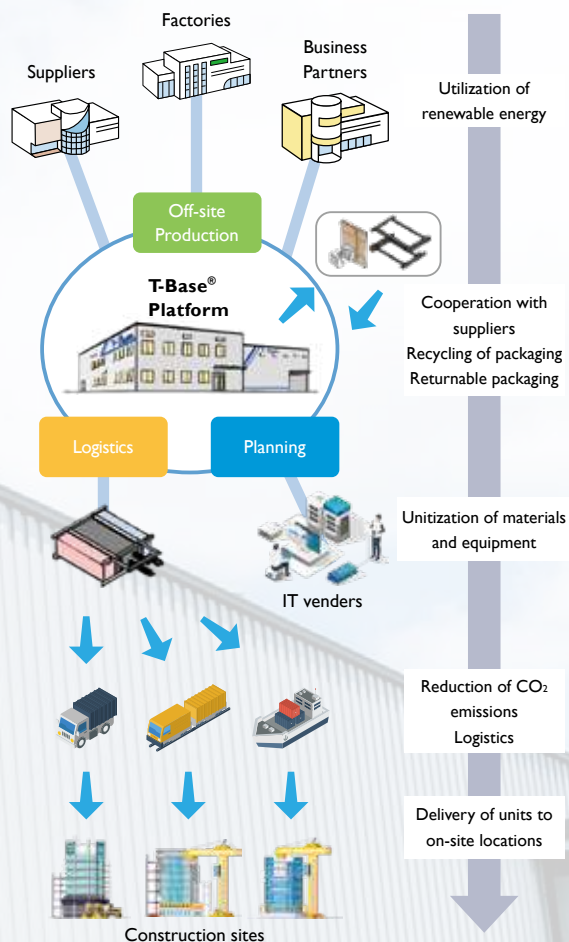
Future development

In the future, we will further improve productivity by increasing the number of standardized technologies and units handled by T-Base® and by establishing flexible locations to meet construction demand in each region. The establishment of a cross-regional production system will also help ensure a stable volume of work for members of Kowakai, which consists of our partner companies. Until now, the high level of busyness in each region has been handled through personnel transfers. However, by realizing a work style in which standardized units are produced at off-site locations and transported to construction sites, we will contribute to equalizing the level of busyness in each region and achieving work-life balance for workers.

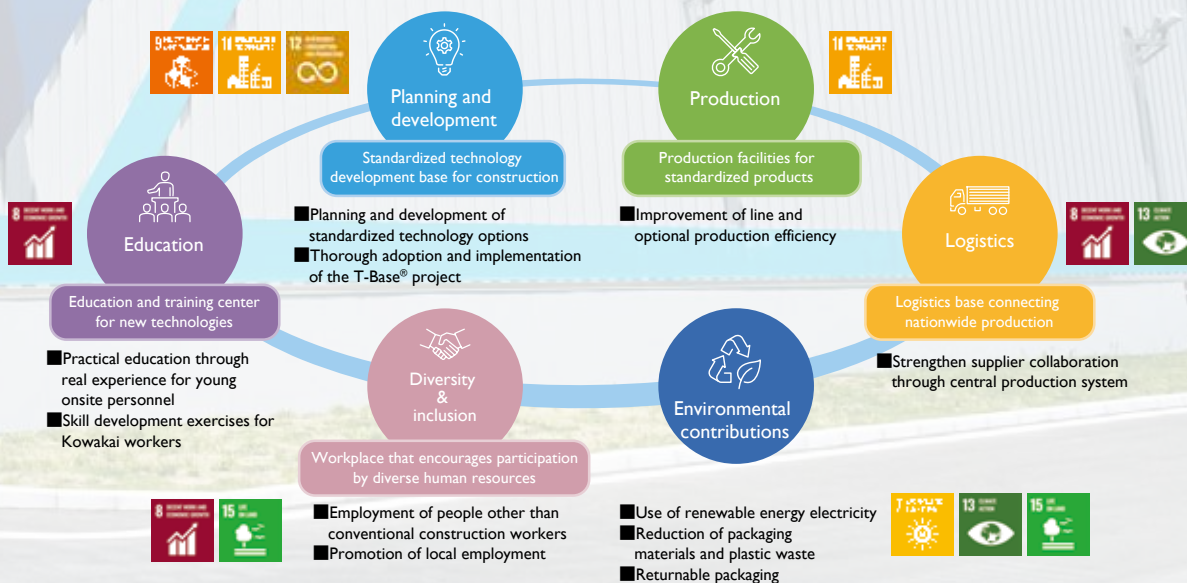
In addition, we aim to achieve a drastic transformation of the construction process by linking DX with building information modeling (BIM), such as creating 3D blueprints, to further improve productivity.



● Off-site environmental contributions



● Five functions and environmental contributions of T-Base®



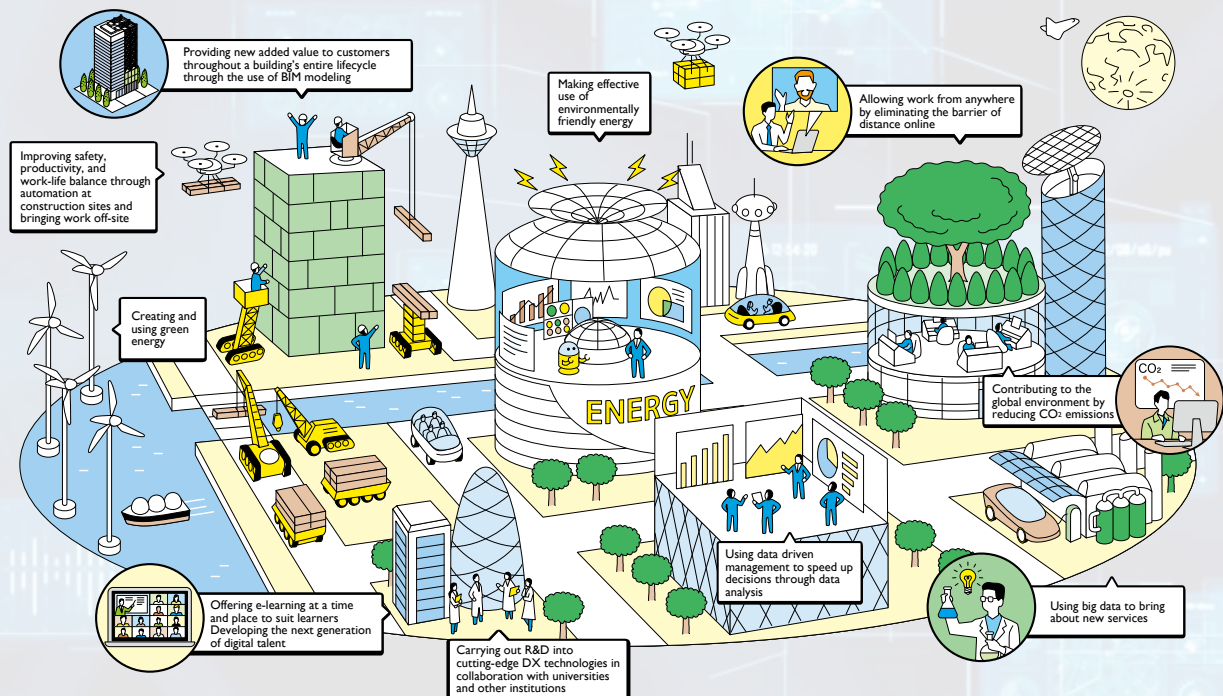


Special feature 2 Envisioned future of Takasago Thermal Engineering's DX strategy

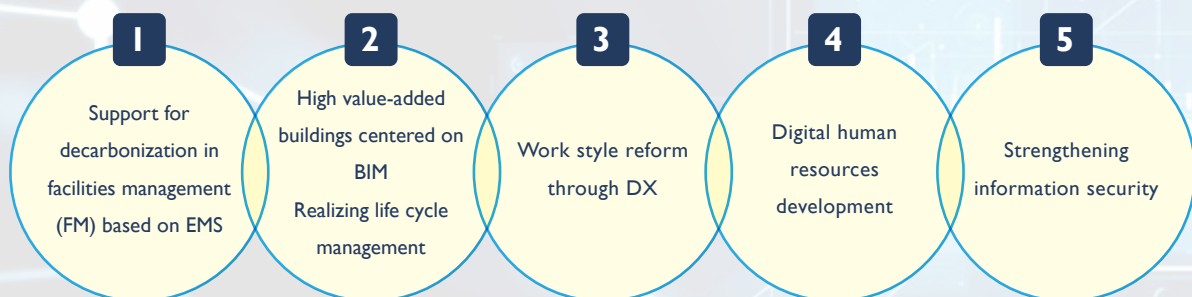
Takasago Thermal Engineering's DX strategy

As an Environment-Creator™, Takasago Thermal Engineering creates businesses that contribute to the global environment and find our raison d'être as a company that provides value to society. As all systems shift to digitalization, DX is an indispensable means of change for us to evolve as an Environment-Creator™. In order to realize a sustainable society, Takasago Thermal Engineering, as an Environment-Creator™, has many solutions to offer through its technological capabilities, such as promoting decarbonization, improving productivity in all industries, and creating value in people's lives.

We will strongly promote DX to realize a hopeful and prosperous future.



Specific DX initiatives



We will take a unique approach that leverages the digital infrastructure of Takasago's DX to work on **five concrete measures** to realize decarbonization and work style reform, which are issues faced by society.

TOPICS



In April 2022, our company was selected as a "DX-certified operator" by the Ministry of Economy, Trade and Industry.

Realization of high-value-added building life cycle management centered on BIM

In preparation for the full-fledged spread of BIM, we have positioned “Autodesk® Revit” BIM software from Autodesk, Inc. at the center of our DX strategy and are working to reform our business processes.

TOPICS

Signing of the memorandum of understanding (MOU) with Autodesk for our strategic partnership, the first of its kind for a Japanese equipment company

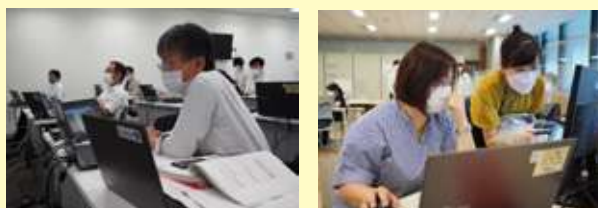
In February 2022, Takasago Thermal Engineering and Autodesk of the United States announced that they signed an MOU for a strategic partnership to build a new BIM system aimed at standardization in the equipment industry. This is the first partnership between Autodesk and a Japanese equipment company. In order to realize our DX strategy, it is essential to work on and spread equipment BIM in the construction industry. Autodesk, a company with expertise in spreading and using BIM worldwide, and Takasago Thermal Engineering, which has extensive experience in the HVAC industry, have partnered to transform business processes by positioning Autodesk’s BIM software, Autodesk® Revit, at the center of their DX strategy.



From left: Then-Representative Director Hiroyoshi Oda of Autodesk Japan and President Kazuhito Kojima of Takasago Thermal Engineering

Promotion of Revit training for all technical employees

Revit training for all technical employees began in July 2022 for a planned period of 13 months. In the training, employees learn about BIM and the basic functions of Revit and BIM360 to prepare for using Revit in future.



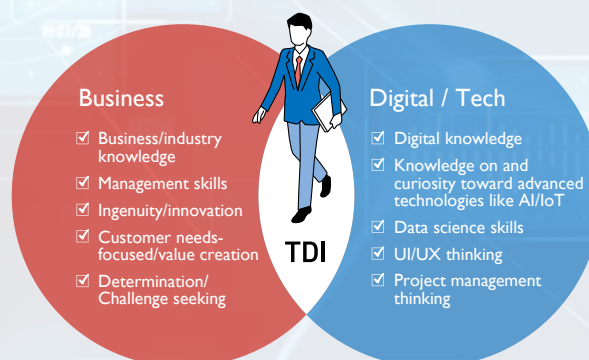
Work style reform through DX

In April 2022, the new core system ETHOS* went into operation, creating the infrastructure for paperless operations. This paperless infrastructure will be used to consolidate common operations that were previously conducted separately by each main office and branch. Batch processing is implemented with digital tools to improve efficiency. The resources generated will be used to widely place the right people in the right positions, including developing the skills of management personnel and enhancing their careers, as well as reduce working hours and powerfully promote work style reform.

*ETHOS: Synonym for “Evolved Takasago Head Online System,” the core system of Takasago Thermal Engineering

Training human resources skilled in digital technology

In order to continuously develop Takasago’s DX, we have established a training system to develop human resources with digital technology skills under the supervision of data scientists in collaboration with the Kobe University Center for Mathematical and Data Sciences (CMDSD) and other organizations. Rather than merely human resources skilled in digital technology, we aim to train Takasago Digital Innovators (TDI) who possess both business and digital skills at Takasago Thermal Engineering.

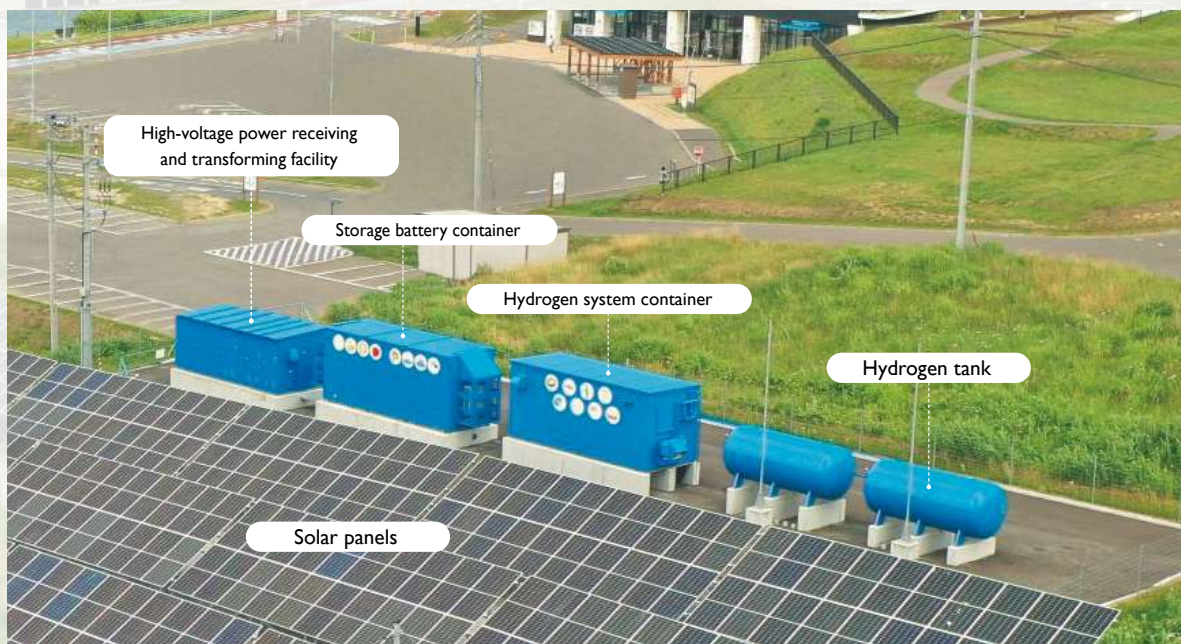


Special feature 3 Takasago Thermal Engineering's initiatives for carbon neutrality through environmental technology

Microgrid operation project utilizing green hydrogen

We will produce green hydrogen using electricity derived from renewable energy sources, which contributes to decarbonization, and help create added value for our customers through the “Tsunagu” (connective) concept of connecting the generation, storage, and consumption process.

See the upper chart on P. 38 for our “Tsunagu” business



Exterior view of the microgrid system in Atsuta, Ishikari City (Photograph courtesy of Ishikari City)

A microgrid for low carbon emissions

In the Atsuta district of Ishikari City, we have created a “microgrid that realizes low carbon emissions with disaster prevention functions” by introducing solar power generation, storage batteries, and our proprietary green hydrogen utilization technology. By establishing a self-supporting energy system based on

[Awarded the grand prize in the project category of the NIKKEI Net Zero Carbon Award 2021]

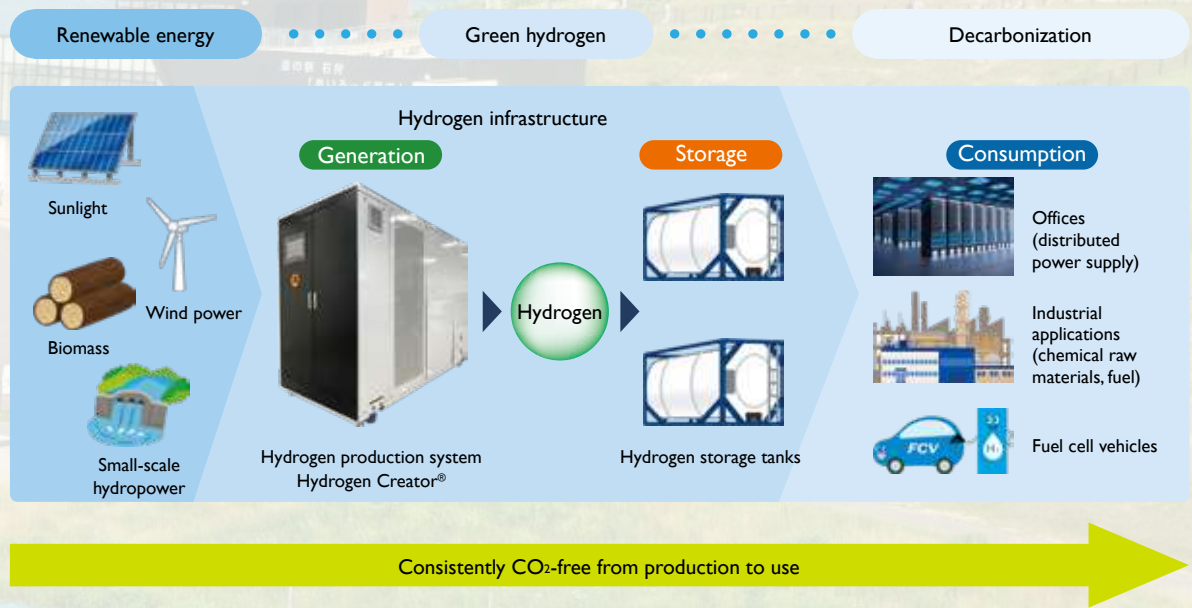
renewable energy, this microgrid contributes to global environmental conservation, and at the same time has succeeded in improving the safety of community life by implementing advanced disaster prevention functions.

Future business prospects

As the main source of renewable energy, solar power generation facilities are the most widespread in Japan. In addition, a large amount of wind power generation is planned to be introduced going forward. On the other hand, the constraints of the power system require output suppression, which leads to lower utilization rates. By combining the power system with storage batteries and green hydrogen to mutually complement functions and add value, it is expected to improve

the facility operation rate when a large amount of renewable electricity is introduced.

By utilizing the know-how we have cultivated in air conditioning equipment engineering, we will contribute to our customers' decarbonization and carbon neutrality by providing renewable energy, including “green hydrogen,” which emits no CO₂ throughout the entire process from production to use.



TOPICS

Tackling the challenge of resource development on the Moon

In recent years, it has been shown that there may be water resources on the Moon, and there is a movement toward the establishment of a lunar economic zone to utilize these resources. If hydrogen and oxygen can be generated from lunar water resources using water electrolysis-based systems, oxygen can be used to sustain life, and hydrogen can be used as fuel for rockets, lunar rovers, and the like. We are currently installing the world's smallest and lightest water electrolysis device on a lunar lander provided by the space venture company ispace, taking on the challenge of the first-ever hydrogen and oxygen generation demonstration experiment in a lunar environment.



Participation in a panel discussion at the 1st Lunar Business Conference

As a member of the Lunar Industry Vision Council, a working group for government-academia-industry collaboration, we submitted our lunar industry vision to then-Minister of State for Space Policy Inoue in July 2021, and are promoting efforts to build a lunar business ecosystem.

At the 1st Lunar Business Conference held by the Lunar Industry Vision Council in August 2022, panel discussions were held for each field. A panelist from our company in the field of "Impact of Lunar Water Resources on Industry Creation" provided an explanation of the progress and future plans of research and development for hydrogen production on the Moon.



Financial and capital strategy

We will promote optimal capital allocation and positively visualize non-financial values for the improvement of medium to long-term corporate value

Basic policy

The main financial KPIs related to our financial capital strategy will be announced again when our new vision is announced in May 2023 (planned), following the withdrawal of the medium-term management plan in May 2022. The basic concepts of the financial capital strategy are as follows.

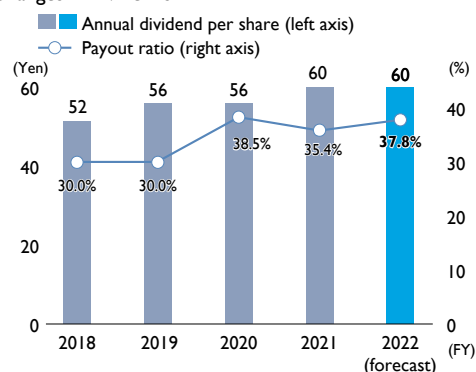
- We aim to continuously enhance corporate value by implementing optimal capital measures that balance investment in growth and shareholder returns.
- Through balance sheet management, we will firmly maintain our financial soundness and capital efficiency, and work to strengthen our business and create new businesses through active investment for growth.

Pursuing enhanced corporate value through investment in growth and shareholder returns

Within our 60 billion yen investment framework through FY2023, we have established investment selection criteria for growth investments with an awareness of capital costs, and have a policy of carefully selecting projects that will lead to future business area expansion and contribution to profits. With regard to dividends, our policy is to increase them according to growth in profits, without ever decreasing them. For FY2021, we paid an annual dividend of 60 yen per share, an increase of 2 yen from the original plan due to an increase in profit. Although a reduction in profits is planned for this fiscal year due to our prioritization of investments for growth, we will not reduce the dividend and will maintain the previous year's dividend at 60 yen per share. We will continue our policy to implement share buybacks in a flexible manner, with comprehensive consideration for market conditions, capital levels, and the business environment. In accordance with the above policy, we repurchased 6.0 billion yen of our own shares in FY2021. In the current fiscal year, we will continue to work to enhance corporate value by implementing a disciplined capital policy while enhancing the return of profits to shareholders.

Categories	FY	FY ended 3/20 Results	FY ended 3/21 Results	FY ended 3/22 Results	FY ended 3/23 Planned
Annual dividend per share		56 yen	56 yen	60 yen	60 yen
Payout ratio		30.0%	38.5%	35.4%	37.8%
(Reference) Purchase of treasury stock		4 billion yen	—	6 billion yen	—
Total return ratio		60.3%	38.5%	87.6%	—

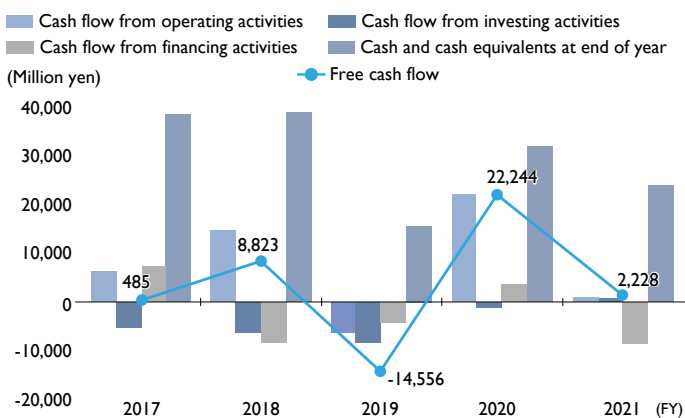
● Changes in dividends



Strengthening cash flow management

We will enhance profitability in our main business by strengthening management infrastructure for optimal capital management practices, and focus on cash generation by improving the cash conversion cycle (CCC). In addition to the inclusion of an item in branch performance assessments to evaluate efforts to improve cash flow, we will strengthen cash flow management while pursuing capital efficiency through efforts such as flexibly borrowing during the fiscal year, taking into account the characteristics of fluctuating income and expenditures by order type and segment (general or industrial). We believe that this will contribute to corporate value enhancement in terms of improved profitability in the main business and reduced capital costs.

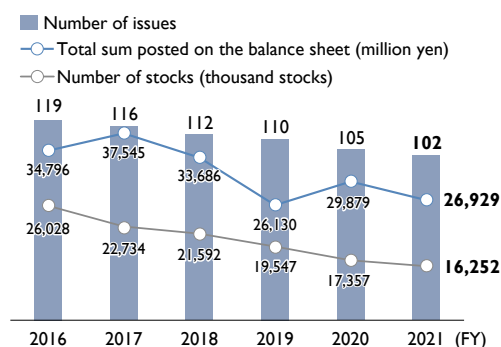
● Cash flow and net cash at end of year in the past 5 years



When it comes to shares held for policy purposes, we have a policy of not owning them in principle unless doing so is useful for sustainable corporate value improvement. We will consider selling such shares if there is no significance found in owning them as a result of the Board of Directors' assessment. In FY2021, we sold all or part of our holdings in 13 stocks (26,028 shares held at the end of March 2017 and 16,252 shares held at the end of March 2022) after verifying the appropriateness of holding each individual stock.

- Number of issues and stocks we own for purposes other than net investment and total sum posted on the balance sheet

FY	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Number of issues (issues)	119	116	112	110	105	102
Number of stocks (thousand stocks)	26,028	22,734	21,592	19,547	17,357	16,252
Total sum posted on the balance sheet (million yen)	34,796	37,545	33,686	26,130	29,879	26,929



Active approach to improving non-financial value for decarbonization and ESG

We position ESG as the foundation of business: Environment-Creator™ benefitting the Earth (E); further improvement of engagement of the employees, the greatest asset (S); and advanced governance (G) and are promoting every business. Under the ESG Promotion Committee chaired by our President, we have established subcommittees for CO₂ reduction, engagement promotion, and diversity promotion to focus on the solutions to ESG-related important social issues. In addition, we have embarked on the development of FP&A specialists who make up global companies in the West, and launched an e-learning program to improve financial literacy of all employees, for advanced management control.

With regard to CO₂ emissions reduction (Scopes 1 and 2), we have established a mechanism to promote such efforts by reevaluating the set target level and incorporating it as a non-financial indicator in the performance assessment for remuneration of executives.

In addition to strengthening the competitiveness of our core business by strengthening our management infrastructure, we will actively work to enhance our non-financial value in order to realize a decarbonized society and further enhance our corporate value as an Environment-Creator™.

Enhancing corporate value through a cycle of leveraging non-financial value and constructive dialogue

We began to actively engage in IR initiatives several years ago. In FY2021, in addition to regular IR briefings, we held individual meetings with numerous investors and analysts in Japan and overseas, and held an IR-Day at our R&D facilities for the first time ever. We believe that further enhancement of corporate value is fully possible by leveraging non-financial value such as our accumulated technology as a pioneer company in HVAC equipment, technological development for the future, and intellectual assets.

Although the HVAC business currently accounts for much of our sales, we believe that we can diversify our envisioned business and thereby strengthen our competitiveness and further enhance corporate value by expanding our business area from air conditioning construction to carbon neutral business that contributes to global environmental conservation as an “Environment-Creator™” through utilization of our strengths in energy-saving technologies and energy management technologies.

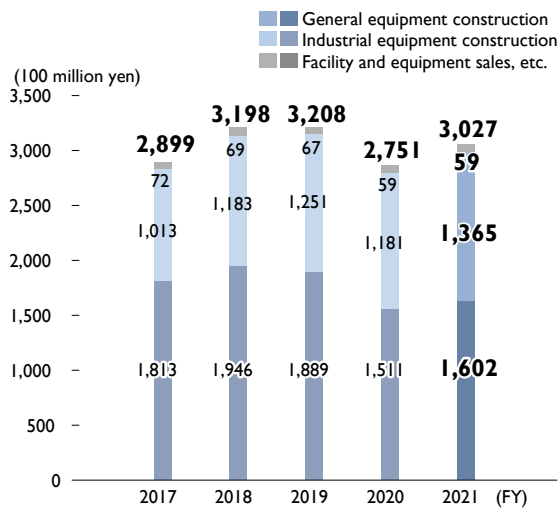
In addition to promoting understanding of our business through active engagement in IR and SR as well as constructive dialogue with investors, analysts and individual shareholders, we will advance a healthy constructive dialogue cycle of sharing in-house what market players want us to do and in turn reflecting them in our next management plans and action plans. We will go on promoting two-way communication with an emphasis on transparency and fairness, and your candid comments would be appreciated.



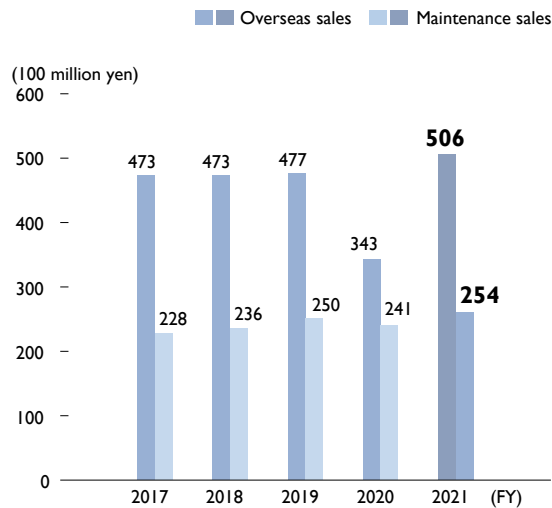
Financial and Non-Financial Performance

Financial performance

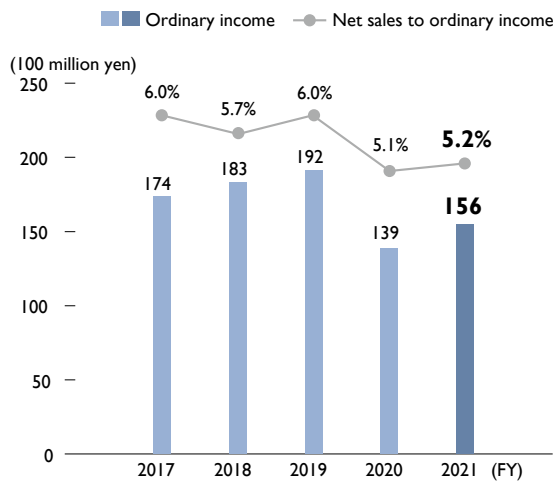
Net sales



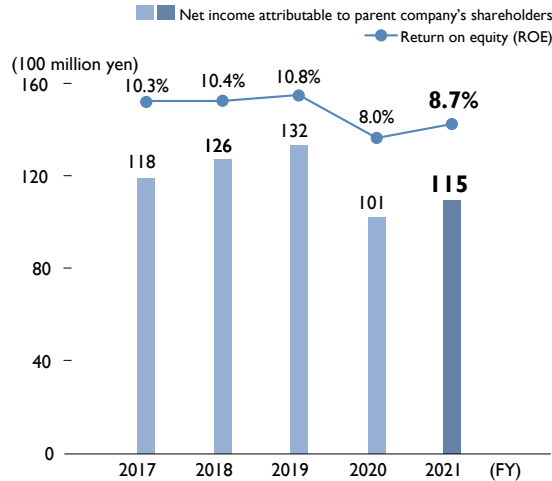
Overseas sales and maintenance sales



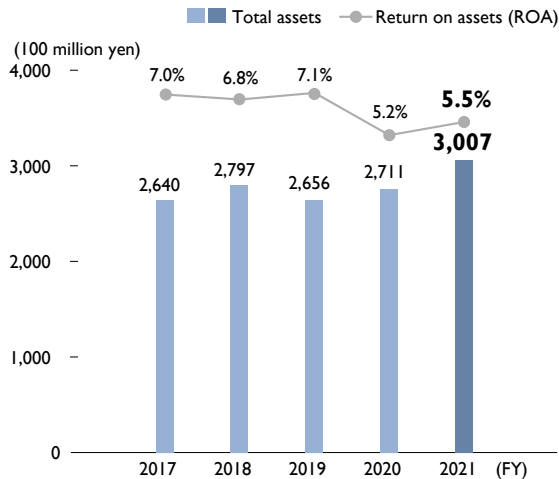
Ordinary income and net sales to ordinary income



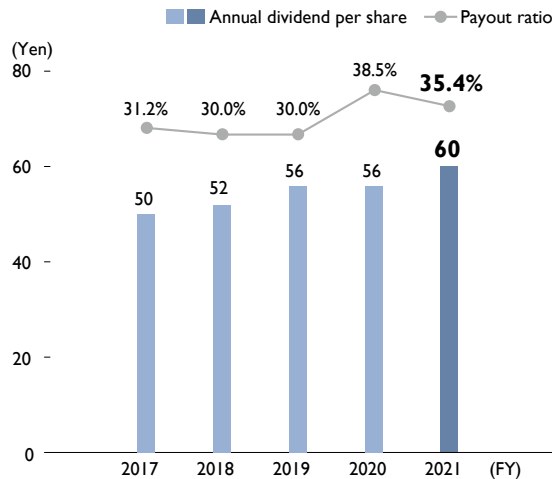
Net income attributable to parent company's shareholders and return on equity (ROE)



Total assets and return on assets (ROA)



Annual dividend per share and payout ratio



Non-financial performance

*Figures are rounded down to the nearest unit.

CO₂ emissions and reduction rate (Targets for applying for SBT and results in FY2021)

	Results in 2019 (t-CO ₂)	Annual reduction rate	Results in 2021 (t-CO ₂)	From the 2019 level	Targets in 2030 (t-CO ₂)	From the 2019 level
Scope 1	2,754	(2.5%)	2,176	(31.1%)	1,996	(27.5%)
Scope 2	3,110		1,864		2,254	
Scope 3	4.963 million	(1.23%)	4.648 million	(6.3%)	4.290 million	(13.5%)

* The emissions and reduction targets mentioned above are on a non-consolidated basis (Takasago Thermal Engineering alone).

Engagement of employees (work style reform, work-life balance and health and productivity management are on a non-consolidated basis, FY2021 results)

●Number of employees

Non-consolidated	2,131
Consolidated	6,018

●Work style reform

Total annual working hours per person (unit: hours)	2,294.5
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●Work-life balance

Percentage of annual paid holidays taken	62.4%	
Number of persons who took childcare leave	Total	35
	Women	15
	Men	20*
Rate of return to work after childcare leave	100%	

* Among them, 11 persons took a leave of one week or less.

●Health and productivity management

Percentage of those who had a health checkup	100%
Comprehensive health risk (Note)	93

(Note) The comprehensive health risk is calculated by HOKENDOHJINSHA INC., a company that implements stress checks. The averages is 100 and a lower value indicates that the risk is lower.

●Diversity

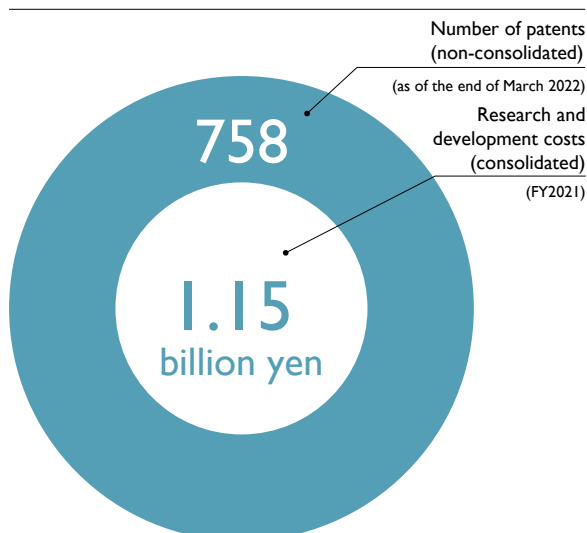
Number and ratio of female employees* ¹ (excluding fixed-term employees)	348(18.0%)
Number and ratio of newly employed female employees in fiscal 2021	31(31.6%)
Number and ratio of female employees who are candidates for managers* ²	21(5.5%)
Number of managers appointed from among local staff	354
Employment rate of people with disabilities	2.57%

*¹ On a non-consolidated basis except for the number of managers appointed from among local staff

*² Ratio of deputy managers to all individual employees

As of the end of March 2022

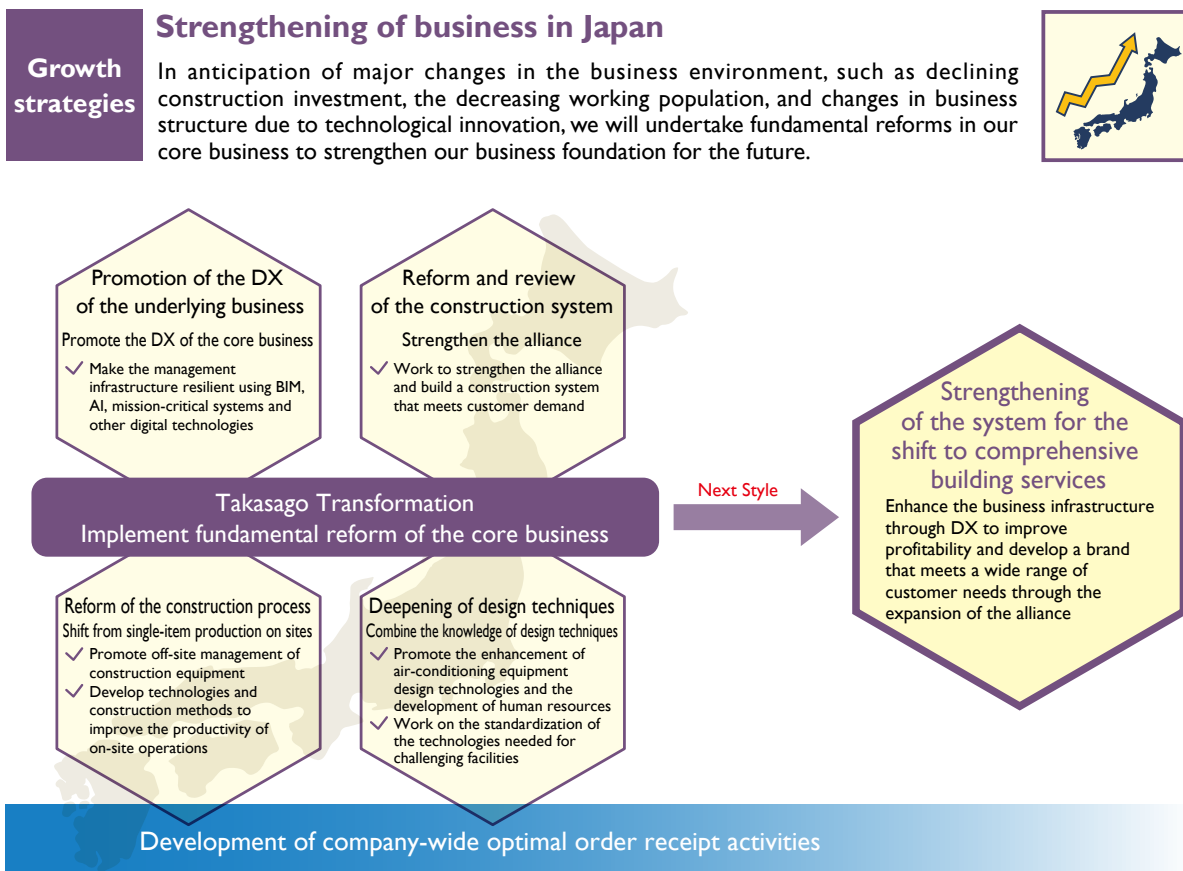
Research and development



●Evaluations by external organizations (as of September 30, 2022)

◆ Long-term issuer	.....	A (JCR)
◆ Bonds	.....	A (JCR)
◆ ESG	.....	AA(MSCI)
	.....	2.2(FTSE)
	.....	A-(CDP)

Business in Japan



Development of company-wide optimal order receipt activities

Recognition of the current situation and challenges

Construction demand is likely to be steady for a while as it is stimulated by demand for semiconductors in industrial fields and large cities redevelopment. Meanwhile, to address skyrocketing costs for materials, equipment, and labor as well as the shortage of construction technicians, we need to be committed to bold reforms to improve productivity by realizing a shift to new work styles.

Currently, we are seeking fundamental changes that will enable us to break away from the old ways of doing jobs that are unique to the construction industry and realize a new way of working. Specifically, we will greatly reform work processes through supply chain management (SCM) with T-Base® as a hub and a platform that integrates the technological and sales capabilities we have cultivated over many years with digital techniques.

We will also systemize and standardize design know-how by using digital techniques to further sophisticate the skills and continuously hand them down.

While there has been a gap in planning capabilities, abilities to prepare resources, and construction quality between construction sites, as well as a gap in the level of specific skills between workers, we will level them at high levels through the initiatives mentioned above and aim for achievement of the highest quality and high productivity by improving engagement of internal and external parties involved in construction work.



Realization and demonstration of an open-plan skyscraper for Museum Tower Kyobashi
Received the 36th Award for Promotion of Technology from the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan

● Initiatives taken in FY2021 and their details

Initiatives	Details
Reform of the construction process	Promotion of off-site management, standardization, and logistics for full-scale operation of the T-Base® project in FY2022. See Special Feature 1 on P. 19
Promotion of DX	Signed MOU with Autodesk to build a BIM system aimed at standardization in the equipment industry. Overhaul of the key system that contributes to the development of business infrastructure to promote work style reform See Special Feature 2 on P. 21
Development of company-wide optimal order receipt	Increase in the ratio of orders for industrial air conditioning and renewal work, taking into consideration the construction system based on abundant information
Strengthening of sales infrastructure capabilities	Utilization of a sales-related database (CRM) and training of sales staff by consolidating and accumulating information held individually by sales staff members into a database
Deepening of design techniques	Creation and development of design standards and maintenance of technical documents
Strengthening alliances	Contributions to solving management issues of partner companies and support for technical education

Development of company-wide optimal order receipt activities

In order to achieve stable growth in the midst of a turbulent order environment, we are planning and implementing an order plan by looking at our construction system from a company-wide perspective.

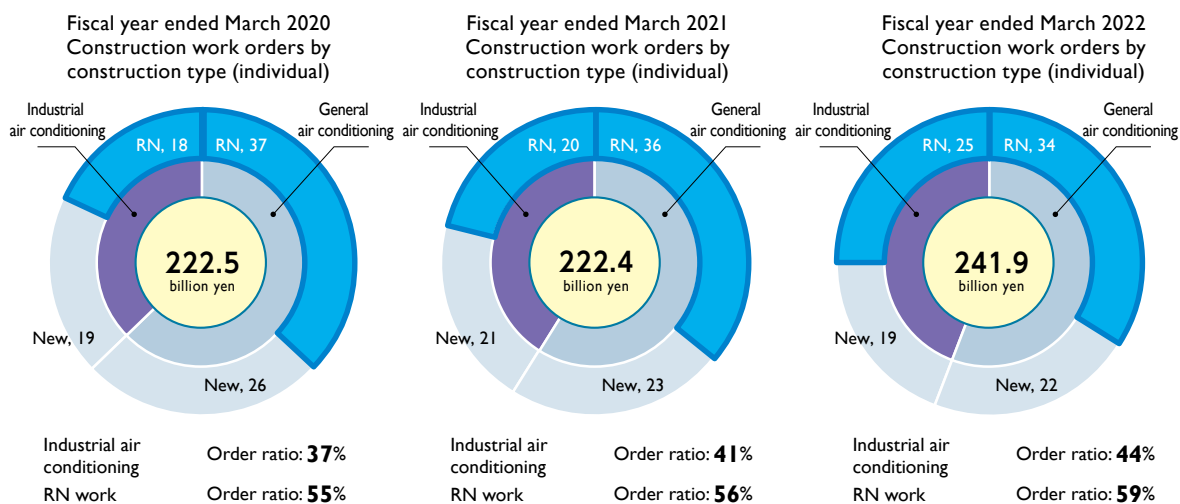
Specifically, we are striving to increase the ratio of orders for industrial equipment and renewal (RN) work by capturing construction demand related to semiconductors, for which there is extremely active capital investment.

As for the characteristics of each field, industrial equipment is more efficient than general new construction because it is constructed in a shorter

period of time. Renewal work takes place in an environment where it is easier to take construction initiatives and have more control over the process. These characteristics contribute to strengthening profitability.

In order to increase the ratio of these orders, we will deepen our close contact with customers, provide technology-related added value, and improve our technology.

These processes have helped to improve the job satisfaction of our technical staff, which in turn has contributed to a change in the way they work.



Swirl inducing-type stratified air conditioning system for clean rooms: TCR-SWIT®

TCR-SWIT® is our proprietary technology that makes it possible to build clean rooms, the key component of industrial air conditioning, in a very short construction period while reducing energy, CO₂, and costs. To confirm the functionality of this new technology, we have established a test and demonstration facility in the Takasago Thermal Engineering Innovation Center, where temperature distribution, airflow, and cleanliness can be visualized.



TCR-SWIT® test and demonstration facility

Business in Japan

Accumulation and transmission of customer information

In our sales sections, we are strengthening the sales capabilities we have cultivated through now in preparation for our upcoming 100th anniversary, and are promoting sales reform with the aim of being “a company that meets customer expectations and continues to earn their trust and confidence.”

In FY2020, we began using a customer relationship management (CRM) system to strengthen “organizational sales capabilities” through DX, enabling information sharing across the organization.

We will continue to accumulate and utilize information, and will work systematically to provide solutions to our customers.



Developing and supporting our human resources, who are our greatest asset

Through the development and support of our human resources, we aim to develop the personal skills of each of our sales staff members.

- Implementation of practical training by position to strengthen organizational sales capabilities
- Implementation of sales engineering training to improve solution proposals
- Plans to dispatch domestic sales staff overseas/expand domestic sales training overseas with the aim of developing global human resources



Work style reform and work-life balance at site offices

Improving the work-life balance of employees and partner company personnel working at construction sites is an essential issue that must be solved, as the number of construction workers is expected to decrease in the future and it will be increasingly difficult to secure them. We are advancing initiatives to improve the work-life balance at construction sites, which are the frontlines of the construction industry.

In advancing our initiatives, we explain the situation to site personnel and seek their understanding and cooperation. Specifically, we are working to promote activities by developing and deploying a variety of initiatives, including environmental improvements at site offices, the use of IT tools for meetings with partner companies, and efficient schedule management through centralized schedule management.



- **View of a site office (photo on the right)**

Instead of the conventional prefab bare finish, we believe that creating relaxing environments by adding wallpaper and plants will improve efficiency.

Strengthening alliances: Increasing cooperation with Kowakai

Amid concerns about a decrease in the number of construction technicians due to the future decline in the working population, we are working to strengthen the foundation of Kowakai and the supply chain, to establish a stable construction system, and to strengthen cooperation with our partner companies in order to build relationships that will make us the company of choice for Kowakai.

In FY2021, our activities to strengthen cooperation with Kowakai included the provision of opportunities and materials related to “Education and Training for Kowakai.”

As the importance of online activities increased due to the spread of COVID-19, we newly planned and implemented the “Online Training for Kowakai” and “Management Seminar for Kowakai.”

In addition, the Kowakai website has been enhanced with training materials, PR magazines, and various other related information, making it easy to share a variety of information.

Collaboration with Group companies: Solving customers' facility management issues with FM solutions

Our Customer Center creates value offerings throughout the lifecycle of buildings and facilities and provides facility management (FM) solutions to solve customer issues.

Since 2017, we have been participating in the efforts of Murata Manufacturing Co., Ltd. to solve issues for smart factories by visualizing energy and energy-saving activities for entire factories, including not only our forte of air conditioning equipment but also production equipment.

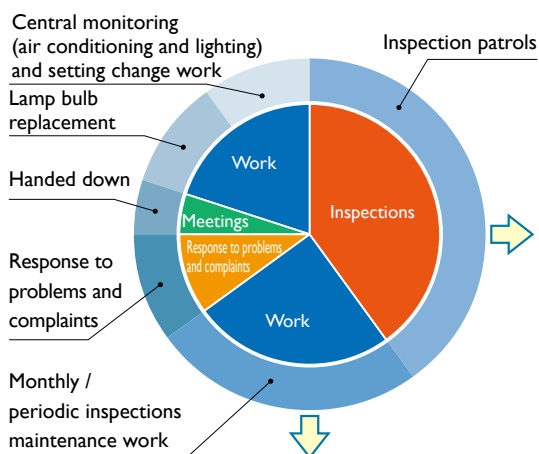
To utilize the knowledge gained through this initiative at the newly established "Minato MIRAI Innovation Center," Murata Manufacturing's major R&D center in eastern Japan, we worked with the client and TMES for DX of operations with the aim of "maintaining the operations of the future." We promoted labor-saving FM operations using cutting-edge IoT and ICT, such as making 80% of daily operations smarter without reading of information by utilizing IoT sensors and cameras that read numbers, automatic creation of timely daily management forms from collected data, maintenance management using wireless cameras and smart glasses, and preventive maintenance using vibration sensors. We also promoted energy conservation and CO₂ reduction at our facilities toward realizing a low-carbon society.

Going forward, we will expand our efforts to support our clients' FM operations remotely outside of their facilities to solve various clients' FM issues, such as the reform of facility operators' work styles, shortage of facility management engineers, and uniformity of management levels.



Murata Manufacturing Co., Ltd., Minato MIRAI Innovation Center

● Toward operations maintenance of the future



Real-time and historical data checking of environmental irregularities

Indoor environment (temperature and humidity): Automatic output of equipment operation status

Energy consumption by section: Automatic output

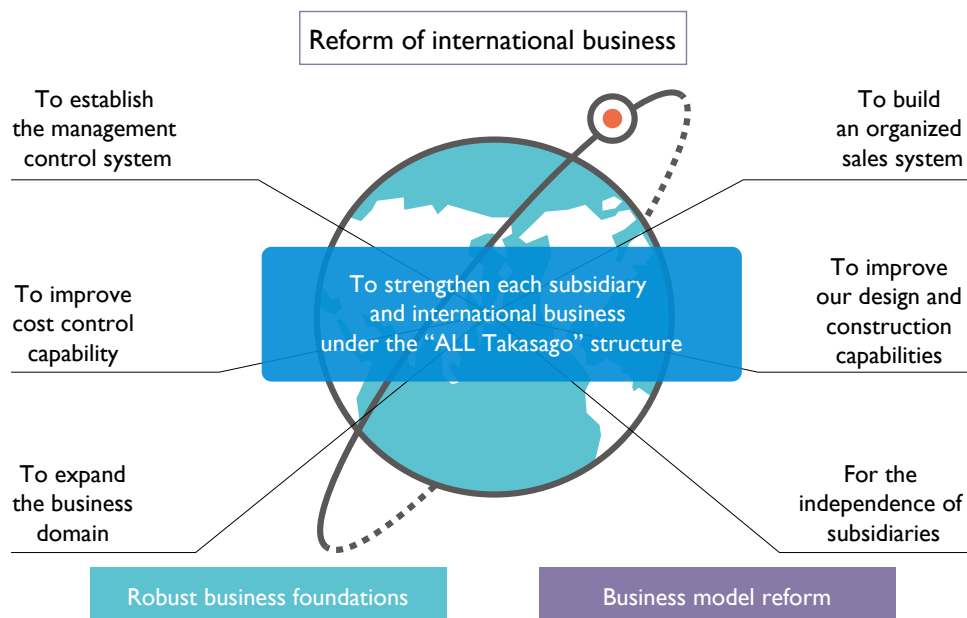
Operating history, load status Energy data analysis

International business

Growth strategies

Reform of international business

To achieve stable management and steady growth in our international business, we will actively seize and implement opportunities for development of both overseas and Japanese employees. We will build a solid business foundation in overseas markets and implement an approach for business model reform.



Recognition of the current situation and challenges

In FY2021, despite the impact of the global spread of COVID-19 that was ongoing since FY2020, our international Group companies received orders totaling 66.7 billion yen due to demand from semiconductors and other electronic component industries and active investment in the pharmaceutical manufacturing business in various countries. The companies also achieved sales of over 50 billion yen despite being affected by the progress payment statuses in various countries due to the movement restrictions related to COVID-19 infections. Particularly for the ratio of orders from Japanese and non-Japanese companies, orders from non-Japanese companies accounted for 63% of the total (excluding ICLEAN), indicating that our rising presence in the countries in which we operate.

One of our growth strategies is “Reform of international business.” As we did in the previous fiscal year, we are continuing to aim to grow our international business into a solid core business of our Group. In order to respond to changes in the market, this fiscal year we newly welcomed Carbon Neutral Business Development Division members to the International Group Companies Management Division, and are working to grow our international business with a focus on “business domain expansion.”

In order to improve quality and productivity, we promote Chief Technical Coordinator activities (CTC activities) by Japanese engineers in countries where we operate. Because we were able to achieve certain

● Establishment of the “ALL Takasago” system

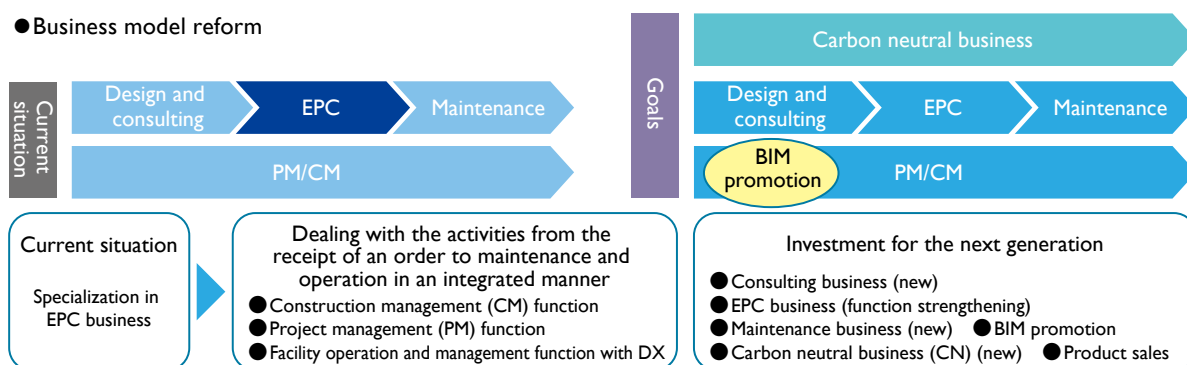


results in FY2021, in FY2022 we will work on passing this on to members (mainly national staff) of Technical Administration Work (TAW) at our overseas subsidiaries who are already conducting the activities. By advancing this work, we will strive to take each overseas subsidiary to the next level, and move toward a stable, independent management control system for the overseas subsidiaries.

● Initiatives taken in FY2021 and their details

Initiatives	Details
Strengthening communication with other countries	Strengthened domestic cooperation making the best use of communication tools as visits to other countries were called off due to the COVID-19 pandemic (meetings with customers, weekly meetings, meetings with overseas subsidiary presidents, kick-off events, and the like are currently being conducted).
Strengthening of sales infrastructure	Shared information with and provided support to sales and marketing staff from overseas subsidiaries (weekly meetings, regular debriefing meetings, and the like). Starting this fiscal year, the International Group Companies Management Division plans to have personnel travel to overseas subsidiaries to begin a training curriculum.
Strengthening of technological capabilities	Compiled our technical documents through CTC activities. Also held monthly online study sessions for staff in other countries.
Strengthening of compliance	Improved the compliance system in cooperation with the Legal Division and the Information Systems Division and provided information security enhancement education.

● Business model reform



Toward business model reform

We will review the ideal state of our EPC business with top priority given to stabilizing and localizing the management of overseas subsidiaries.

Specifically, we plan the following (1) through (3), with the aim of reforming our business model by building on our proprietary technology, so that our international business will form the core of the Takasago Thermal Engineering Group and achieve sustainable growth.

- (1) Establishment of a system that can consistently handle everything from project acquisition to maintenance and operation (design, CM, PM, maintenance)
- (2) Unique proposals by our company in cooperation with the newly launched “carbon neutral business”
- (3) Expansion of product sales business by ICLEAN in India

Notable projects of FY2021 and beyond We are leveraging our technologies to participate in many projects in various countries.

Project overview



Project name: GPSC Battery Factory
 Overseas subsidiary: Thai Takasago
 Construction period: February 2020 to December 2021
 Highlights: A project that received an order for dry room construction, which was initially a separate construction, as an EPC + construction work package.
 As a pioneer of a large clean room (pilot plant factory) in Thailand, we carried out construction with our own technical capabilities.
 As a result, we were able to complete the construction without any accidents, contribute to the social development of Thailand, and appeal to the Thai industry with the high technical capabilities of Thai Takasago.

Project overview



Project name: West Kowloon Area Development Project
 MVAC and Seawater Cooling System Installation Project at KIL 11262
 Overseas subsidiary: Takasago Thermal Engineering (Hong Kong) Co., Ltd.
 Construction period: April 2022 to December 2026
 Highlights: Located next to the West Kowloon high speed railway station, it will have a 1.5 km parkway and 100,000 ft² of open space and a green belt. A large-scale shopping mall and 2 office buildings are under construction, and will become another iconic project in the region. TTEHK is in charge of the MVAC installation utilizing the natural resources of sea water for in-direct heat exchange for the chiller systems, and aims to become one of the enterprises delivering continuous contribution to environmental protection.

International business

FY2021 Company introduction for IC (ICLEAN)



Exterior view of the new plant

A new plant was built in 2019 by ICLEAN, which has been experiencing expansive growth, to increase production capacity and consolidate dispersed plants to improve production efficiency and reduce costs. Although our plans to take further strides in 2020 were hampered due to lockdowns caused by COVID-19, but 2021 saw a sharp increase in demand for interior panels for cleanrooms, mainly in the pharmaceutical industry, and a turnaround to record high sales. The increase in production capacity due to the new plant is one of the main reasons for this. Looking ahead, India has announced major investments in rechargeable batteries and semiconductors, and demand for ICLEAN's specialty products is expected to grow even more. ICLEAN will take advantage of this trend, and will prepare a system with the new plant to meet the production demand.

Cross-country business support by the Myanmar branch

The staff at the Myanmar branch is currently working on implementing support for preparation work occurring in Japan and other countries. All the work is done in Myanmar by our Myanmar staff.

Going forward, we aim to improve work-life balance from a “global” perspective in response to the expected labor shortage caused by the decline in the working population in Japan and the overtime work limits that will be applied from 2024.

- Response work
Utilizing our international network for our future DX strategy and new work styles without a stipulated workplace



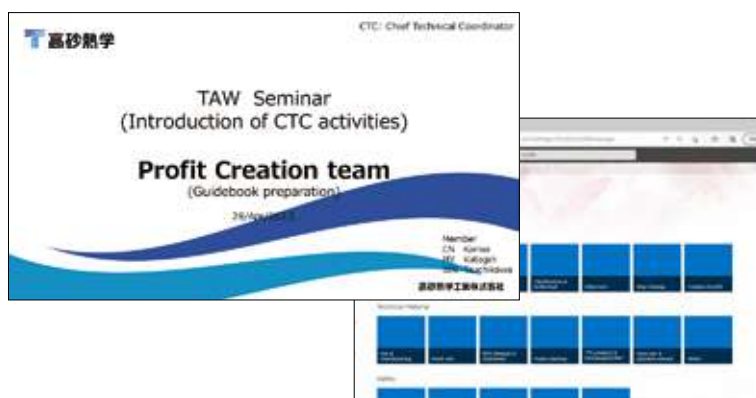
Interior view of the new plant



Myanmar branch staff

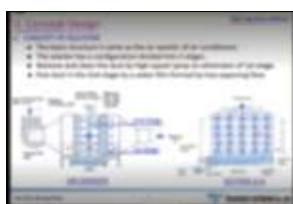
Chief Technical Coordinator activities (CTC activities)

In FY2021, we regularly collected and compiled a database of information on technology and profit generation by technology leaders in various countries. The materials are being translated into English, and in FY2022 will be sent to national staff through the construction management divisions of each overseas subsidiary to improve their technical capabilities.



Technology conference of the International Group Companies Management Division

As it was in FY2020, the FY2021 technology conference was also held online. While movement restrictions and on-site entry restrictions continued within various countries, there were enthusiastic presentations by our overseas subsidiaries' local staff who are active despite the restrictions. While many of the presentations were related to on-site technology, there were also presentations mainly by national staff on the implementation of cost management methods. As strengthening the management divisions of overseas subsidiaries has been a priority, the appearance of presentations on such content is an indication of the growth of our overseas subsidiaries. In FY2021, the Vietnamese office's "Study of Wet Type Dust Collector" was selected to receive the top prize. There is no question that participants from all our overseas subsidiaries were greatly inspired by the presentations from their peers who are also part of the Takasago Thermal Engineering Group.



Environmental Business

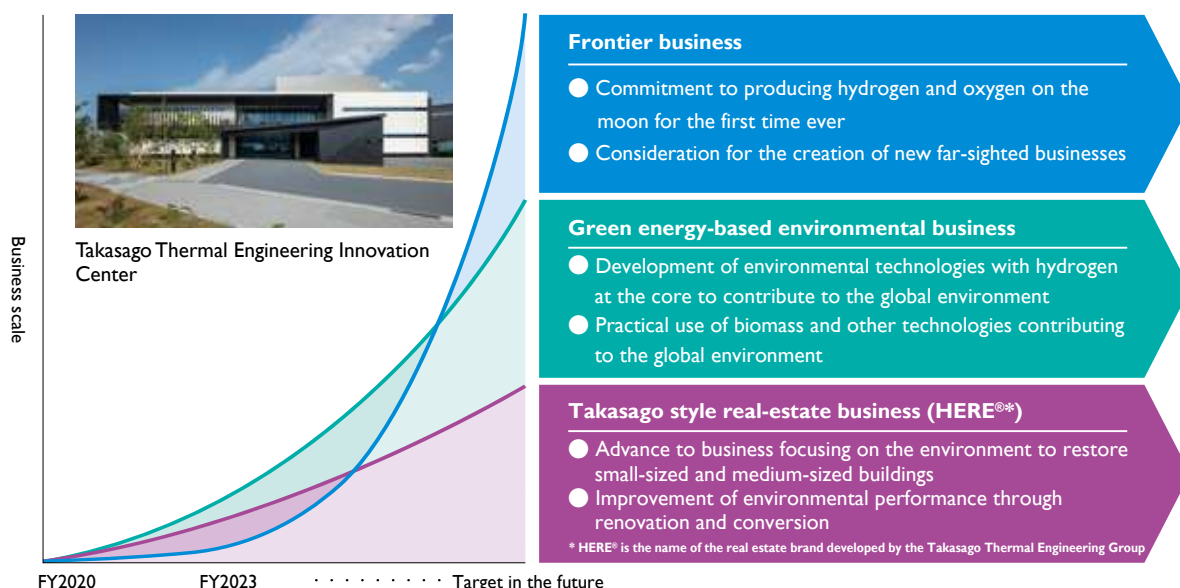
Growth strategies

Commitment to the environmental business

We aim to create businesses that improve the global environment and lead to carbon neutrality by utilizing the environmental technologies we have cultivated to date. We also aim to build businesses that will become the second and third pillars of our operations and diversify our revenue sources.



● Areas of business creation and business scale



Recognition of the current situation and challenges

As illustrated in the Japanese government’s “2050 Carbon Neutrality Declaration” in 2020, each country has embarked on policies for the realization of a green society at the state level. We aim to create businesses contributing to the global environment by honing and utilizing hydrogen and green energy environmental technologies based on the technologies we have cultivated through our HVAC business.

To advance research and development on environmental technologies, we will make the best use of the open innovation function and increase opportunities to co-create with external researchers and partners through expanded joint efforts of industrial, academic, public, and private sectors with the Takasago Thermal Engineering Innovation Center playing an intermediary role.

We will strive for the development of environmental technologies based on hydrogen, biomass, and other green energy. We will also attempt to enter the frontier business and establish real estate business specializing in the improvement of the environmental performance of decrepit small-sized and medium-sized buildings in the capital area in particular through environmental technology-based renovation and conversion.

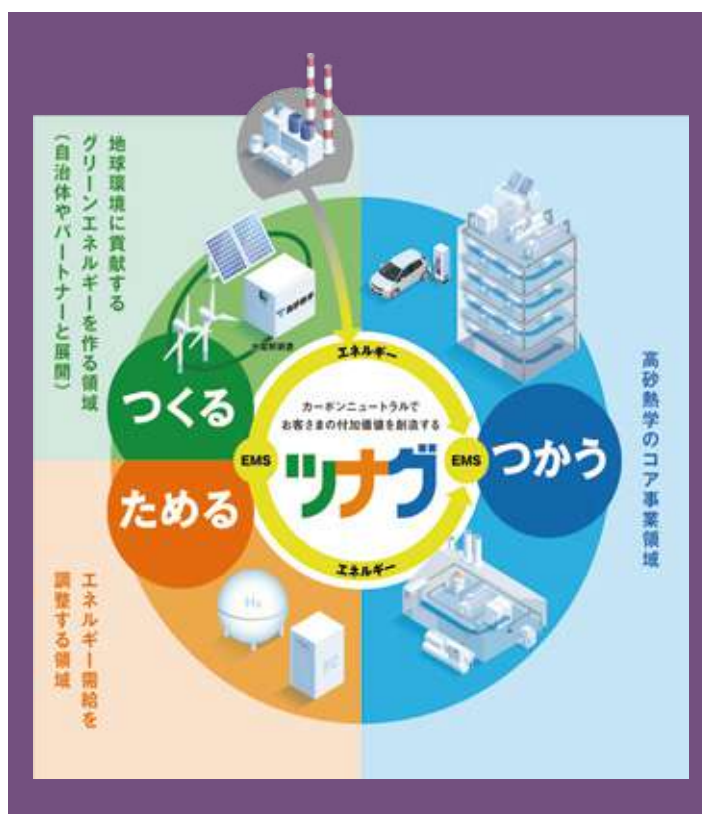
In the process of opening up new business fields, we seek to establish our second and third core businesses and diversify revenue sources, contributing to improved cooperate value and the realization of a sustainable society.



New establishment of the Carbon Neutral Business Development Division

The Government of Japan announced its Carbon Neutrality Declaration in which it aims to have net-zero GHG emissions, including of CO₂, by 2050. In order to respond to this social need, we have established our Carbon Neutral Business Development Division. We aim to build a business model of “Tsunagu” (connective) business connecting the generation, storage, and consumption process with hydrogen at the core by utilizing our environmental technologies and cooperating with local governments and companies as well as academia, start-ups, and others with cutting-edge technologies that are working to achieve carbon neutrality.

We are also providing our customers facing environmental challenges with a variety of technologies we have developed to contribute to solving global issues.



Takasago style real-estate business (HERE®)

Takasago style real-estate business HERE® adopts a variety of technologies and opinions scattered across society as well as our Group’s knowledge and technologies. It embodies our corporate mission “Contribution to society through personal harmony and creativity” through the real-estate business. This business, a brand named «HERE®» (**H**uman & **E**arth **R**elationship), aims to create a comfortable workplace environment, promote earth-conscious buildings and their sustainable use, and realize safe and secure lives.

In FY2021, we carried out a variety of ESG-related measures including energy saving and diversification of work styles in our real estate, and improved the usage environment based on feedback from users.

HERE® evolves and takes deeper root in society with the times.

● Commitment to ESG and the SDGs through HERE®



Commitment to ESG



The Group's basic stance is to position ESG and CSR at the core of its management, to pursue harmony with society, and to contribute to the realization of a sustainable society. We will continue our active initiatives with consideration for ESG (environmental, social, and corporate governance) such as business continuity planning (BCP), environmental conservation activities through forestation, and public service projects, including by strengthening our legal compliance and corporate governance systems.

Basic principles of sustainability Formulated in December 2021



Under our corporate mission and management philosophy, we aim to achieve sustainable growth and enhance corporate value through the implementation of the TakasagoWay.

- 1 We will incorporate initiatives to resolve sustainability issues (including ESG issues) into our business activities and work on them as part of our operations.
- 2 We will aim to accurately respond to risks related to sustainability issues and attain profit opportunities.
- 3 We will work together with all stakeholders, including those in the supply chain.
- 4 As an Environment-Creator™, we will strive to provide eco-friendly technologies and services.
- 5 We will understand customer needs and always strive to provide quality that exceeds customer expectations.
- 6 We will strive to improve employee engagement by creating a working environment that is easy to work in and motivates employees, including fair and equitable treatment, diversity, and promotion of health and productivity management.
- 7 We will promote equitable and highly transparent management, including thorough adherence to corporate ethics.
- 8 Our top management will lead by example, and all executives and employees will work with a high sense of mission and passion.

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ESG and SDGs Promotion System

With approaches to ESG and the SDGs promoted through all business activities, we aim to achieve a good balance between contributions to the solution of social issues and innovation creation, as well as operational and work style reforms.

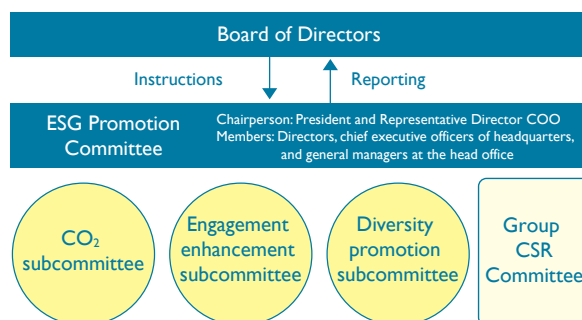
ESG promotion organization

We established the ESG Promotion Committee in April 2021, an expanded version of the conventional CSR committee, to position approaches to ESG and the SDGs at the core of our business activities and promote them.

The ESG Promotion Committee, chaired by the President and Representative Director COO, consists of inside directors, the Chief Executive Officers of each Headquarters, and General Managers as the committee members, subject to the Board of Directors' direct instructions and supervision and entitled to report directly to the Board of Directors.

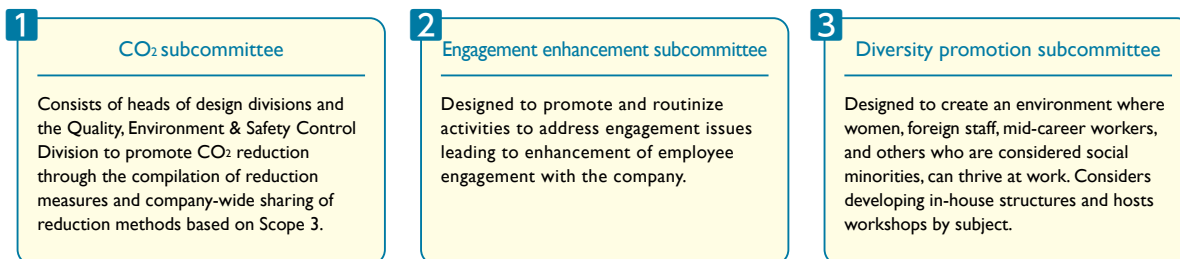
The ESG Promotion Committee deliberates on our approaches to ESG-related social issues, operating structures, and FY action plans, as well as other matters, monitoring company-wide ESG promotion activities as well as those of each office and division.

We may establish subcommittees affiliated with the committee for issues to focus on so that they can be addressed relatively quickly with company-wide knowledge.



Intensive deliberation with the 3 subcommittees established

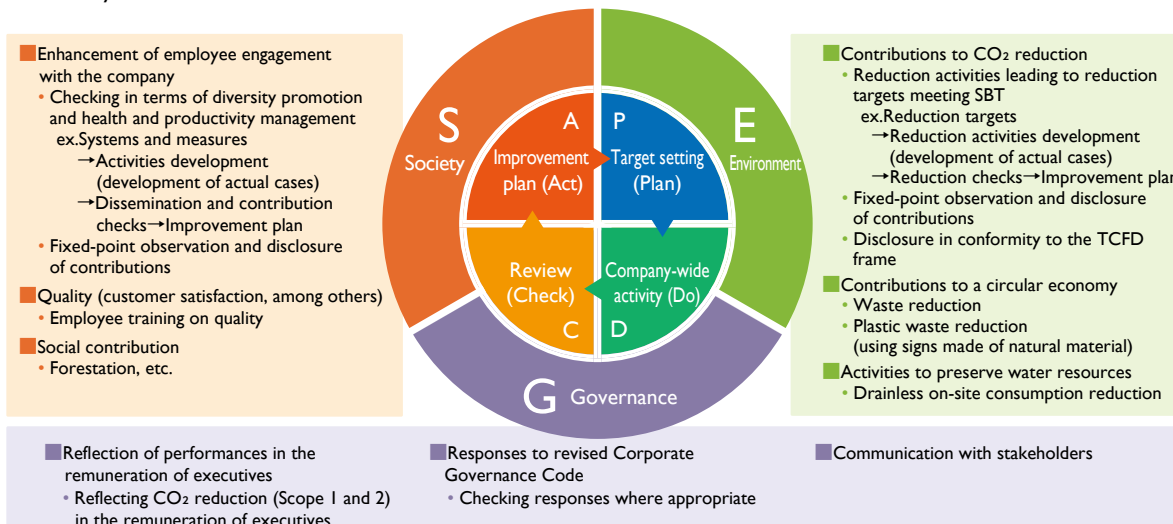
In FY2022, the three subcommittees affiliated with the ESG Promotion Committee were established and promoted the following initiatives.



Management cycle for ESG and SDGs

In response to each ESG and SDG issue, we will address them through the PDCA cycle below.

• PDCA cycle for ESG activities



● Initiatives of the Subcommittees

	Results in FY2021	FY2022 action plan
1 CO ₂ subcommittee	<ul style="list-style-type: none"> ● Collected 160 examples of CO₂ reduction in category II of Scope 3, with reduction of about 30,000t-CO₂ / year ● Implemented renewable energy at new offices and other locations, used LIMEX for safety signs, and tested LIMEX material use for cardboard, pylon, and suspension bands ● Conducted a survey on the use of renewable energy at sites and buildings where deliveries are made 	<ul style="list-style-type: none"> ● Further collection of examples of CO₂ reduction in category II of Scope 3 and analysis by type of construction, building use, etc. (for external appeal) ● Reduction of waste, elimination of plastic waste, and trial runs to realize a circular economy at construction sites, etc. ● Understanding of market and customer trends and continuous study of on-site and building energy use (structuring)
2 Engagement enhancement subcommittee	<ul style="list-style-type: none"> ● Explained the new “engagement survey” to each office in advance ● Shared the survey results with each office on the three major issues of “permeation of management strategy,” “work-life balance” and “opportunities for growth” ● Established quantitative company-wide targets based on new surveys 	<ul style="list-style-type: none"> ● Collection and sharing of examples of good practices at each office (Example) I on I meetings, etc. ● Evaluation of efforts by quantitative follow-up of results using pulse surveys (small surveys conducted multiple times) ● Detailed analysis of survey results to develop more effective measures
3 Diversity promotion subcommittee	<ul style="list-style-type: none"> ● Held four workshops to gather information on current issues related to women, recruitment of mid-career professionals, foreign nationals, and persons with disabilities ● Held roundtable discussions with female employees and the President and communicated this within the company ● Summarized the results of the year’s activities and submitted this to the company as a list of recommendations for promoting diversity 	<ul style="list-style-type: none"> ● Based on the recommendations, the following measures will be implemented: <ul style="list-style-type: none"> • Creation of networks for women, mid-career professional hires, persons with disabilities, and foreign nationals • Role model setting and company-wide introductions ● Consideration of expansion to other Group companies in Japan

Key declarations and initiatives we are engaged in or approve of

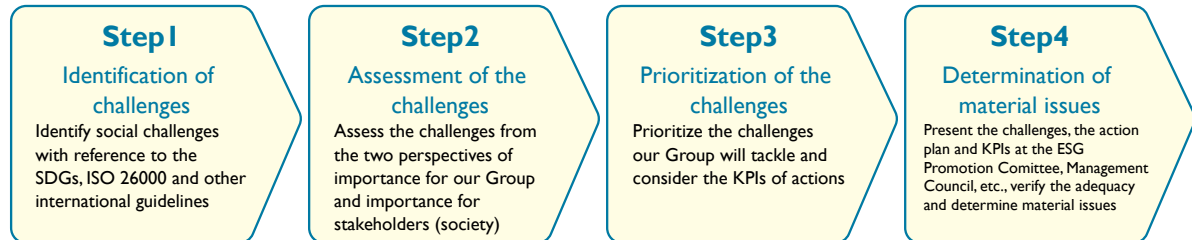
- UN Global Compact (July 2018)
- Declaration to approve for TCFD (September 2020)
- Companies Taking on the Zero-Emission Challenge (October 2021)
- Acquisition of SBT certification (March 2021)
- Participation in the Japan Climate Initiative (JCI)
- Supporting member of Japan-CLP



Material Issues (materiality)

We will identify material issues (materiality) speedily to which we should give priority through the following process and update them where appropriate while also considering the current social conditions and changes in the business environment.

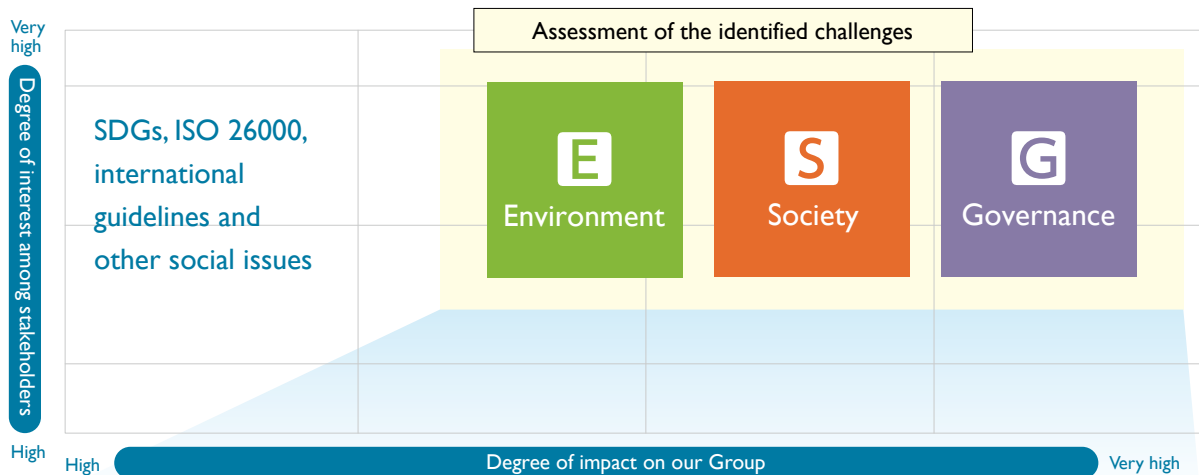
Process to identify material issues



* ISO 26000: International standard on social responsibility

Assessment of the identified challenges

We assessed each of the identified challenges from the perspectives of (1) degree of interest among stakeholders and (2) degree of impact on our Group.



E Environment	Issues to be addressed on a daily basis	<ul style="list-style-type: none"> ● Reduction of CO₂ emissions in business activities ● Reduction of waste
	Issues to be addressed from a medium- to long-term perspective	<ul style="list-style-type: none"> ● New construction methods, creation of environments ● Responding to climate change ● Consideration for biodiversity ● Efficient use of resources and energy
S Society	Issues to be addressed on a daily basis	<ul style="list-style-type: none"> ● Respect for human rights ● Employment and retention of employees ● Human resource development ● Occupational safety and health ● Promotion of health and productivity management ● Strengthening of cooperation in the supply chain management ● Activities to contribute to local communities
	Issues to be addressed from a medium- to long-term perspective	<ul style="list-style-type: none"> ● Provision of high-quality, safe, and reliable facility services ● Pursuit of sustainable and productive facility construction processes ● Creation of a work environment that provides job satisfaction to a diverse workforce
G Governance	Issues to be addressed on a daily basis	<ul style="list-style-type: none"> ● Information security ● Promotion of compliance

• Activities and KPIs to address material issues

Material Issues	Initiatives	KPI		FY2021 results			
E	Reduction of CO ₂ emissions	Reduction of overall CO ₂ emissions (Scope 1 and 2) • Promotion of the use of hybrid vehicles for company vehicles and reduction of electricity consumption in offices • Promotion of the use of energy creation technologies at the Innovation Center	-7.5% reduction (from FY2019)		○		
		Reduction of overall CO ₂ emissions (Scope 3) • Expansion of sales of GDoc® (optimum heat source utilization system) and utilization of T-Base® • Sales development of environmental technologies such as closed VOCs	-3.7% reduction (from FY2019)		○		
	Spread in society	Provision of "resource-saving methods for facilities" to encourage customers to conduct decarbonization management	10 or more comprehensive proposals for customers	New	—		
	Reduction of water use	Introduction of a drainless policy to construction sites of more than a certain scale	Introduction of the policy to 50 or more construction sites		○		
	Negative emission technology development related to the environment	CCU using recovered CO ₂ for agriculture	Field testing and demonstration	New	○		
		Use of recovered CO ₂ for photobioreactors	Demonstration testing using prototype machinery	New	○		
	Corporate rating	Participation in CDP (climate change) questionnaire	Over A-	New	—		
	Reduction of paper use	Reduction of copy paper use in the headquarters, main offices, and branch offices	Not more than 500 sheets/month per person		○		
	Reduction of waste	Reduction of waste materials at the time of construction	10% reduction from the previous FY		×		
		Recycling of industrial waste at construction sites	Recycling rate of 85% or more		○		
Development of actual cases for plastic elimination		Introduction of LIMEX to 5 construction sites or more per office		○			
S	Quality control	Curbing of trouble and complaints	Down from the previous FY		○		
	Engagement enhancement	Health and productivity management	Implementation of subsequent measures after regular health checks	100% submission rate of industrial physician opinion letters for people with high risks or potentially high risks	New	○	
			Health checks concerning specific work (midnight or other times)	All have a health checkup		○	
			Decrease in those at high risks (those whose blood pressure and glucose level exceed in-house criteria)	5% decrease in the number from the previous FY		○	
			Decrease in the number of persons with mental health issues	More than 80% understanding in questionnaire after mental health training	New	—	
		Diversity	Foster a culture of diversity acceptance Conduct unconscious bias training for managers and above	80% or more positive response rate on post-implementation questionnaire regarding acceptance of diversity		New	—
			Promotion of understanding of disabilities	• Information sharing meetings for persons with disabilities • Training for understanding disabilities both held at least once per year	New	—	
			Creating an environment in which all genders can play an active role	At least 50% of male employees took childcare leave for at least 5 work days		New	—
			Sharing role models who are active both inside and outside the company	Introduction of case studies of activities on the company intranet, etc. (at least one woman, one mid-career professional hire, one person with a disability, and one foreign national each)		New	—
	Stable hiring of persons with disabilities	• Promotion of hiring of new graduates with disabilities At least two new graduates entered the company in FY2023	New	—			
	Education on human rights and provision of information on human rights	Education on human rights and provision of information on human rights: 5 or more times per year		○			
	Employee satisfaction	Lost-time injuries	Decrease in the number of incidents from the previous FY		○		
	Social harmony	Forestation and local activities	Once or more per headquarters / office per year		○		
Malaysian tropical rainforest restoration activities conducted once or more per year			○				
G	Strengthening governance	Reduction of shares held for policy purposes	Agreed amount to sell shares held for policy purposes: 7 billion yen (from FY2020 to the end of FY2022)		○		
		Evaluation of integrated report	Average or higher in the evaluation		○		
		Information disclosure and fruitful dialogue	Dialogue with 80 people or more in total		○		

TCFD Initiatives and Information Disclosure

We regard climate change as one of the most important material issues and incorporate it into our management strategies to promote climate change countermeasures.

I. Governance

In our company’s system, the ESG Promotion Committee deliberates on important matters related to climate-related issues and reports to the Board of Directors. Through this, the Board of Directors provides supervision and direction to ensure that important matters related to climate-related issues are properly implemented.

In FY2021, the Committee met seven times in total. In addition to confirming the progress of our ESG activities on a quarterly basis, the Committee also deliberated with regard to resolutions on TCFD disclosure content, responding to the revision of the Corporate Governance Code of the Tokyo Stock Exchange, and the establishment of the Basic Principles of Sustainability.

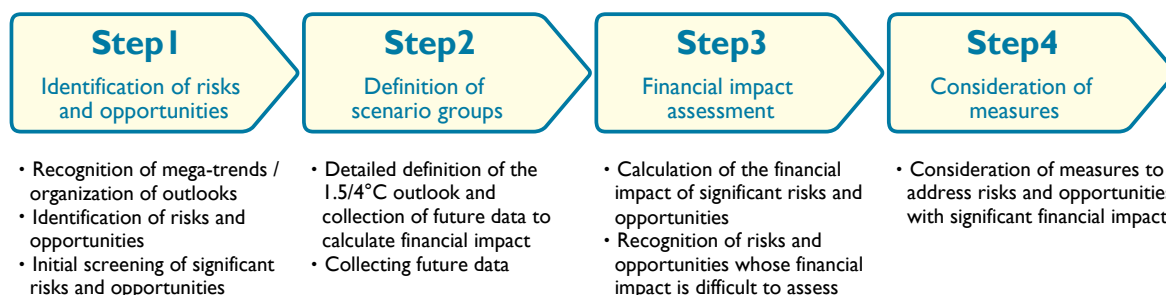
The top officer responsible for climate issues is the President and Representative Director, COO, who appoints the Chief Executive Officer of the Global Business Planning Headquarters as the person in charge. The latter manages and promotes approaches to climate change including the TCFD recommendation.

In addition, recognizing climate change as a risk for our business activities, the Committee shares information with the Risk Management Committee, which manages business risks as a whole.

Meetings	Role
<p>Board of Directors</p>	<ul style="list-style-type: none"> ● Supervision of and instructions on climate-related important matters
<p>ESG Promotion Committee</p>	<ul style="list-style-type: none"> ● Deliberation on climate-related important matters, resolutions on climate issues as a whole ● Report to the Board of Directors (at least 5 times per year)
<p>Risk Management Committee</p>	<ul style="list-style-type: none"> ● Recognition and control of key risks ● Sharing of information with the ESG Promotion Committee with climate risk recognized as one of the risks of the whole business
<p>Global Business Planning Headquarters (ESG Management Division)</p>	<ul style="list-style-type: none"> ● Functions as the secretariat of the ESG Promotion Committee (person in charge: Chief Executive Officer of the Global Business Planning Headquarters)

2. Strategy

We formulate strategies in accordance with Steps 1 through 4 below and verify them from the perspective of resilience. Based on the results of our analysis with this, we constantly make efforts for improvement.



Step1•2

(1) Identification of key risks and opportunities and scenario setting

In identifying key climate-related risks and opportunities for our company, we have set 1.5°C and 4°C scenarios.

1.5°C scenario

(high transition risk, medium physical risk)

Scenario in which necessary measures are taken to limit the temperature increase to 1.5°C above pre-industrial levels

1.5°C scenario outlook

- Increasing competition for CO₂ reduction and net-zero emissions
- Progress in systemization and smart construction
- Companies that place importance on sustainable management and human capital are the companies of choice for investment and employment

4°C scenario

(medium transition risk, high physical risk)

Scenario in which climate change measures are inadequate and average temperatures rise about 4°C above pre-industrial levels

4°C scenario outlook

- Major burden on employees Concentration of workers and investment in companies that place importance on human capital
- Further decline in the number of people entering the construction industry
- Higher need to develop comfortable work environments

Step3•4

(2) Climate-related risks and opportunities / assessment of impact on finances, response measures, and business operations

For items identified as key risks and opportunities, we used scenario analysis to qualitatively assess their potential financial and business impact, as well as to consider response measures. We will continue to assess resilience and explore our response measures.

We recognize that the series of processes to identify risks, take appropriate responses, and overcome them will provide opportunities for future business expansion and development. Among the risks to our company, we assume that the following items will have a particularly high impact:

- [Transition risk] Increase in procurement costs associated with the introduction of carbon taxes and other reasons
 ➔ (Response) Expand use of low-carbon materials by urging material manufacturers and others as well as utilizing T-Base®
- [Physical risk] Decrease in construction capacity and completion due to a decrease in the number of construction workers
 ➔ (Response) Increase productivity by expanding off-site management of construction using T-Base® and other means and by utilizing DX In addition, improve employee engagement by promoting diversity and other means to create a workplace environment that will increase the number of job applicants for our company, and promote investment in human capital

We recognize that in providing optimal, comfortable environments through energy-saving design and construction, we are performing an important function that is closely and inseparably related to addressing climate-related risks for many stakeholders.

For our business, climate-related risks are also an opportunity for growth. In order to steadily capture such opportunities, in addition to addressing physical risks, we will respond to market needs through engagement (dialogue) with our customers and suppliers via design proposals centered on our eco-friendly products, and we will also strive to develop new technologies centered on our Innovation Center.

TCFD Initiatives and Information Disclosure

We considered response measures to address the identified and assessed risks and opportunities, focusing on those with high financial and business impact. We will continue to assess resilience and explore our response measures.

● Presumed climate-related risks

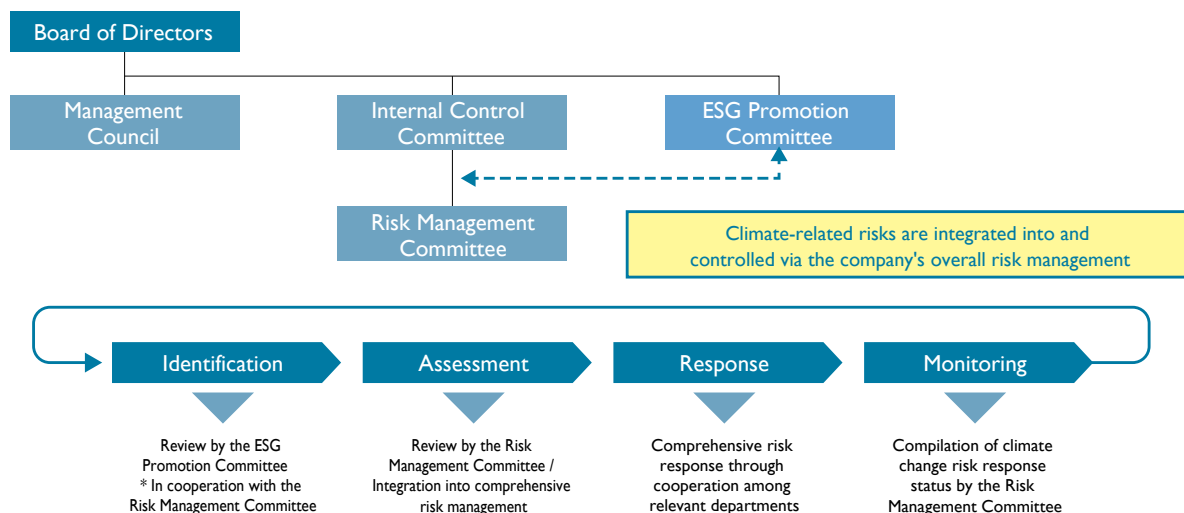
Broad category	Medium category	Item	Impact on business operations	Financial impact		Response measures
				1.5°C	4°C	
Transition risks	Policies and regulations	Carbon pricing	Increase in operating costs (facility electricity, GHG emissions during delivery) due to the introduction of a carbon tax	Low	—	<ul style="list-style-type: none"> Use of renewable electricity (including corporate PPA) Use of low-carbon vehicles Installation of renewable energy generation equipment and rechargeable batteries, etc.
			The introduction of a carbon tax would increase operating costs for upstream suppliers and increase their own procurement costs	Medium	—	<ul style="list-style-type: none"> Use of low-carbon materials and equipment through collaboration and cooperation with suppliers
		Circular economy	Increase in procurement of recycled materials and waste disposal costs	Low to medium	—	<ul style="list-style-type: none"> Reduction of waste through collaboration and cooperation with suppliers Construction of a recycling system on an equipment and material basis
	Market	Plastic regulations	Increase in material costs due to higher plastic prices	Low	—	<ul style="list-style-type: none"> Establishment of a plastic recycling cycle toward the elimination of plastic waste Trial run at T-Base®
		Crude oil price	Increase in transportation and equipment costs due to higher gasoline prices	Medium	Medium	<ul style="list-style-type: none"> Selection of materials and equipment with consideration of transportation costs Expansion of the use of T-Base® to build efficient transportation logistics
	Technology	New technology	Market share decline due to inadequate response to customer needs (including ZEB) caused by delays or failures in the development of new technologies (including energy-saving design and construction technologies) that contribute to the reduction of greenhouse gas emissions	Medium	Low	<ul style="list-style-type: none"> Understand market needs through increased customer contact Promotion of following strategies at our Innovation Center (IC) - ZEB demonstration and energy-saving technologies Promotion of development of CO₂ reduction technologies in new fields e.g., Advancement of water electrolysis hydrogen generation technology
Reputation	Changes in reputation among investors	Reputation damage and increased investment-related risks resulting from inadequate responses to climate-related issues and inadequate information disclosure	High	Medium	<ul style="list-style-type: none"> In addition to TCFD, active participation in climate change initiatives such as SBT and CDP Active participation in environmental activities such as forest preservation 	
Physical risks	Acute physical risks	Extreme weather events	Increase in procurement of recycled materials and waste disposal costs due to circular economy regulations	Medium	Medium to high	<ul style="list-style-type: none"> Reduction of waste through collaboration and cooperation with suppliers Consideration of the construction of a recycling system on an equipment and material basis
		Spread of viruses due to extreme weather events	Loss of sales opportunities due to fewer orders received as a result of the spread of viruses and the like due to extreme weather events	High	High	<ul style="list-style-type: none"> Promotion of controlled activities based on the BCP (countermeasures against infectious diseases)
	Chronic physical risks	Rise in temperature	Worsening labor shortage due to reduced employees with work environments becoming tougher, resulting in a decrease in construction capacity and therefore a decrease in completed construction	High	High	<ul style="list-style-type: none"> Strengthening of health and productivity management, including measures against heat stroke Consideration of labor environment improvement, remote operations, the IoT, etc. Enhancement of engagement (investment in human capital) Promotion of diversity
			Reduced work efficiency resulting from worsening work environments and increases in costs and process delays for labor measures and securing human resources	Low to medium	High	<ul style="list-style-type: none"> Strengthening of health and productivity management Measures to improve efficiency, such as manpower saving through off-site management and the use of AI, etc. (expansion of the use of T-Base®) Research for BIM utilization
			Increase in air-conditioning equipment usage at business sites due to rising temperatures	Low	Low to medium	<ul style="list-style-type: none"> Operation in power-saving mode Strengthening of health and productivity management
	Floods	Loss of sales opportunities due to suspension of business activities caused by flooding	Medium	Medium	<ul style="list-style-type: none"> Formulation of a more detailed BCP (for each office) 	
Opportunities	Resource efficiency	Productivity	Reduction of operating costs and increase in productivity by transforming the construction process	High	High	<ul style="list-style-type: none"> Promotion of T-Base® for off-site management, unitization of components, and standardization of construction methods Productivity improvement through use of BIM
		Energy mix	Change of the price of electricity and reduction of operating costs by increasing the share of renewable energy in the energy mix	Low	Low	<ul style="list-style-type: none"> Introduction of renewable electricity from a long-term perspective (including corporate PPA)
	Products / services	Promotion of energy-saving efforts	Reduction of costs through the use of policy incentives as a result of further promotion of energy-saving efforts	High	Medium	<ul style="list-style-type: none"> Demonstration of energy-saving effects and outreach to local governments
		Increased demand	Increased revenue opportunities due to increased infrastructure resiliency needs and accelerated equipment replacement periods (e.g., equipment and product services for disasters and hot weather)	High	Medium	<ul style="list-style-type: none"> Identification of customer needs for products and services adapted to climate change, and establishment of a sales structure Open innovation such as industry-academia collaboration Strengthening of collaboration with equipment manufacturers and other suppliers
		Products with reduced environmental impact	Increase in sales of products that contribute to reducing environmental impact (e.g., energy-saving products)	High	Medium	<ul style="list-style-type: none"> Strengthening of collaboration with equipment manufacturers and other suppliers
	Market	New business	Increased opportunities to receive orders for newly developed technologies (e.g., energy-saving technologies, ZEB-related technologies, water electrolysis hydrogen production technologies, and renewable energy-related technologies)	High	Medium	<ul style="list-style-type: none"> Promotion of further development of energy-saving technologies Promotion of ZEB demonstration and related technology development (e.g., energy grids and heat-related technologies) at our Innovation Center (IC) Promotion of water electrolysis hydrogen production technology and renewable energy-related technologies
		Green bonds	Evolution and creation of the Group's environment improvement technologies and further activation of open innovation through the issuance of green bonds	High	High	<ul style="list-style-type: none"> Execution of a systematic financing plan
	Resource efficiency	Decarbonization	Reduction of carbon emissions by achieving SBT targets	Low	Low	<ul style="list-style-type: none"> Systematic greenhouse gas reduction efforts
		Productivity improvement	Reduction of material costs by establishing a recycling flow for waste products and materials	Low	Low	<ul style="list-style-type: none"> Reduction of waste through collaboration and cooperation with suppliers Construction of a recycling system on an equipment and material basis Establishment of a plastic recycling cycle toward the elimination of plastic waste Trial run at T-Base®

3. Risk management

As we recognize climate-related risks as a material issue, the ESG Promotion Committee and the Risk Management Committee, which appropriately reduces and controls company-wide risks affecting corporate activities, will work together to identify and assess the risks and consider response measures as necessary.

Risks assessed as material risks by the ESG Promotion Committee and the Risk Management Committee are reported to the Board of Directors, along with response measures.

In this way, we manage risks related to climate change by integrating them into the company's overall risk management. We will continue to consider ways to improve risk management and enhance its functions.



4. Targets and goals

We formulated medium- to long-term greenhouse gas emissions goals and received a certification for the WB 2.0°C level from the SBT initiative in March 2021.

We will strive to further reduce greenhouse gas emissions for all the scopes. For Scope 3, we will contribute to the reduction of greenhouse gas emissions in society as a whole through further technological development. Going forward, we will conduct consideration on the targets of the WB 1.5°C level.

Target scope	Target value for FY2030 (Compared to FY2019)	Major reduction initiatives	Results in FY2021 (Compared to FY2019)
Scopes 1 and 2	(27.5%)	Conversion of company vehicles to HVs and EVs, etc. Utilization of renewable electricity, etc.	(31.1%)
Scope 3	(13.5%)	Energy-saving design and construction, etc.	(6.3%)
Main points for future reduction			
Scopes 1 and 2	Utilization of electricity derived from renewable energy sources, etc. <ul style="list-style-type: none"> • Systematic conversion of company vehicles to HVs and EVs (Scope 1) • Active use of renewable electricity, including corporate PPA, at each office and reduction of energy consumption on site through expansion of utilization of T-Base® (Scope 2) 		
Scope 3	Provision of technologies and services that support carbon neutrality for customers and society <ul style="list-style-type: none"> • Evolution of T-Base® Initiatives • Development of new energy-saving technologies such as exhaust heat utilization • Design of renewable electricity, hydrogen generation, rechargeable batteries, etc., and operation of microgrid • Establishment of an energy management system 		

Research and development



Creating technologies and businesses that contribute to becoming an Environment-Creator™

Two years have passed since the Takasago Thermal Engineering Innovation Center opened in Tsukubamirai City, Ibaraki Prefecture. The Research and Development Headquarters operates as a base for research and development and as part of the functions of the main office.

Under the name of “sustainable architecture that reduces global environmental impact and improves intellectual productivity,” the building is not just a place for conducting research, but is a living laboratory where energy-saving and energy-creating innovations are made on a daily basis, with the aim of contributing to carbon neutrality and conducting comfort-related demonstration tests that will be implemented in various facilities.

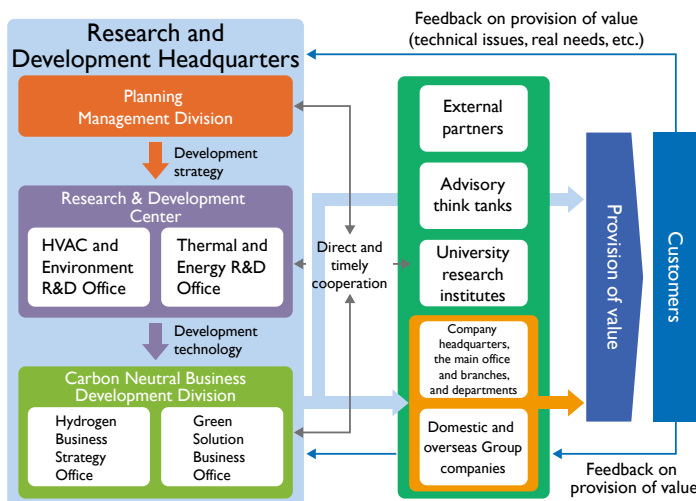
In terms of the organization, the Research and Development Headquarters was reorganized in April 2022. Its policy is “Connective research and development, connective business development,” and now has three divisions: the Research & Development

Center, the Carbon Neutral Business Development Division, and the Planning Management Division.

Based on the development strategy formulated by the Planning Management Division, there is a system in which the Research & Development Center is responsible for research and development, and the Carbon Neutral Business Development Division is responsible for linking this to business for social implementation by leveraging our proprietary technologies created through the research and development. Through further connection with each organization within the Group, we will increase the speed of realization of business.

As an Environmental-creator™, we will help create the future for society and humankind with the themes of our research and business development centered on our “three plus one” pillars of “Creating building environments,” “Protecting the global environment,” “Taking on new environmental challenges,” and “Contributing to local environments.”

• System of connective research and development, connective business development



• Research and business development themes

- 1. Creating building environments
Provision of energy-saving and energy-creating building facilities, environments that ensure health and safety, and environments that improve intellectual and manufacturing productivity
- 2. Protecting the global environment
Provision of hydrogen-related technologies, CO₂ capture, utilization, and fixation technologies, resource recycling technologies, heat and energy control technologies, and GHG reduction systems, etc.
- 3. Taking on new environmental challenges
Taking on challenges related to matters such as living environments and energy supply facilities on the Moon, in space, and underwater
⇒ Aiming for feedback for terrestrial technology
- Added value: Contributing to local environments
Implementation of specific measures to make the comprehensive cooperation agreement with Tsukubamirai City more effective, including provision of environmental technology, IC utilization, and educational opportunities

Sustainable research facility that balances environmental impact reduction and intellectual productivity improvement

Takasago Thermal Engineering Innovation Center

Designing of environmental building

The center consists mainly of two buildings: an office building that houses social interaction space and work space on the first and second floors, respectively; and a laboratory building where experiments and verification tests are conducted. Between the buildings are located an equipment exhibition building and water basins. With open space that allows wind to flow in the east-west direction prepared in the middle area of the office building, the center is also characterized by a façade plan that realizes both energy saving and comfort and biophilic design, which pursues harmony between humans and nature.

- Conceptual diagram for environmental efforts for ZEB



Various efforts for global environmental impact reduction and ZEB

In order to achieve ZEB, the office building aims for ZEB in which the amount of renewable energy exceeds the amount of energy consumed, while the site as a whole aims for ZEB Ready or higher. In addition to various energy-saving methods that mobilize our own technologies, we have solar power generation, biomass generation, and rechargable batteries in place for energy creation.

Improvement in indoor comfort and intellectual productivity

Adopting the separation process of latent heat and sensible heat by a desiccant outdoor air processing unit that uses underground water or exhaust heat from a biomass power generator or by radiation air conditioning as well as personal air conditioning that enables personal operations on a smartphone, we provide people-friendly air conditioning that is tailored to individual tastes and work styles.

With the LED lighting system installed in all buildings, the main workplace adopts indirect lighting combined with radiation panels or task and ambient lighting.

- Outline of equipment in workplaces



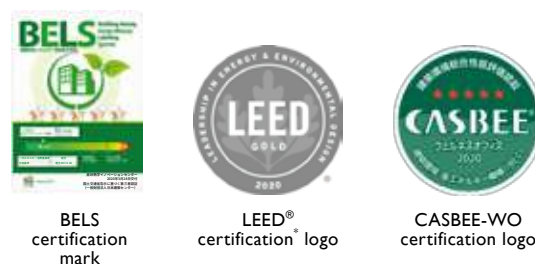
*DALI lighting control: control system enabling individual setting for each lighting device

Assessment certification for building environment performance

Designed for high environmental performance, the center was awarded the highest five-star rating in BELS, a certification system which assesses energy-saving performances, Nearly-ZEB, and a GOLD certification in LEED®, a certification system which assesses total environmental performance of a building.

The center was also awarded an S rank certification in CASBEE Wellness Office, a certification system that assesses the comfort and health of a building. Designs with emphasis on integrating equipment, structure, and furniture into a unified whole, a variety of communications based on Activity Based Working (ABW), adoption of work areas, and the BCP-based energy supply plan, among others, resulted in high ratings. The center is appreciated as a building leading to improved intellectual productivity as well.

- Environmental performance assessment certification

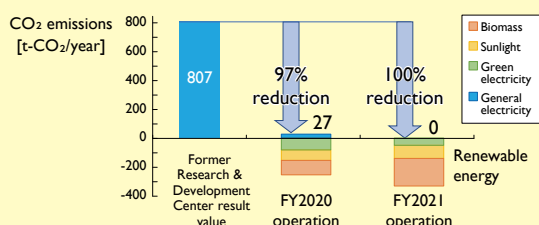


*The LEED® certification logo, a registered trademark owned by the US Green Building Council, is used under its authorization

Green bonds Impact reporting (environmental impact assessment report)

In order to become carbon neutral, the Takasago Thermal Engineering Innovation Center adopts photovoltaic and biomass power generation as renewable energy sources, in addition to various energy-saving methods, and procures green electricity to meet any additional demand for commercial electricity.

- Results in FY2021



Achievement state of ZEB	FY2021	Ratio of energy consumption to baseline value (%)	Ratio of energy supply to baseline value (%)
Office building	ZEB	0.35	0.91
Site as a whole	Nearly ZEB	0.20	0.17

*Baseline value: 1,389 MJ/(m² per year) for office building; 3,150MJ (m² per year) for site as a whole

Research and development

TOPICS



Closed VOC recovery system: Won an Award for Excellence for the 48th Environmental Prize

Printing factories and adhesive tape production plants have a dryer that evaporates solvent (solvent dryer) operating in their production process. This produces volatile organic compounds (VOC) such as toluene or ethyl acetate. Causing photochemical smog and other issues, they are known to create health damage to the respiratory system and mucous membranes. Although they are legally treated, their total domestic emissions in FY2020 amounted to roughly 570,000 tons.

The most common method to treat VOC exhaust gas from plants is incineration, which generates a large amount of CO₂. Therefore, the treatment of VOC without incineration is needed for the prevention of global warming and the realization of a low-carbon society.

We have developed a system that adsorbs for recovery and treats VOC without incineration, and also reduces the amount of VOC emitted into the air significantly. By treating waste gas from the dryer to recycle it (making it closed) as gas supplied to the dryer, this system can reduce a large amount of VOC emissions to zero in principle without a gas outlet.

We installed a verification tester in a running adhesive tape production plant (Teraoka Seisakusho Co., Ltd.) starting in FY2020 and jointly started a demonstrative operation with the company. As a result, we confirmed that our system was able to reduce VOC and CO₂ emissions 95% and 78%, respectively, compared with conventional ones. The assessment of impact on the production environment

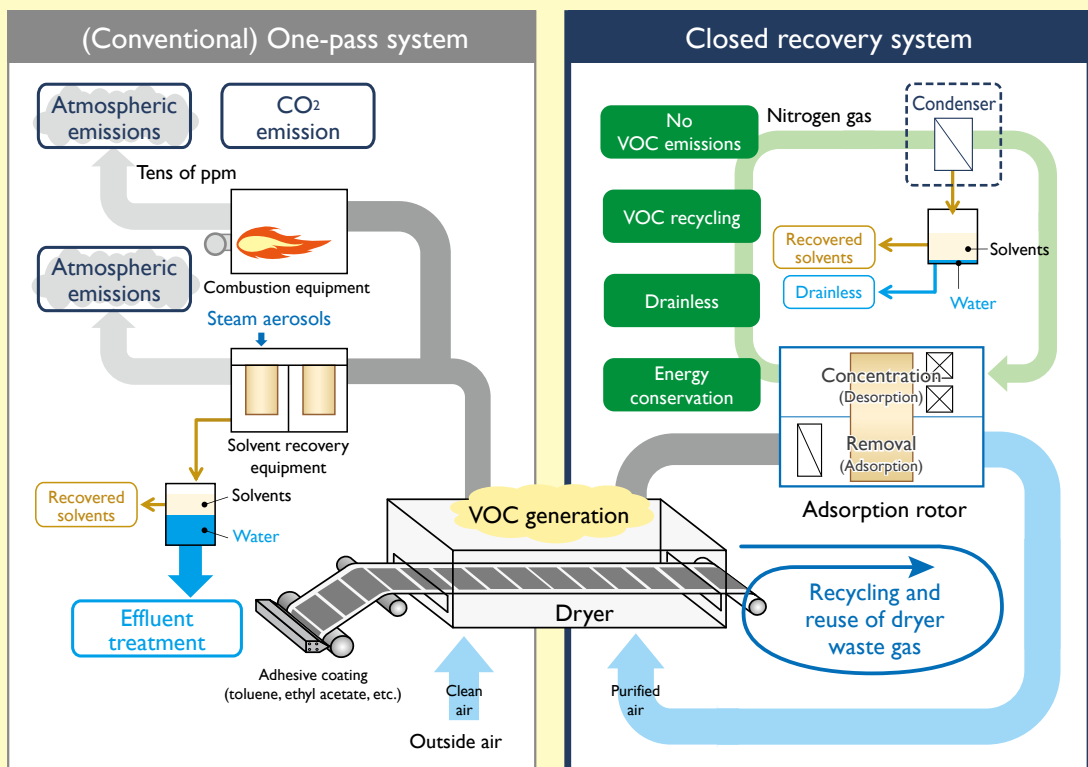
revealed that the production environment could be maintained in a certain low-humidity environment, free from outdoor air influences with gas emission and supply closed, and the quality of products was as it had been before.

This technology won an Award for Excellence for the 48th Environmental Prize (hosted by the National Institute for Environmental Studies, Japan and Nikkan Kogyo Shimbun, Ltd. under the auspices of the Ministry of the Environment), appreciated as a technology contributing to environmental preservation and environmental quality enhancement.

In addition to low-boiling point solvents such as toluene and ethyl acetate, we are also working on recovery for high-boiling point solvents used in the manufacture of lithium-ion batteries and all-solid-state batteries. By promoting the non-incineration treatment system capable of achieving CO₂ and VOC emissions reduction simultaneously, we will go on contributing to global environmental preservation.



Demonstration system



Comparison with conventional systems



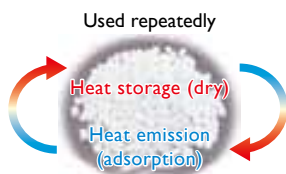
Adsorbent thermal storage system Mega Stock® : Won an Award for Excellence in the industrial use category of the Cogeneration Award 2021

The use of waste heat is required for further energy saving and reduction of CO₂ emissions in industrial areas. While the use of high-temperature waste heat for power and steam generation, etc. is promoted, most low-temperature waste heat of around 100°C is discarded at present because their uses are limited and the mismatch in time and space between the supply of the heat and thermal demand makes it difficult to use the heat.

To solve this challenge, we have developed and are marketing a new large-scale thermal storage system that recycles waste/unused heat for air conditioning and as a thermal source.

• Features of this system

- The low-temperature waste heat of 80 to 200°C can be stored.
- The thermal storage density is more than twice that of conventional latent heat storage (over 500 kJ/L)
- The recovered waste heat can be used for air conditioning (heating, outdoor air processing, dehumidification) and hot water supply.
- The heat loss from the stored heat is minimized. (because of the principle of moisture adsorption/desorption reaction)
- The users of the heat can substantially reduce their CO₂ emissions.



Using reaction heat from the absorption and desorption of water to and from adsorbent (heat storage material)
 Desorption of water → **heat storage**
 Adsorption of water → **heat emission** (use of heat)

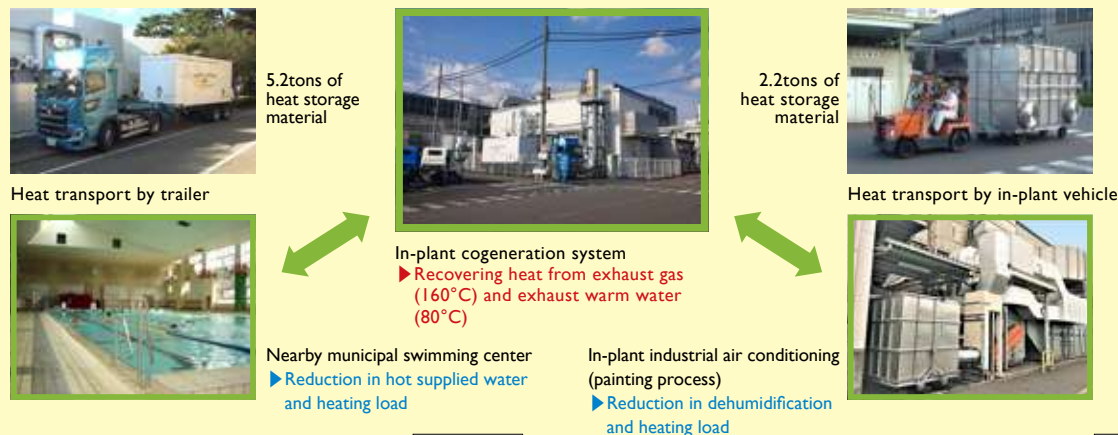
This system can be fixed or used as a portable type in plant facilities and enables the recovered exhaust heat to be used in different places and at different times. The heat can be used effectively for dehumidification, heating and drying processes, for example.

We also expect to introduce it as an offline heat recovery, transport, and utilization system to recover exhaust heat from sludge and garbage incineration plants of local governments, etc., as well as exhaust heat from factories, and use the heat in the nearby areas.

In FY2018-2019, we launched a demonstration test for the system as a project subsidized by the New Energy and Industrial Technology Development Organization (NEDO) jointly with Hamura City, Tokyo, and 5 other organizations. We created a thermal storage system using HASClay, a new high-density heat storage material, to collect full-year demonstration data on the fixed type and the offline heat transport type and demonstrated the storage of waste heat from factories, cogeneration exhaust gas, and waste warm water, as well as the use of heat in production lines and commercial facilities. With this project, we earned the NEDO strategic energy-saving technology innovation program excellent business operator award in 2018 and the excellent business operator award for NEDO Energy-Saving Technology Development Prize in 2020. In addition, the project received an Award for Excellence in the industrial use category of the Cogeneration Award 2021 for “further energy saving in factories” and “area-wide use of thermal energy uniting communities” through the use of cogeneration exhaust heat.



● Examples of use: Heat transmission in Hamura City areas (around the Hamura plant of Hino Motors)



● Viewable at Advanced Industrial Science and Technology's YouTube channel “かがくチップス (Science chips)”
<https://www.youtube.com/watch?v=0Rw38swZvfQ>



● Cogeneration Award press release
https://www.tte-net.com/topics/2022/pdf/20220204_1.pdf



Environmental Conservation

Support for realizing a low-carbon society



Our basic philosophy on environmental conservation is to “contribute to the conservation of the global environment while working for the sustainable development of society by fully using environmental conservation technologies and our corporate power.” Based on this philosophy, we have established the Basic Environmental Policy to specify rules on the promotion system. We will actively develop energy-saving and CO₂ emission reduction technologies in our business activities and achieve optimal operation of facilities through cooperation with customers to help create a low-carbon society. Meanwhile, we have estimated CO₂ emissions in FY2021 for the external announcement and disclosure of environmental data (CO₂ emissions), etc. The value is used as a benchmark for long-term targets to be achieved in FY2025 and 2030.

As an Environment-Creator™, we strive to provide environmentally friendly technologies and services in collaboration with all stakeholders.

- (1) We contribute to the realization of a decarbonized and recycling-oriented society by promoting the efficient use of energy and resources.
- (2) We work to achieve optimal space environments with high efficiency through active deployment of energy-saving technologies and optimization of building operations.
- (3) We actively engage in research and development on resource recycling, energy value chains, and other such matters to create new value.
- (4) We strive for biodiversity through initiatives to conserve water and forest resources.
- (5) Through the above, we promote initiatives to address climate-related issues.

● CO₂ emissions by scope (results in FY2021)*

Class/category		Scope of the estimation	Relevant activities	Emissions in FY2021 (tons of CO ₂)
Scope 1	Direct emissions	Direct emissions from the use of oil, etc. and industrial processes in the company	Gas, oil, gasoline	2,176
2	Energy-derived indirect emissions	Indirect emissions in association with the use of the electricity and heat purchased by our facility	Electricity, etc. in business sites, offices, etc.	1,864
3	Other indirect emissions (excluding those which fall under Scope 1 or 2)		Design, construction work, etc.	4,648,164
Category 1	Purchased goods and services	Emissions in association with the activities up to the production of raw materials and other materials	Ductwork, piping, scaffolding	119,213
			Main items of HVAC systems (freezers, air conditioners, packaged air conditioners, fan coils, fans)	
2	Capital goods	Additional construction of production facilities	Capital investment	7,336
3	Energy-related activities	Minerals required for the generation of the electricity purchased by the company	Electricity usage	801
4	Transportation (upstream)	Emissions in association with the transportation of products from suppliers to construction sites	Number of trucks required for the transportation	5,662
5	Waste generated in operations	Emissions in association with the transportation and disposal of general and industrial waste generated by the company	General waste from buildings and offices	5,676
			Disposal of industrial waste from sites	
6	Business travel of employees	Business travel	Domestic and international business trips	919
7	Employee commuting	Commuting	Commuting	609
11	Use of the sold products	Emissions in association with the use of products by users (consumers, business operators)	Facilities for delivery to customers	4,499,860
12	End-of-life treatment of sold products	Emissions in association with the end-of-life treatment of products	End-of-life treatment of purchased products	8,089
Total				4,652,204

*An independent third-party assurance has been received from Sustainability Accounting Co., Ltd.

Support for realizing a recycling-oriented society



• Reduction of waste

We regard waste as precious domestic resources and aggressively strive for 3R* at production sites and offices in order to recover useful resources from waste and utilize it effectively. In addition, waste is controlled for its thorough management up to the final disposal.

*3R means Reduction, Reuse, and Recycling.

• Achievement of a recycling rate of 86% at sites through separation of construction materials

We worked to reduce construction facility waste from contract work through such initiatives as the use of prefabricated facilities, elimination of packaging, promotion of recycling, and thorough separation of waste. As a result, the overall recycling rate in our 1,235 contract work sites in FY2021 was 86%, achieving our target. Going forward, we will work for even more separation of waste and materials in order to increase the recycling rate, including promoting initiatives at T-Base®.

- **Ensuring 100% control of chlorofluorocarbons (CFCs) and industrial waste**

We started to recover CFCs in fiscal 1995, ahead of other members of the industry. In FY2021, we recovered 100% of the CFCs to be collected in 347

sites, which weighed approximately 34 tons in total. The amount of CFCs we have recovered since the start of the activities is equivalent to 827 tons. We will continue to control the recovery process completely and strive to recover CFCs to protect the ozone layer.

Preservation of water resources

In consideration of biodiversity and ecosystems, we conduct forest conservation activities such as tree planting through local environmental activities. In order to reduce environmental impact of wastewater from production sites, including reducing waste at offices, we have developed technology for flushing without any water drainage, and are committed to the practical and widespread use of it.

- **Practical use of technology for flushing without any water drainage**

We are conducting various forms of research and development to reduce the impact of effluents and exhaust air on the biological environment during construction and post-completion facility operations.

For effluent treatment, we have developed a technique to purify effluents containing zinc eluted from coated zinc as a result of flushing in pipes at the completion of piping and to return the purified effluents to the pipes instead of discharging them. We worked to disseminate the technique and had 52 cases of the introduction into sites in FY2021.



Flushing water purification unit

Targets and achievements of environmental conservation activities

In FY2021, we implemented environmental conservation activities to meet the quantitative target set for each of the activity targets and items in construction sites and offices. The results are as follows:

- **Targets and achievements of environmental activities in FY2021**

Goal of the activities	Description of the activities		Control items	Baseline value	Actual result	Evaluation
Contribution to the realization of a low-carbon society	Proposal for energy saving at the design and construction stages	(New construction) Proposal for energy saving at the design stage	$\frac{\text{Amount of energy saved}^{*1}}{\text{Baseline}^{*2} \text{ energy consumption}}$	10%	9%	—
		(Renovation) Reduction of energy used by equipment during construction	$\frac{\text{Amount of energy saved}^{*1}}{\text{Baseline}^{*2} \text{ energy consumption}}$	30%	33%	✓
	Energy saving in offices	Reduction of energy used at head office, main branches, sales branches and R&D center	$1 - \frac{\text{Energy consumption in the current fiscal year}}{\text{Energy consumption in the previous fiscal year}}$	270 kWh or less per person per month	100%	✓
		Reduction of the amount for piping, ductwork and equipment scaffolding during construction	$1 - \frac{\text{Amount of reduced materials}}{\text{Amount of materials used for ductwork, piping, and scaffolding in the original design}}$	10%	15%	✓
Contribution to the realization of a society in harmony with nature	Participation in local environmental activities		Local cleanup activities and support for events	One or more activities per office	Suspended due to COVID-19	—
	Practical and widespread use of technologies that contribute to biodiversity		Trial introduction of the flushing technology to clean pipes without any water drainage	40	52	✓
Contribution to the realization of a recycling-oriented society	Implementation of activities to generate no industrial waste from construction sites ^{*4}		$\frac{\text{Recycling rate}}{1 - \frac{\text{Final disposal volume}}{\text{Total waste volume}}}$	85%	86%	✓
	Thorough management of industrial waste manifests		$\frac{\text{Number of sites managed with manifests}}{\text{Total number of contract work sites}}$	100%	100%	✓
	Thorough management of the CFC recovery process control table		$\frac{\text{Number of sites managed with the CFC recovery process control table}}{\text{Total number of sites recovering CFCs}}$	100%	100%	✓

*1: Buildings of a certain scale designed by the company (new construction and renovation)

*2: The baseline value is annual energy consumption equivalent to the baseline in the Act on the Rational Use of Energy or the amount defined specifically for each building.

*3: Buildings of a certain scale (new construction and renovation)

*4: All buildings in contract work

Human capital and organizational capital: Increasing engagement

In order to continue to develop further into the future, we are working to strengthen our human capital from the perspectives of recruitment, training, and wellbeing.

Takasago Thermal Engineering's human capital strategy

Takasago Thermal Engineering believes that people are our greatest asset. Since our founding, under our corporate mission of “Contribution to society through personal harmony and creativity,” we have contributed to the development of society by creating new value through the collective efforts of each of our employees based on the idea of creating what does not yet exist.

It is each employee that supports our Group and we believe that our valuable human resources’ autonomous growth will lead to the company’s growth.

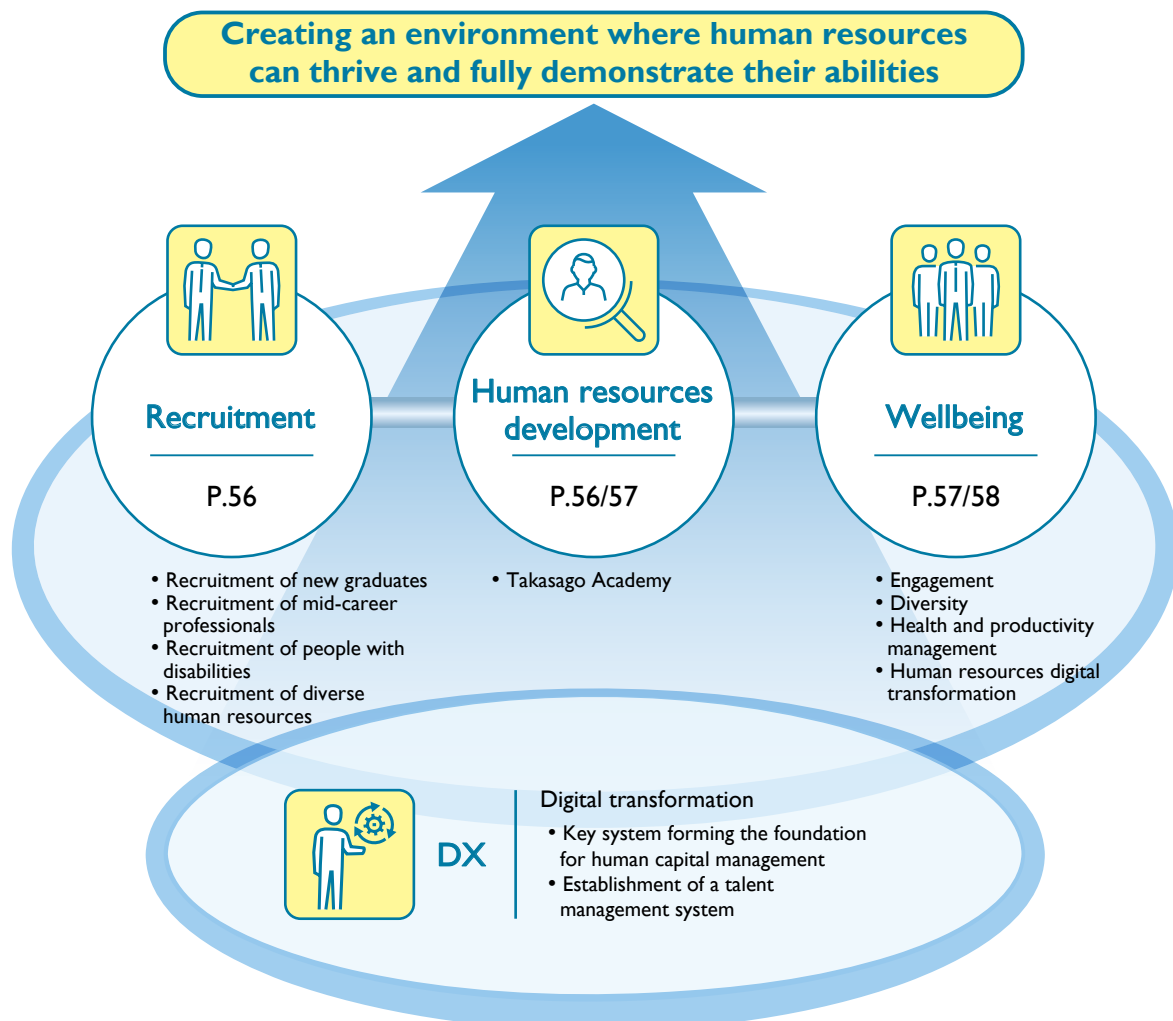
In order to continue to develop further into the future as an Environment-Creator™, we are working to strengthen our human capital from the perspectives of recruitment, training, and wellbeing.

Basic policy on human resources management

Based on our philosophy that “people are our greatest asset,” we conduct human resource management based on human resource development and respect for people.

In order to contribute to society by constantly creating new value through our corporate activities, it is our basic belief that we must be a company that continues to grow day by day, and that this growth is supported by our human resources, who are constantly growing. We develop human resources who have character and high ethical standards, are autonomous, and are always willing to take on challenges.

We also foster a corporate culture in which people recognize and respect each other's diversity regardless of gender, sexual orientation, gender identity, nationality, disability, or other attributes, and create a work environment where individual human resources are healthy and vibrant and can maximize their abilities.



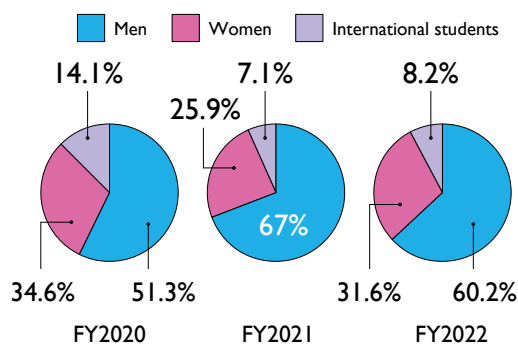


Recruitment

We are actively recruiting new graduates who will become future Environment-Creators™. In hiring new graduates, we use a merit system regardless of gender or nationality. We are actively conducting recruitment of female employees based on the goal of increasing the percentage of female employees to 30% of the workforce by around 2030, and increasing the number of foreign national employees from the current level.

In addition, in our recruitment of mid-career professionals, we hire human resources who are ready to work immediately to support our core construction business and people who have the expertise necessary to realize our management plan.

● Recruitment results



● Three-year average

Women	30.7%	International students	9.8%
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● Training system chart

		Training system					
		New employees to 5th-year employees	Career development period	Mid-level class	Management staff	Senior management	Skilled staff
Training by job type	Technical training	Basic technique	Deepening of technique	On-site management			
	Sales training	Sales engineering, etc.					
	Optional training	Subordinate coaching, presentation, etc.					
Training by position	Management	Newly promoted staff training					
	Development of the next generation		Leader seminar	Manager seminar	Management seminar	Director training	
Training by purpose	Global	Global seminar	Overseas trainees				
	Diversity	D&I seminar (working mothers training, women's workplace participation, LGBTQ, etc.)					Career design
	DX・IoT	DX seminar					
	Cutting-edge theme	Business development seminar					
Acquisition of official qualifications		Support for acquisition of official qualifications					



Human resources development

Basic concept for human resources development

As a pioneer of the construction equipment field, we are helping the world commit to carbon neutrality through environmental engineering under the corporate mission of “Contribution to society through personal harmony and creativity” in addition to creating a future earth where everyone has a good life as an Environment-Creator™. To fulfill these missions, we are developing human resources capable of providing the highest quality and ingenious technologies. With employee training and self-improvement performing a complementary role, we are creating an organizational climate that encourages a “give-it-a-try” spirit and inventiveness.

Training tailored to individual objectives and career stage

• Human resource development in the Takasago Academy

In the Takasago Academy, which aims to develop human resources who will create our future, we offer practical and multifaceted training programs with various types of training (Off-JT: off the job training) and various experiences (OJT: on the job training) as the two main components and provide training tailored to individual objectives and career stages.

Human capital and organizational capital: Increasing engagement

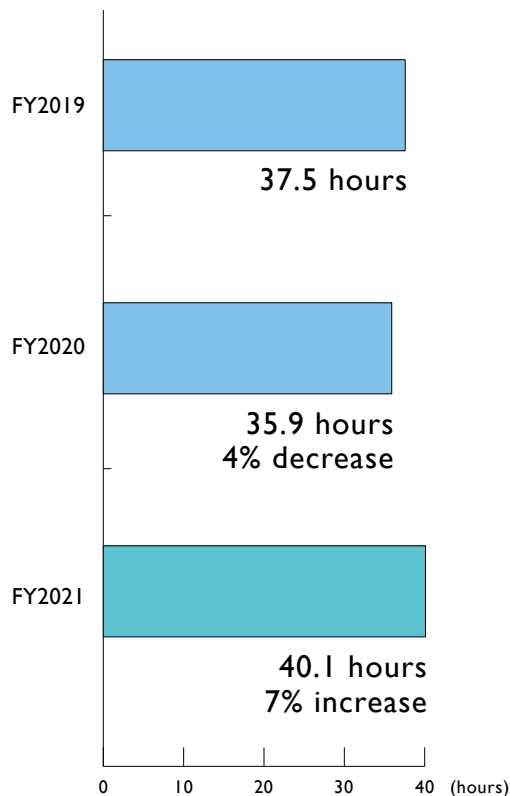
- On-site training at the time of entry into the company**

On-site training is given to new employees, irrespective of whether they are technical or clerical staff, after they join the company. This program, which allows the new employees to directly learn and understand how the company grows through the creation of added value and profits, leads to them being able to build diverse career paths.

- Purpose-based training and position-based training**

In the purpose-based training, the trainees work to acquire necessary capabilities and business skills and develop a sense of ethics so that they can work actively at all stages from the time of joining the company through retirement. In the position-based training, which focuses on management skills, we offer opportunities to acquire an MBA degree and carry out training to develop next-generation leaders, manager seminars for management candidates, leader seminars for young employees, and other programs to continuously develop human resources who will play the main role in our future management.

● Changes in training hours per employee
 [Calculated from training held by Takasago Academy
 (excluding training held by the headquarters, main office, and branches)]



* Percentages use FY2019 as the baseline.



Wellbeing

~Creating a work environment in which all employees can play an active role~

Further engagement enhancement

In order to keep employees motivated and engaged in their work, our management philosophy and business must contribute to society so that employees can devote themselves to their work with a sense of fulfillment and pride. We also have to develop a working environment to enable employees to lead healthy and fulfilling lives by enabling a variety of work styles with a sense of wellbeing and achieving work-life balance.

By accumulating these efforts, we are building trust between employees and the company, aiming to become a company that allows each employee to feel motivated and happy and thrive.

Implementation of engagement surveys and the Engagement Enhancement Subcommittee

We started a new employee engagement survey in FY2021 in place of the Employee Satisfaction Survey thus far. We will further enhance engagement by clarifying organizational issues with the annual main survey and monthly simple surveys (pulse surveys), sharing this with all branches nationwide through the cross-company Subcommittee team, and continuously taking steps for improvement.

Diversity and inclusion

Setting mutual respect as a basis in our management philosophy, we promote the fair appointment of human resources irrespective of nationality or sex. As illustrated in the installation of a working group that promotes a cross-sectoral diversity, we are actively committed to the creation of workplaces where diverse human resources can make the fullest use of their personality and capabilities to prove themselves.

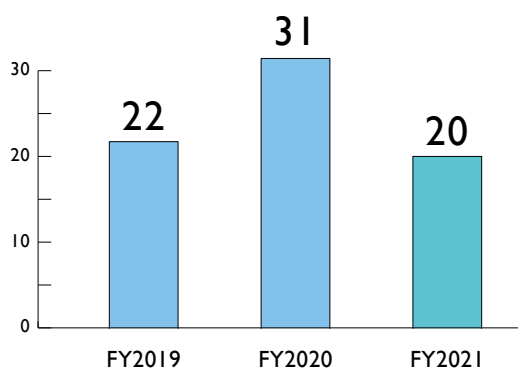
In FY2021, workshops were held on the themes of women, people with disabilities, foreign nationals, and mid-career professionals, to identify issues and implement measures.

Support for achieving a balance between work and family life

To support employees in balancing work and childcare or nursing care, we have in place a childcare/nursing care leave system, a reduced working hour system, and various holiday systems such as a system of leave for taking care of children. In addition, we encourage flexible work styles including staggering commuting and teleworking. When it comes to the latter, we modified in FY2020 the application conditions that had been in action for all employees to work from home. We also support men in taking part in childcare actively and encourage male employees to take childcare leave by, for example, allowing them to take the leave partly with pay. As part of supporting employees' return to work from childcare leave, we conduct a return-to-work interview or introduce nursery schools operated by companies.



● Number of male employees who took childcare leave by year



Health and productivity management

We have established the Health Care Office (renamed to the Health Care Management Office in FY2022) as a department dedicated to helping executives and employees maintain and improve their health and promoting health and productivity management. We aim to become a company where all executives and employees are physically and mentally healthy and work energetically (“Well-Being company”) with a Health Care Management Office staffed by medical professionals.

In addition to accepting consultations on mental and physical health as needed, the Office provides support

for balancing work and illness, follow-up on health checkups, and educational and awareness activities to improve health literacy.

In addition, we are devising ways to encourage employees to improve their health awareness in familiar places, including encouraging employees to take a nap during lunch breaks, displaying the sugar content of beverages in vending machines, and publishing a monthly health newsletter called “Takasago Health News” that introduces health information.

In FY2021, in recognition of our past activities, we were recognized for the Health & Productivity Stock Selection 2022 and the 2022 Certified Health & Productivity Management Outstanding Organizations Recognition Program (White 500).



Measures to address harassment issues

To prevent sexual and other forms of harassment including abuse of authority and discrimination against pregnant employees, we send messages of top management and clarify our basic policy to never allow any forms of harassment. We have set up consultation counters on and off the company premises to address the matter and also conduct regular questionnaire surveys to check whether there is any harassment in the workplace. In addition, every August is designated as Harassment Elimination Awareness Month, and company-wide training is conducted to raise awareness of harassment prevention.

Initiatives for DX of human resources

In promoting human capital management, we are advancing talent management that manages various personnel data on each employee and utilizes it for recruitment, training, and human resource allocation and appointment.

In FY2021, we renewed our core system for managing human resources information as the foundation for human capital management, and we are also moving forward with human resources DX initiatives, including the development of a talent management system.



Takako Mitsuzawa
Entered the company in 1995 and is now head of the General Sales Management Division at the Head Office. Currently, she is in charge of secretarial services, as well as construction permits and management examination filings.

Miyuki Matsumoto
Entered the company in 2015 and is now head of the Legal Division at the Head Office. She is in charge of general legal consultations.

Harumi Koyanagi
Entered the company in 1990, and is now deputy manager of Process Support Section 2, Technical Engineering Division 1 of the Tokyo Head Office. Since joining the company, she has been in charge of on-site support through CAD work.

Saya Takeda
Entered the company in 2010, and is now deputy manager of Section 1 of the Technical Engineering Division 3 of the Osaka Branch. Since joining the company, she has been primarily engaged in on-site work. She is currently in charge of on-site operations in Kyoto.

President Kazuhito Kojima

Kazumi Yoshida
Entered the company in 2018, and now works in the Sales Section, Sales Department of the Sapporo Branch. Currently, she is tackling order receipt activities by accompanying senior employees in their sales activities.

Human capital and organizational capital: Increasing engagement Dialogue Between the President and Female Employees

President Kojima actively engages in dialogue with a wide range of employees in order to “share his thoughts on a daily basis and change management.”

He had very high expectations for the “Dialogue Between the President and Female Employees.”

Five female employees of various affiliations, positions, and duties also participated in the dialogue.

► Promoting diversity is essential for corporate growth

Moderator: As of April 2021, the percentage of our female employees is 16.7% and the percentage of female managers is 1.5%.

Matsumoto: Companies are trying to increase the percentage of female managers from the perspective of ensuring diversity in their core human resources. By placing more women in positions where they can make independent decisions within certain parameters, we aim to uncover previously unconsidered perspectives and values that will lead to sustainable growth for the company.

The division I belong to has a high percentage of women and many mid-career professional hires, so during discussions, a variety of opinions are exchanged and new discoveries are made. We promote diversity throughout our company, and if new perspectives from employees who have been in the minority are brought in, we can fully expect to see groundbreaking business improvement plans and new business ideas.

President Kojima: Recently, a female member of the Research and Development Headquarters made a wonderful suggestion, and her fresh perspective was an eye-opener. Having diverse perspectives is essential to our continued growth as an innovator. With regard to the ratio of female managers, we will continue to strengthen our efforts as our current situation is not up to the generally verified corporate average.





▶ Enabling career building in line with personal values

Moderator: Koyanagi-san has converted from a general position to a career track position, moving to global duties after previously having duties based in one area.

Koyanagi: My awareness greatly changed when I was assigned to a district office of the technical engineering division in my 15th year at the company and realized that my knowledge of technology was limited in comparison to my company history. I challenged myself to acquire qualifications as a first-class plumbing construction management engineer and a society-certified equipment engineer, took an examination to change course to a career-track position, and even took a promotion examination. I wanted to show other female employees that everyone has a chance, and wanted this trend to continue. I aimed to move from an area-based position to a global position because I wanted to expand my network and try experiencing other stores once.

Yoshida: I really understood what you meant when you said that your awareness has changed since you were assigned to the district office of the technical engineering division. I work in sales, and the field training I had for the first year and a half since I joined the company was a great experience.

Moderator: Regarding the state of sales staff, how



does the sales section of the sales department of the Sapporo Branch, to which Yoshida-san belongs, carry out its work?

Yoshida: The sales section consists of three men and two women who engage in their respective sales activities. In the past, sales visit activities were performed by male employees and clerical work by female or temporary employees. But now I feel that the division of duties is based on position and title, regardless of gender.

Moderator: There is also an impression of having few women on-site.

Takeda: I do not think there is any particular on-site work that can be done just by women or men. Employees just do what needs to be done, and whether they can or cannot do it is a difference in their ability, not a difference between genders. However, there are fundamental gender-based differences in terms of physical strength, frequent changes to physical condition, and how easily one is affected by life events, so how to clear these issues will be a challenge for the future. I believe that overall company systems are being put in place to enable job continuity for women, but I believe that more thought should be given to operations and methods in accordance with on-site operations.



President Kojima: Do you have any suggestions?

Takeda: If we can utilize teleworking in shifts for on-site operations as well without being bound by the stereotype of on-site management having to actually be performed on-site, I believe we can build a comfortable work environment for both men and women without giving up by saying, "It cannot be helped since it is on-site."

President Kojima: That's true. We are beginning to experiment at some sites. If digital terminals and VR can be used for on-site management, remote response will also be possible. This is part of a change in work style for all employees. To counter the pressure of conventional customs, we must consider measures such as stipulating items in a contract. Our company cannot do this alone. We will work to make this an issue for the entire construction industry.

Human capital and organizational capital: Increasing engagement

Dialogue Between the President and Female Employees



► Improving the work-life balance of all employees

President Kojima: Matsumoto-san and Mitsuzawa-san, you are balancing work and family while utilizing the system. Have you experienced any problems?

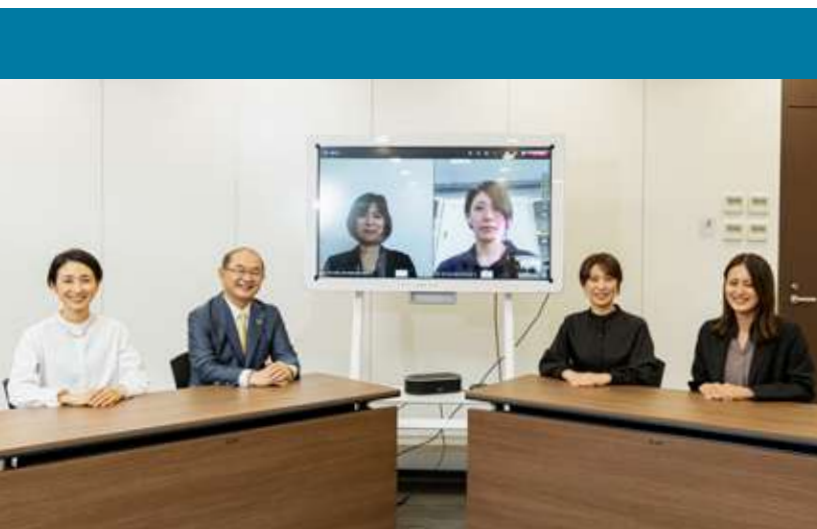
Matsumoto: Although the system has been enhanced, there is room for improvement in terms of the differences in users and concerns associated with the use of the system.

Mitsuzawa: I agree. This is not just a problem for female employees. Since the system has been enhanced through workstyle reform, the next step is to improve the environment so that all employees can use the system equally. I would also like for flexible use of the system to be enabled as people's life stages change.

President Kojima: I also believe that measures must be taken to address the differences in the use of the system. Another serious problem is people feeling concerned about using the system. We intend to present model cases in which employees' capabilities are fairly evaluated while utilizing various systems, regardless of employees' gender or life stage.

Mitsuzawa: I believe that it is important to create understanding people and an atmosphere conducive to job continuity using the system for women and all other people. It would be reassuring to have a forum for a broad exchange of ideas as part of the workstyle reform.

President Kojima: I also deeply recognize the importance of dialogue. We have heard many valuable opinions today. Let's keep working together for a better company!



For promotion of diversity

Motoko Sekine, Leader of the Diversity Promotion Subcommittee and head of the ESG Management Division

Ensuring the diversity of our core human resources is one of the key management strategies that support our sustainable growth. The Diversity Promotion Subcommittee under the ESG Promotion Committee is playing a central role in various initiatives at our company. The dialogue introduced this time was particularly well-received by many who resonated with the positive and candid attitude of the female employees.

We will continue to promote activities to create an environment in which all diverse human resources can fully show their potential, including meetings with all female employees and LGBTQ-related initiatives.

TOPICS



Social contribution activities

Community contribution activities

In June 2022, a facility tour was held at the Takasago Thermal Engineering Innovation Center (in Tsukubamirai City) for children from nearby elementary schools (45 participants). In addition to an explanation of air conditioning, the children were able to experience air conditioning which they are usually not aware of through the “air tube,” which enables experiencing the summer climate in Thailand (tropical), Chile (desert), and Antarctica, and the “air sofa,” which enables experiencing the difference in temperature transfer between two types of sofas (air and water). There was also an introduction of “the world’s first attempt to electrolyze water on the Moon” in front of the full-scale lunar module (lander) exhibit. We will continue to promote community contribution activities in cooperation with local governments and educational institutions.



Social contribution activities

In March 2022, we participated in a “Listen to Professionals” event held at a junior high school in Tokyo as part of an integrated learning program.

Our employees engaged the students, who were divided into groups of five or six, in a dialogue about their work, fulfillment, and the hardships they face. The students asked specific questions such as, “Why did you choose this job?,” “How do you calculate the direction, temperature, and strength of the wind?,” and “Can you quickly change the amount and strength of the wind based on the number of people?” We will continue to actively create opportunities to expand the possibilities of children, who will shoulder the future.



Activities contributing to the global environment

Since 2016, we have leased forests in Gunma and Kyoto prefectures as the “Takasago-UNIMAS Educational forest” and have continued forest conservation activities by Takasago Thermal Engineering Group company employees and their families in collaboration with NPOs and local governments. In addition to forest conservation activities, we participate in environmental activities of local governments where our branches are located. In Malaysia, we have designated a 10-ha section of the premises of the University of Malaysia, Sarawak as “Takasago no Mori” (Forest of Takasago) and conduct tree-planting activities. Through these nature experience activities, we will continue to communicate the importance of the global environment via interaction with forests and the living things that inhabit them and fostering an appreciation of nature.



Enhancement of Corporate Governance

To achieve our Group’s sustainable growth and medium and long-term improvement in corporate value, we will work to secure the legality, transparency, and agility of corporate management and improve management efficiency.

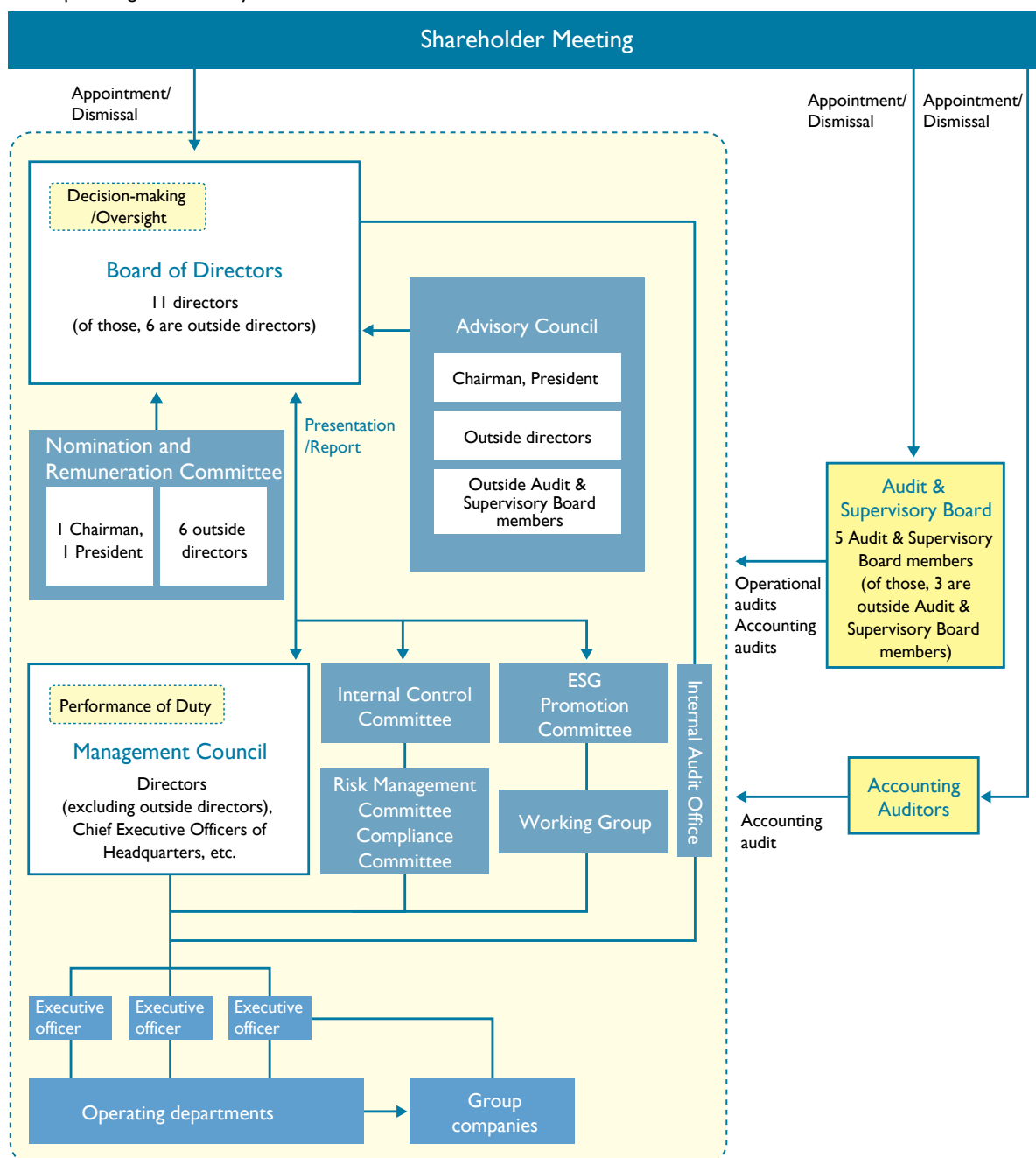
Corporate governance system

Takasago Thermal Engineering has a Board of Directors and an Audit & Supervisory Board. We have adjusted the number of directors and shortened their term, which is one year at present, and also introduced an executive officer system to clarify management decision-making and supervisory functions as well as business execution functions for prompt and flexible management.

The Board of Directors currently consists of 11 members (including six outside directors) and its meeting is held once a month in principle and on an as-needed basis. At the meetings, the Board of Directors passes resolutions on the matters specified by laws and the articles of incorporation as well as important matters based on the Board of Directors Regulations to supervise the execution of duties by the directors.

The term of directors is one year with specified management responsibility. Outside directors provide useful advice and opinions from an independent

● Corporate governance system



perspective while outside Audit & Supervisory Board members provide useful advice and opinions from an objective and professional perspective by attending Board meetings. As such, they try to fulfill the roles expected of outside officers.

The Board of Directors strives to improve the efficiency of business management and secures the legality and validity of business execution by making important decisions on business execution and supervising the performance of duties by directors.

The Audit & Supervisory Board currently consists of five members (including three outside Audit & Supervisory Board members). Its meeting is held once a month in principle and an extraordinary meeting is also held when necessary. The Audit & Supervisory Board audits the execution of duties by directors and reports audit results to the Board of Directors.

We have also established the Management Council to enhance deliberation on important matters concerning management and make prompter decisions on the allocation of management resources, as well as the Internal Control Committee to promote the improvement and operation of the internal control system of Takasago Thermal Engineering and its Group in a cross-sectoral manner.

In addition, we have set up the Nomination and Remuneration Committee as an arbitrary advisory body for the Board of Directors. The committee deliberates on the new appointment, reappointment, and dismissal

of directors, auditors, and executives of Takasago Thermal Engineering as well as the representative directors and auditors of its affiliates (excluding affiliates with low importance to us). They make recommendations to the Board (however, the new appointment or reappointment of Audit & Supervisory Board members requires the approval of the Audit & Supervisory Board) and deliberate the remuneration of the directors and executive officers of Takasago Thermal Engineering as well as the representative directors of our affiliates. A majority of the committee must be outside directors.

Furthermore, we have formed the Advisory Council, which consists of Representative Directors, outside directors and outside Audit & Supervisory Board members, as an arbitrary advisory body for the Board of Directors. The Council helps activate the Board through activities as the examination of the structural balance of the Board of Directors as a whole, the analysis and assessment of its effectiveness and the check of the policy for the training of directors and Audit & Supervisory Board members and the provision of information.

In addition to the activities mentioned above, Audit & Supervisory Board members coordinate with accounting auditors and the Internal Audit Office to enhance corporate governance by conducting effective audits through active communication between them.

● Organizations and their members

(as of September 30, 2022)

Title	Name	Board of Directors	Management Council	Audit & Supervisory Board	Nomination and Remuneration Committee*	Internal Control Committee	ESG Promotion Committee	Advisory Council
Chairman and Representative Director, CEO	Atsushi Ouchi	◎	○		○	○	○	◎
President and Representative Director, COO	Kazuhiro Kojima	○	◎		○	◎	◎	○
Director and Managing Executive Officer	Tadashi Kamiya	○	○			○	○	
Director and Managing Executive Officer, CDXO	Toshikazu Yokote	○	○			○	○	
Director and Managing Executive Officer	Hiroshi Kubota	○	○			○	○	
Outside director	Kazuo Matsunaga	○			○			○
Outside director	Yoko Seki	○			○			○
Outside director	Makio Fujiwara	○			○			○
Outside director	Hideka Morimoto	○			○			○
Outside director	Shuma Uchino	○			○			○
Outside director	Atsushi Takagi	○			○			○
Full-time Audit & Supervisory Board Member	Yukitoshi Yamamoto			◎				
Full-time Audit & Supervisory Board Member	Hiroshi Yamawake			○				
Outside Audit & Supervisory Board member	Masahiro Seyama			○				○
Outside Audit & Supervisory Board member	Shigeharu Kawahara			○				○
Outside Audit & Supervisory Board member	Kazuo Sakakibara			○				○

○ : Member of the organization ◎ : Head of the organization *The head is elected by mutual vote

Enhancement of Corporate Governance

Audit & Supervisory Board members

The Audit & Supervisory Board currently consists of five members (including three outside Audit & Supervisory Board members). The Audit & Supervisory Board members monitor the implementation status of governance, attend the Board of Directors' meetings and other important meetings, review important approval documents and visit business sites for on-site audits in accordance with the audit policy and audit plan set by the Audit & Supervisory Board. They also strive to increase the effectiveness of the audits to monitor the execution of duties by the directors through coordination with accounting auditors and the Internal Audit Office and other efforts.

For subsidiaries, the Audit & Supervisory Board members exchange information and cooperate with the directors and Audit & Supervisory Board members of subsidiaries at a meeting of the Group Management Council and the Group Audit & Supervisory Board and other occasions. Outside Audit & Supervisory Board members obtain and provide information from an independent standpoint and strive for monitoring from an external perspective. On the other hand, full-time Audit & Supervisory Board members conduct monitoring based on their familiarity with our operations. The Audit & Supervisory Board members are thus enhancing the effectiveness of audits from their respective positions.

Internal audits

Having been established as a section under the direct control of the President, the Internal Audit Office (with six staff members) conducts systematic audits on the appropriateness and efficiency of business operations from an independent standpoint based on the Internal Audit Regulations. For subsidiaries, the office exchanges information and conducts other activities on an as-needed basis. The Internal Audit Office reports the results of audits to the President and Representative Director, COO and also checks the measures to be taken based on the results and the implementation of improvement. It also evaluates the operational status of internal control concerning the financial reporting of our company and important consolidated subsidiaries. While working closely with Audit & Supervisory Board members and accounting auditors, the office works to conduct effective internal audits.

Accounting auditors

The accounting auditing for us is performed by two certified public accountants from KPMG AZSA LLC.

Employees responsible for auditing are rotated appropriately, engaging in the job up to seven consecutive fiscal years.

They are supported by three certified public accountants and eight others.

● Major activities of outside officers in the previous fiscal year

Category	Name	Main activities
Director	Kazuo Matsunaga	With a wealth of experience and insight mainly in the field of public administration, Mr. Matsunaga gives advice and opinions useful for our business management from an independent position. He also served as a member of the Nomination and Remuneration Committee.
Director	Kiyoshi Fujimura	With a wealth of experience and insight as a director and CIO of Mitsubishi Corporation, Mr. Fujimura gives advice and opinions useful for our business management from an independent position. He also served as a member of the Nomination and Remuneration Committee.
Director	Yoko Seki	With expertise mainly as an attorney, Ms. Seki gives advice and opinions useful for our business management. He also served as a member of the Nomination and Remuneration Committee.
Director	Makio Fujiwara	With a wealth of experience and insight as director and corporate auditor, etc. of Tokyo Electric Power Co., Inc. (currently Tokyo Electric Power Company Holdings, Incorporated), Mr. Fujiwara gives advice and opinions useful for our business management from an independent position. He also served as a member of the Nomination and Remuneration Committee.
Director	Hideka Morimoto	With a wealth of experience and insight mainly in the fields of public administration and the environment, Mr. Morimoto gives advice and opinions useful for our business management. He also served as a member of the Nomination and Remuneration Committee.
Audit & Supervisory Board members	Tetsuo Ito	With expertise mainly as an attorney, Ms. Seki gives advice and opinions useful for our business management.
Audit & Supervisory Board members	Masahiro Seyama	With a wealth of experience and insight as president and corporate auditor of overseas affiliates of Matsushita Electric Industrial Co., Ltd. (currently Panasonic Corporation), Mr. Seyama gives advice and opinions useful for our business management from an independent position.
Audit & Supervisory Board members	Shigeharu Kawahara	With expertise mainly as an accountant, Mr. Kawahara gives advice and opinions useful for our business management.

Board CEO succession plan

In order to ensure the transparency and objectivity of succession by the Board CEO to the successor, the Board CEO succession plan is reported to the Nomination and Remuneration Committee on the successor's education policy, training plan, and plan progress, and the Committee deliberates on the plan. The Board CEO proposes to the Nomination and Remuneration Committee the most suitable candidate to replace him or her, and the Committee deliberates on the matter and reports the results of its deliberation to the Board of Directors.

Analysis and evaluation of the effectiveness of the Board of Directors as a whole

We evaluate the effectiveness of the Board of Directors annually based on the self-evaluation of each director and Audit & Supervisory Board member to secure the efficacy and effectiveness of the Board.

Each of the directors and Audit & Supervisory Board members performs a self-evaluation based on the "Self-Evaluation Sheet," and the results are analyzed and evaluated by the Board of Directors after being discussed by Representative Directors and outside officers.

Actions and improvement measures to be taken based on the self-evaluation results

(evaluation implemented in March 2022)

1. Composition of the Board

We have increased the ratio of outside directors, and will continue to work to ensure diversity and strengthen management oversight functions.

2. Responsibilities of the Board of Directors

The "items for consideration" provisions at the Board of Directors meetings shall be used to enhance discussion of our management direction.

3. Training of directors and Audit & Supervisory Board members

We will continue to hold group training sessions on themes that contribute to enhancing corporate value.

4. Operation of the Board of Directors

- We will run a disciplined meeting by clarifying discussion points as ever.
- To clarify points for the discussion, we will work again to ensure the preparation and explanation of materials and recommend the attachment of an executive summary, etc. depending on the subject of the discussion.

The summary results of this analysis and evaluation are shown below, and we believe that the efficacy and effectiveness of the entire Board of Directors are secured. Given the results, we will work to further improve the supervisory and decision-making functions of the Board.

- As a result of promoting more in-depth discussions at the meetings of the Management Council and the Internal Control Committee, which are organized under the Board of Directors, as well as enhanced internal control, it was confirmed that the appropriate development of highly effective oversight and risk management systems, which is one of the responsibilities of the Board of Directors, has been conducted on a continuous basis.
- It was confirmed that active discussions and full and multifaceted reviews were conducted at the Board of Directors meetings, showing that the Board was vitalized. In addition, there was an opinion that we should deepen more multilateral discussions to further enhance debates about the direction of medium and long-term management.
- The Board of Directors agreed that clarification of discussion points and simplification of explanations of materials are needed to invigorate discussions at the Board meetings.

Policy for the training of directors and Audit & Supervisory Board members

We believe that matters required of directors and Audit & Supervisory Board members mainly consist of matters unique to Takasago Thermal Engineering such as necessary knowledge of our businesses, finance, and organization and general matters such as the roles required of directors and Audit & Supervisory Board members and their legal and other responsibilities.

Executive directors work to gain a better understanding of general matters, such as our businesses, finance and organization, through discussions at the Management Issue Review Committee every year. Executive directors and Audit & Supervisory Board members that are not outside Audit & Supervisory Board members strive to understand the roles and responsibilities required of directors and Audit & Supervisory Board members by participating in training by external experts.

We provide an explanation of matters such as our businesses, finance, and organization to outside directors and outside Audit & Supervisory Board members when they assume their posts and as required, to facilitate the acquisition of knowledge required of our outside directors and outside Audit & Supervisory Board members. As such, we develop an environment for them to fulfill their roles.

In addition, we provide opportunities and services and pay the necessary expenses to acquire and properly update the knowledge required of each director and Audit & Supervisory Board member. The Board of Directors regularly checks progress in the training of executive directors.

Enhancement of Corporate Governance

Remuneration of executives

As to the remuneration of directors and Audit & Supervisory Board members, we set the upper limit for the total amount of the remuneration, etc. of all the directors and Audit & Supervisory Board members by resolution at a shareholders' meeting.

To enhance the independence, objectivity, and transparency of the remuneration of executives, we established the Nomination and Remuneration Committee as an optional advisory body consisting of Representative Directors, the Chairman and Director, the President and Director, and outside directors. After discussions at the Committee, we determine the remuneration of directors, etc. based on a resolution of the Board of Directors.

For the medium- to long-term growth of our business and continuous and sustainable increases in our corporate value and common interests of shareholders, we have resolved on adopting a policy to ensure that the remuneration system for our directors gives a healthy incentive to them in consideration of various issues including trends on corporate governance, survey data provided by external specialized agencies, and the remuneration level in other companies. The specific levels are decided by resolution of the Board of Directors after deliberations in the Nomination and Remuneration Committee.

The remuneration of directors consists of basic remuneration, a bonus as a short-term (annual) incentive and trust-type stock-based compensation as a medium- to long-term incentive. The composition is set in consideration of the relevant policy.

Outside directors receive only basic remuneration while no bonus or trust-type stock-based compensation is provided.

The basic remuneration is determined as a fixed amount according to the position of each of the directors.

For the amount of the bonus, we introduced a new mechanism with an aim to increase the motivation of directors to achieve their single-year performance

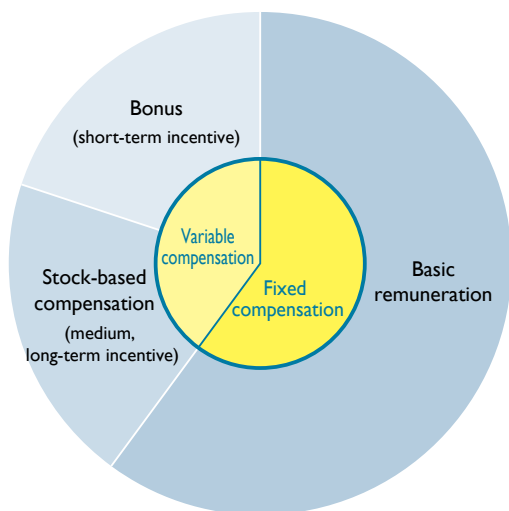
targets and other goals. In this mechanism, the bonus amount changes from the basic amount for each position based on the performance in the previous fiscal year and qualitative assessment of the individual executives (degree of achievement of the goal for each person, training of successors, improvement of corporate value, commitment to SDGs, vitalization of the Board of Directors, and compliance).

The trust-type stock-based compensation aims to further enhance motivation to contribute to the improvement of medium- to long-term performance and corporate value. Points are granted according to the position of the director every year and the shares of our company that are equivalent to the total points are issued at the time of resignation. The compensation rate varies, depending on to what extent the targets of the achievement indexes were met. The achievement indexes include consolidated net sales, consolidated ordinary income, consolidated ROE for financial indexes and CO₂ emissions, among others, for non-financial indexes. The remuneration of executive officers also consists of basic remuneration, a bonus as a short-term (annual) incentive, and a trust-type stock-based compensation system as a medium- to long-term incentive as in the case of directors. The levels are decided by resolution of the Board of Directors after deliberations in the Nomination and Remuneration Committee.

The directors (excluding outside directors) and executive officers make efforts to acquire our shares by voluntary contribution through the Official Shareholding Association.

Remuneration, etc. of Audit & Supervisory Board members is basic remuneration only and the amount of the basic remuneration of each Audit & Supervisory Board member is decided through consultation with Audit & Supervisory Board members based on the comprehensive examination of the content, volume and difficulty of his/her duties, the degree of responsibility, etc. In view of their duties, etc., Audit & Supervisory Board members receive no bonus or trust-type stock-based compensation or other stock-based remuneration.

- Image of the composition of the remuneration of directors



- Total remuneration, etc. by officer category, the total amount of each type of remuneration and the number of eligible officers

Category	Total amount of remuneration, etc. (million yen)	Number of eligible officers (persons)
Directors (except for outside directors)	323	7
Outside directors	57	6
Audit & Supervisory Board members (except for outside Audit & Supervisory Board members)	54	2
Outside Audit & Supervisory Board members	47	4
Total	483	19

Policy for constructive dialogue with shareholders

We believe that listening to shareholders and taking proper measures lead to sustainable growth and medium- and long-term improvement in corporate value. Therefore, we are committed to building a constructive relationship with shareholders through dialogue with them and the disclosure of materials.

Our policy on constructive dialogue with shareholders is as mentioned below.

- (1) We appoint the President and Representative Director COO as the person who controls the dialogue, the CFO or division manager in charge of IR as the person in charge of handling the information, the Manager of the Communication Division as the person in charge of timely disclosure and the Manager of the Accounting Division as the person in charge of annual securities reports, etc. (the structure is shown in the schematic diagram of an overview of the system for timely disclosure later in this page).
- (2) The members mentioned above share information and issues on a daily basis through regular meetings and other opportunities for the promotion of coordination while making efforts to take appropriate actions.
- (3) In addition to biannual financial results briefing

sessions, we plan and organize opportunities for dialogue such as briefing sessions for investors on an as-needed basis. We also participate in external events for investors.

- (4) Directors and senior executives will obtain information directly through attendance at briefing sessions for investors, development of analyst reports, and other channels and receive reports from responsible sections regularly and when necessary.
- (5) In order to prevent insider trading, we strictly adhere to the Insider Trading Management Rules, which stipulate regulations concerning matters such as compliance with the Financial Instruments and Exchange Act and other related laws as well as the management of internal information. When we have dialogue, we try to manage the information in a way to avoid being suspected of giving any insider information while disclosing information not selectively but fairly. We set the period from the following day of the end of the settlement term (quarterly and full-year) to the date of the announcement of financial statements as a “period of silence.” In the meantime, we obtain knowledge on the prevention of insider trading and give education to update the knowledge.

Outline of the timely disclosure system

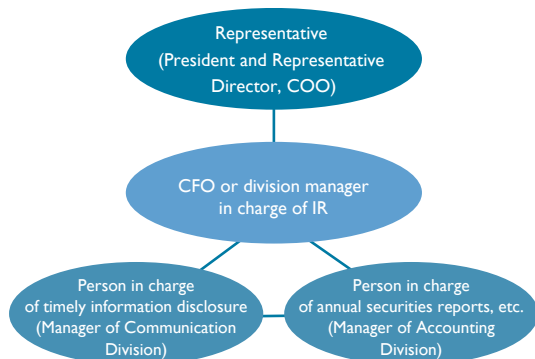
Our internal system for the timely disclosure of corporate information is described below.

- (1) The representative and the person in charge of handling the information endeavor to ensure the timeliness, legitimacy, accuracy and fairness of the information to be disclosed. The information is discussed and reported at the Management Council and Board of Directors meetings as necessary.
- (2) The person in charge of timely information disclosure complies with the Timely Disclosure Rules and relevant laws on a daily basis and also collects information from related sections in a prompt and comprehensive manner for the execution of his/her duties. He/she also makes

efforts to prepare proper disclosure materials and enhance the disclosure such as investigation of cases of information disclosure in other companies.

- (3) Audit & Supervisory Board members and accounting auditors provide advice and instructions on information disclosure to us in addition to periodical audits. We also seek opinions from third-party experts, etc. when necessary.
- (4) We have established the Insider Trading Management Rules and the Disclosure Policy (Information Disclosure Rules) as internal rules, as well as the Group Corporate Code of Ethics, which mentions that they must be strictly followed. Through these and other initiatives, we strive for the prevention of insider trading in our Group including affiliates as well as compliance with the fair disclosure rules.

● Schematic diagram of an overview of the system for timely disclosure



Financial results briefing session

Management Team



Atsushi Ouchi
Chairman and Representative Director, CEO

April 1975 Joined Takasago Thermal Engineering
 April 2006 Executive Officer
 April 2008 Managing Executive Officer; Branch General Manager, Osaka Branch
 June 2008 Director and Managing Executive Officer
 April 2010 President and Representative Director, COO
 January 2015 President and Representative Director, COO; Director in Charge of Engineering Headquarters
 April 2015 President and Representative Director, COO
 April 2016 Chairman, President and Representative Director, CEO
 April 2020 Chairman and Representative Director, CEO (to the present)

Reason for selection as an officer >> Having served as President and Representative Director since April 2010 and Director, Chairman and President since April 2016, Atsushi Ouchi engages in management by exercising his leadership as the Group CEO. We believe that, as Chairman and CEO, he can be expected to achieve the Group's sustainable growth as well as medium and long-term improvement in corporate value and to revitalize and strengthen the functions of the Board of Directors.

Attendance at Board of Directors meetings 100% (12 out of 12 meetings)



Kazuhito Kojima
President and Representative Director, COO; Director in Charge of the Global Business Planning Headquarters, Research and Development Headquarters, and Finance & Investor Relations Department

April 1984 Joined Takasago Thermal Engineering
 April 2015 Deputy Executive Officer; Branch General Manager, Yokohama Branch, East Japan Headquarters
 April 2017 Executive Officer
 April 2018 Branch General Manager, Osaka Branch
 April 2019 Chief Executive Officer, Management Strategy Headquarters
 June 2019 Director and Executive Officer
 April 2020 President and Representative Director, COO (to the present); Director in Charge of Work Style Reforms and Global Business Planning Headquarters
 April 2021 Director in Charge of Global Business Planning Headquarters and Research and Development Headquarters
 April 2022 Director in Charge of the Global Business Planning Headquarters, Research and Development Headquarters, and Finance & Investor Relations Department (to the present)

Reason for selection as an officer >> Through the execution of the air conditioning equipment business, Kazuhito Kojima has gained abundant experience and deep insight in the design/construction of building equipment relating to the Group's businesses. He has also fulfilled his executive responsibilities through the development of the Group's medium-term/annual business plans and through structural reforms and ESG/SDG-conscious corporate planning operations. We believe that, as President and COO, he can be expected to achieve the Group's sustainable growth as well as medium and long-term improvement in corporate value and to revitalize and strengthen the functions of the Board of Directors.

Attendance at Board of Directors meetings 100% (12 out of 12 meetings)



Tadashi Kamiya
Director and Managing Executive Officer; Chief Executive Officer, Business Management Headquarters and Director in Charge of Quality, Environment and Safety Control, Total Engineering, and Group Companies

April 1986 Joined Takasago Thermal Engineering
 April 2016 Deputy Executive Officer; General Manager, Engineering Division, Engineering Headquarters
 April 2018 Executive Officer
 April 2019 Deputy Chief Executive Officer; Business Management Headquarters; Officer in Charge of Work Style Reforms
 June 2019 Director and Executive Officer
 April 2020 Director and Managing Executive Officer (to the present); Director in Charge of Quality, Environment & Safety Control, Japanese Group Companies and Business Management Headquarters
 April 2021 Chief Executive Officer, Business Management Headquarters; Director in Charge of Quality, Environment and Safety Control, Total Engineering, Group Companies, and Sales & Marketing Headquarters
 June 2022 Chief Executive Officer, Business Management Headquarters; Director in Charge of Quality, Environment and Safety Control, Total Engineering, and Group Companies (to the present)

Reason for selection as an officer >> Through the execution of the air conditioning equipment business, Tadashi Kamiya has gained abundant experience and deep insight in the design/construction of building equipment relating to the Group's businesses. He has also fulfilled his executive responsibilities through business management and productivity improvement in the air conditioning equipment business. We believe that, as Director in Charge of Quality, Environment & Safety Control including core business management, he can be expected to achieve the Group's sustainable growth as well as medium and long-term improvement in corporate value and to revitalize and strengthen the functions of the Board of Directors.

Attendance at Board of Directors meetings 100% (12 out of 12 meetings)



Toshikazu Yokote

Director and Managing Executive Officer, CDXO;
Director in Charge of Risks and Compliance,
Corporate Operations Headquarters, and
DX Management Headquarters

April 1985	Joined Takasago Thermal Engineering
April 2017	Deputy Executive Officer; Branch General Manager, Hiroshima Branch
April 2018	Executive Officer
April 2019	Chief Executive Officer, Corporate Operations Headquarters; Officer in Charge of Compliance
June 2019	Director and Executive Officer
April 2020	Director and Managing Executive Officer; Director in Charge of Compliance, Corporate Operations Headquarters and Business Innovation Headquarters
December 2020	Director and Managing Executive Officer, CDXO (to the present)
April 2021	Director in Charge of Compliance, Corporate Operations Headquarters, and DX Management Headquarters
April 2022	Director in Charge of Risks and Compliance, Corporate Operations Headquarters, and DX Management Headquarters (to the present)

Reason for selection as an officer >> Through the execution of the air conditioning equipment business, Toshikazu Yokote has gained abundant experience and deep insight in the design/construction of building equipment relating to the Group's businesses. He has also fulfilled his executive responsibilities through the enhancement of the management foundation, as an officer in charge of human resources, general affairs, legal-related operations and DX promotion. We believe that, as Director in Charge of Compliance including overall corporate management, he can be expected to achieve the Group's sustainable growth as well as medium and long-term improvement in corporate value and to revitalize and strengthen the functions of the Board of Directors.

Attendance at Board of Directors meetings

100% (12 out of 12 meetings)



Newly appointed

Hiroshi Kubota

Director and Managing Executive Officer;
Chief Executive Officer, Sales &
Marketing Headquarters,
Director in charge of Sales &
Marketing Headquarters

April 1985	Joined Takasago Thermal Engineering
April 2016	General Manager, Sales Division 1, Tokyo Main Office, East Japan Headquarters
April 2017	Deputy General Manager, Tokyo Main Office
April 2018	General Manager, Sales & Marketing Management Division, Business Management Headquarters
April 2019	Executive Officer General Manager, Sales & Marketing Management Division, Business Management Headquarters
April 2020	Chief Executive Officer, Sales & Marketing Headquarters
April 2021	Managing Executive Officer
June 2022	Director and Managing Executive Officer (to the present) Chief Executive Officer, Sales & Marketing Headquarters; Director in charge of Sales & Marketing Headquarters (to the present)

Reason for selection as an officer >> Hiroshi Kubota has been involved in the sales sections for many years and currently serves as the Chief Executive Officer of the Sales & Marketing Headquarters, overseeing sales in the HVAC business. We believe that with this background, based on his excellent capabilities and insight and abundant experience, he can be expected to achieve the Group's sustainable growth as well as medium and long-term improvement in corporate value and to revitalize and strengthen the functions of the Board of Directors.



Kazuo Matsunaga

Outside Director

April 1974	Joined Ministry of International Trade and Industry (currently Ministry of Economy, Trade and Industry)
June 2004	Director, Nuclear and Industrial Safety Agency
September 2005	Director-General for Policy Planning and Coordination, Minister's Secretariat
July 2006	Deputy Vice-Minister of Economy, Trade and Industry, Minister's Secretariat
July 2008	Director-General, Economic and Industrial Policy Bureau
July 2010	Vice-Minister of Economy, Trade and Industry
August 2011	Advisor to Ministry of Economy, Trade and Industry
June 2013	Outside Director, Takasago Thermal Engineering (to the present)

Significant concurrent positions

Representative Chairman of the Board, Mitsubishi Fuso Truck and Bus Corporation
Outside Director, HASHIMOTO SOGYO HOLDINGS CO., LTD.
Senior Advisor, Sony Corporation

Reason for selection as an officer >> Kazuo Matsunaga has abundant experience and knowledge of public administration and the economy, and we expect that he can supervise and check business management from an independent perspective on business execution based on such experience and knowledge. While he was not involved in corporate management by any other method than serving as outside officer, we believe that he can adequately perform his duty as Outside Director given the reason mentioned above such as offering advice and opinions useful to our business management. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

Attendance at Board of Directors meetings

100% (12 out of 12 meetings)



Yoko Seki

Outside Director

October 2002	Registered as an attorney
November 2002	Registered as a certified public accountant
December 2006	Joined Ginza Prime Law Office (to the present)
April 2014	Professor at Kokushikan University (to the present)
June 2019	Outside Director, Takasago Thermal Engineering (to the present)

Significant concurrent positions

Outside Corporate Auditor, TAIJU LIFE INSURANCE COMPANY LIMITED
Supervisory Director, AEON REIT Investment Corporation

Reason for selection as an officer >> Yoko Seki has abundant experience and knowledge as a lawyer and certified public accountant, and we expect that she can supervise and check business management from an independent perspective on business execution based on such experience and knowledge. While she was not involved in corporate management by any other method than serving as outside officer, we believe that she can adequately perform her duty as Outside Director given the reason mentioned above such as offering advice and opinions useful to our business management.

Furthermore, as she is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

Attendance at Board of Directors meetings

100% (12 out of 12 meetings)

Management Team



Makio Fujiwara
Outside Director

April 1974 Joined Tokyo Electric Power Company Co., Ltd. (currently Tokyo Electric Power Company Holdings, Incorporated)
 June 2007 Senior Director, Group General Manager of New Business Promotion Group
 June 2009 Senior Director, Deputy Group General Manager of Sales Group
 June 2010 Director and Vice President, Group General Manager of Sales Group
 June 2011 Director and Vice President, Group General Manager of Customer Group
 June 2011 Senior Corporate Auditor, Chairman of Board of Corporate Auditors
 June 2014 Audit & Supervisory Board Member, Takasago Thermal Engineering
 June 2021 Outside Director, Takasago Thermal Engineering (to the present)

Reason for selection as an officer >> Makio Fujiwara has abundant experience and knowledge as a former director and corporate auditor of Tokyo Electric Power Co., Inc. (currently Tokyo Electric Power Company Holdings, Incorporated) and has offered us advice and opinions useful to our business management as an Outside Audit & Supervisory Board member of Takasago Thermal Engineering since June 2014, and Director since June 2021. We expect that he can supervise and check business management from an independent perspective on business execution based on such experience and knowledge. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

Attendance at Board of Directors meetings 100% (12 out of 12 meetings)



Hideka Morimoto
Outside Director

April 1981 Joined Environmental Agency (currently Ministry of Environment)
 August 2011 Councillor, Cabinet Secretariat, Director, Cabinet Secretariat Nuclear Power Safety Regulation Organization Reform Preparatory Office
 September 2012 Deputy Secretary-General, the Secretariat of the Nuclear Regulation Authority
 July 2014 Minister's Chief Secretariat of the Environment
 July 2017 Administrative Vice-Minister of the Environment
 July 2019 Advisor to Ministry of the Environment
 April 2020 Professor, Waseda University School of Law, Advisor to Takasago Thermal Engineering
 June 2021 Outside Director, Takasago Thermal Engineering (to the present)

Significant concurrent positions
Outside Director, INPEX CORPORATION

Reason for selection as an officer >> Hideka Morimoto has abundant experience and knowledge of public administration and the environment, and we expect that he can supervise and check business management from an independent perspective on business execution based on such experience and knowledge. While he was not involved in corporate management by any other method than serving as outside officer, we believe that he can adequately perform his duty as Outside Director given the reason mentioned above such as offering advice and opinions useful to our business management. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

Attendance at Board of Directors meetings 100% (10 out of 10 meetings)



Newly appointed

Shuma Uchino
Outside Director

April 1978 Joined Mitsubishi Corporation
 April 2009 Executive Officer, Mitsubishi Corporation (Managing Executive Officer, Mitsubishi Motors Corporation)
 July 2010 Executive Officer; General Manager, Corporate Accounting Department, Mitsubishi Corporation
 November 2010 Executive Officer; General Manager, Corporate Accounting Department; Assistant to Chief Financial Officer, Mitsubishi Corporation
 April 2013 Executive Vice President; Chief Financial Officer (CFO), Mitsubishi Corporation
 June 2013 Representative Director and Executive Vice President; Chief Financial Officer (CFO), Mitsubishi Corporation
 April 2016 Representative Director, Mitsubishi Corporation
 June 2016 Advisor, Mitsubishi Corporation; Outside Director, Takasago Thermal Engineering (resigned in June 2018)
 June 2018 Senior Audit & Supervisory Board Member, Mitsubishi Corporation
 June 2019 Full-time Audit & Supervisory Board Member, Mitsubishi Corporation
 June 2022 Outside Director, Takasago Thermal Engineering (to the present)

Reason for selection as an officer >> Shuma Uchino has abundant experience and insight as a representative director and CFO of a general trading company. We expect that he can supervise and check business management from an independent perspective based on such experience and knowledge. We also expect that he can adequately perform his duty as Outside Director given the reason mentioned above such as offering advice and opinions useful to our business management. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.



Newly appointed

Atsushi Takagi
Outside Director

April 1991 Joined Nomura Research Institute, Ltd.
 September 1997 Joined Morgan Stanley Japan Ltd.
 December 2004 Managing Director, Morgan Stanley Japan Ltd.
 October 2015 Deputy General Manager, Research Division, Morgan Stanley Japan Ltd.
 November 2019 Representative Director, Infrastructure Research & Advisors Co., Ltd. (to the present)
 June 2020 Non-Executive Director, MAEDA CORPORATION (to the present)
 April 2021 Advisor to Takasago Thermal Engineering
 October 2021 Outside Director and Chairperson of Compensation Committee, INFRONEER Holdings Inc. (to the present)
 June 2022 Outside Director, Takasago Thermal Engineering (to the present)

Significant concurrent positions
Representative Director, Infrastructure Research & Advisors Co., Ltd.
Non-Executive Director, MAEDA CORPORATION
Outside Director and Chairperson of Compensation Committee, INFRONEER Holdings Inc.

Reason for selection as an officer >> Atsushi Takagi has experience working as an analyst at security firms, considerable expertise regarding finance, and wide-ranging insight regarding the construction sector. We expect that he can supervise and check business management from an independent perspective based on such experience and knowledge. We also expect that he can adequately perform his duty as Outside Director given the reason mentioned above such as offering advice and opinions useful to our business management. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.



Yukitoshi Yamamoto

Full-time Audit & Supervisory Board Member

April 1974 Joined Takasago Thermal Engineering
 April 2012 Executive Officer
 April 2013 Managing Executive Officer
 April 2014 Deputy General Manager; Management Headquarters
 Deputy Chief Executive Officer, Corporate Administration Group
 April 2015 Advisor to Takasago Thermal Engineering
 June 2015 Full-time Audit & Supervisory Board Member (to the present)

Reason for selection as an officer)) We believe that Yukitoshi Yamamoto can supervise and check business management by using his knowledge of construction, overall technology such as technological administration, and general administration such as general affairs and human resources.

Attendance at Board of Directors meetings	100% (12 out of 12 meetings)
Attendance at Audit & Supervisory Board meetings	100% (13 out of 13 meetings)



Newly appointed

Hiroshi Yamawake

Full-time Audit & Supervisory Board Member

April 1982 Joined Takasago Thermal Engineering
 April 2010 Deputy Group General Manager; Industrial Air Conditioning Headquarters
 April 2011 Administration Officer; General Manager, Industrial Facilities Division, Engineering Headquarters
 April 2015 Executive Officer; General Manager, Engineering Division, Engineering Headquarters
 June 2015 Director and Executive Officer
 April 2016 Director and Managing Executive Officer; Group General Manager, Technology Group; in charge of quality, environment and safety
 April 2017 Group General Manager, Business Innovation Headquarters; in charge of technology, business creation, and domestic affiliates
 April 2018 Group General Manager, Business Innovation Headquarters; in charge of technology, new business development, and the Environmental Solutions Business Promotion Department
 April 2019 Group General Manager, Business Innovation Headquarters; in charge of technology and the Technical and Business Creation Management Department
 April 2020 In charge of total engineering, the Research and Development Headquarters, and the Environmental Business Development Department
 April 2021 Group General Manager, Research & Development Headquarters
 June 2021 Senior Managing Executive Officer
 April 2022 Special Business Project Manager
 June 2022 Full-time Audit & Supervisory Board Member (to the present)

Reason for selection as an officer)) We believe that Hiroshi Yamawake can supervise and check business management by using his knowledge of construction, technology development, and business creation.



Masahiro Seyama

Outside Audit & Supervisory Board Member

April 1972 Joined Matsushita Electric Industry Co., Ltd. (currently Panasonic Holdings Corporation)
 September 1995 Seconded to Panasonic Latin America Co., Ltd.; responsible for sales
 September 1999 General Manager of Planning Division and General Manager of Sales Division, Central and South America Group, Matsushita Electric Industry Co., Ltd. (currently Panasonic Holdings Corporation)
 February 2001 President of Matsushita Electric Brazil, LLC
 June 2005 Group General Manager, Central and South America Group, Matsushita Electric Industry Co., Ltd. (currently Panasonic Holdings Corporation)
 June 2008 Senior Corporate Auditor (full-time), Matsushita Electric Industry Co., Ltd.
 June 2014 Outside Audit & Supervisory Board Member, Takasago Thermal Engineering (to the present)

Reason for selection as an officer)) We believe that Masahiro Seyama has abundant experience and knowledge as president and corporate auditor of overseas affiliates of Matsushita Electric Industrial Co., Ltd. (currently Panasonic Holdings Corporation). We expect that he can continue to supervise and check business management from an independent perspective based on such experience and knowledge. We also expect that he can adequately perform his duty as Outside Audit & Supervisory Board Member given the reason mentioned above such as offering advice and opinions useful to our business management. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

Attendance at Board of Directors meetings	100% (12 out of 12 meetings)
Attendance at Audit & Supervisory Board meetings	100% (13 out of 13 meetings)

Management Team



Shigeharu Kawahara

Outside Audit & Supervisory Board Member

- April 1973 Joined Sony Corporation (currently Sony Group Corporation)
- January 1983 Moved to Sony Corporation of America
- April 1996 Joined KPMG Peat Marwick
- October 1996 KPMG partner
- February 2003 Representative partner, KPMG AZSA LLC
- July 2012 Representative, Public Certified Accountant Shigeharu Kawahara Office (to the present)
- June 2016 Independent outside director, compensation committee member, audit committee member, Hitachi Capital Corporation (currently Mitsubishi HC Capital Inc.)
- September 2016 Special assistant, Hitotsubashi University CFO Educational Research Center
- June 2018 Independent Outside Director, Suruga Bank Ltd.
- June 2021 Outside Audit & Supervisory Board Member, Takasago Thermal Engineering (to the present)

Significant concurrent positions

Representative, Public Certified Accountant Shigeharu Kawahara Office (to the present)

Reason for selection as an officer >> Shigeharu Kawahara has abundant experience and knowledge as a certified public accountant. We expect that he can supervise and check business management from an independent perspective based on such experience and knowledge. We also expect that he can adequately perform his duty as Outside Audit & Supervisory Board Member given the reason mentioned above such as offering advice and opinions useful to our business management. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

Attendance at Board of Directors meetings	100% (10 out of 10 meetings)
Attendance at Audit & Supervisory Board meetings	100% (10 out of 10 meetings)



Kazuo Sakakibara

Outside Audit & Supervisory Board Member



- April 1984 Appointed as a Public Prosecutor, Sapporo District Public Prosecutors Office
- March 1985 Public Prosecutor, Sapporo District Public Prosecutors Office Iwamizawa Branch
- March 1987 Public Prosecutor, Maebashi District Public Prosecutors Office
- March 1989 Public Prosecutor, Tokyo District Public Prosecutors Office
- April 1991 Public Prosecutor, Yamagata District Public Prosecutors Office
- April 1993 Public Prosecutor, Tokyo District Public Prosecutors Office
- July 1993 Deputy Director of the Inspection Division, Executive Bureau, Securities and Exchange Surveillance Commission
- April 1996 Public Prosecutor, Tokyo District Public Prosecutors Office
- April 1998 Deputy Director, Personnel Division, Minister's Secretariat, Ministry of Justice
- May 1998 Instructor, Research and Training Institute of the Ministry of Justice
- April 2001 Deputy Superintending Prosecutor, Saga District Public Prosecutors Office
- July 2003 Counsellor, Immigration Bureau, Ministry of Justice
- August 2004 Director, General Affairs Division, Immigration Bureau, Ministry of Justice
- December 2005 Director, International Affairs Division, Criminal Affairs Bureau, Ministry of Justice
- April 2007 Deputy Director, Public Safety Division, Osaka District Public Prosecutors Office
- April 2008 Director, Trial Division, Osaka District Public Prosecutors Office
- January 2010 Director, Criminal Investigation Division, Osaka High Public Prosecutors Office
- May 2011 Public Prosecutor, Supreme Public Prosecutors Office
- January 2012 Chief Public Prosecutor, Asahikawa District Public Prosecutors Office
- November 2012 Public Prosecutor, Supreme Public Prosecutors Office
- April 2013 Director-General, Immigration Bureau, Ministry of Justice
- July 2014 Deputy Superintending Prosecutor, Osaka High Public Prosecutors Office
- December 2015 Director, Trial Division, Supreme Public Prosecutors Office
- April 2017 Chief Public Prosecutor, Osaka District Public Prosecutors Office
- February 2018 Superintending Prosecutor, Fukuoka High Public Prosecutors Office
- January 2020 Superintending Prosecutor, Osaka High Public Prosecutors Office
- July 2021 Resigned
- October 2021 Registered as an attorney
- November 2021 Joined Anderson Mori & Tomotsune (to the present)
- June 2022 Outside Audit & Supervisory Board Member, Takasago Thermal Engineering (to the present)

Significant concurrent positions

Anderson Mori & Tomotsune

Reason for selection as an officer >> Kazuo Sakakibara has abundant experience and knowledge due to his many years as a public prosecutor and attorney. We expect that he can supervise and check business management from an independent perspective based on such experience and knowledge. We also expect that he can adequately perform his duty as Outside Audit & Supervisory Board Member given the reason mentioned above such as offering advice and opinions useful to our business management. While he was not involved in corporate management by any other method than serving as outside officer, we believe that he can adequately perform his duty as Outside Audit & Supervisory Board Member given the reason mentioned above. Furthermore, as he is not from a parent company, a fellow subsidiary, a major shareholder or a major client or supplier of Takasago Thermal Engineering, we believe that there is no particular problem in terms of independence.

● Knowledge, experience, and capabilities of directors and auditors

	Corporate management and management strategies	Technology, innovation, and DX	Environment	Global matters	Sales strategies and marketing	Finance and accounting	Legal matters and risk management	Human resources development and labor
Atsushi Ouchi, Chairman and Representative Director, CEO	●	●	●	●				
Kazuhito Kojima, President and Representative Director, COO	●	●	●		●			
Tadashi Kamiya, Director and Managing Executive Officer		●	●	●	●			
Toshikazu Yokote, Director and Managing Executive Officer, CDXO		●				●	●	●
Hiroshi Kubota, Director and Managing Executive Officer					●			
Kazuo Matsunaga, Outside Director	●			●			●	
Yoko Seki, Outside Director						●	●	
Makio Fujiwara, Outside Director	●		●					
Hideka Morimoto, Outside Director			●				●	●
Shuma Uchino, Outside Director	●					●	●	
Atsushi Takagi, Outside Director	●			●		●		
Yukitoshi Yamamoto, Full-time Audit & Supervisory Board Member		●					●	
Hiroshi Yamawake, Full-time Audit & Supervisory Board Member		●	●	●				
Masahiro Seyama, Outside Audit & Supervisory Board Member				●	●			
Shigeharu Kawahara, Outside Audit & Supervisory Board Member				●		●	●	
Kazuo Sakakibara, Outside Audit & Supervisory Board Member							●	



Talk with Outside Directors

Shuma Uchino × Yoko Seki × Atsushi Takagi

Shuma Uchino, Outside Director

After joining Mitsubishi Corporation, Uchino served as Executive Vice President; Chief Financial Officer (CFO) and Representative Director.

He was appointed as a full-time Audit & Supervisory Board member of Mitsubishi Corporation in June 2019. He has served as an Outside Director of Takasago Thermal Engineering since June 2022.

Yoko Seki, Outside Director

Seki registered as an attorney in October 2002 and joined Ginza Prime Law Office in 2006. She has served as an Outside Director of Takasago Thermal Engineering since June 2019.

Atsushi Takagi, Outside Director

After working at Nomura Research Institute, Ltd. Takagi worked as an analyst at Morgan Stanley Japan Ltd. He was appointed Representative Director of Infrastructure Research & Advisors Co., Ltd. in November 2019, and still serves in this position. He has served as an Outside Director of Takasago Thermal Engineering since June 2022.

Our progressive initiatives to enhance governance and strengthen ESG will be reflected in our corporate value over the medium to long term

How would you evaluate our efforts through now to enhance our governance structure?

Seki: I began serving as an Outside Director of Takasago Thermal Engineering in 2019, and this is my fourth year. Before the Board of Directors meetings at the company, there is a meeting of the Nomination and Remuneration Committee, which consists of the Chairman and President as well as the Outside Directors, in which we have various discussions, including on governance issues. In terms of efforts to enhance the governance structure through now, based on the Succession Plan, which has been actively discussed by the Nomination and Remuneration Committee, I believe that the process when President Kojima was appointed should be noted, and I personally

feel that there has been considerable progress in the efforts.

Uchino: I served as an Outside Director for two years starting in June 2016. Later, after a period of time, I was again appointed as an Outside Director this year. Regarding the Succession Plan, six years ago, then President Ouchi (now Chairman) specifically raised several names, including current President Kojima, as candidates for the next term, and at that time I had the impression that this was progressive. I believe that by specifically raising the names at that time, the Nomination and Remuneration Committee was able to take the time to deepen its understanding of each candidate, including their qualifications.

Seki: That's true. In addition, the Board of Directors has fostered an atmosphere in which it is very easy to speak up. I think that the fact that Outside Directors can actively exchange opinions and

engage in full discussion has been very helpful in enhancing governance.

Takagi: While there are many companies that proceed with their agenda while being mindful of time, at our Board of Directors meetings, the Chairman actively asks attendees to speak, listens to each person's comments, and respects what is said, which creates an atmosphere that makes it very easy to express opinions.

Uchino: That's right. Six years ago, unlike today's Board of Directors, the majority of Directors were internal Directors, but even then an atmosphere was fostered that made it easy to talk. Today, Outside Directors with diverse backgrounds make up the majority, and discussions are still just as active.

Takagi: Before assuming the position of Outside Director this year, I was involved with the company as an advisor since 2021, and even before that as a securities analyst. Whenever I think about it now as well, I have always had the strong impression that I was able to engage in thorough, serious dialogue with many executives and employees, including top management, until we reached understanding. This impression has not changed since I joined the Board of Directors.

What is your evaluation of our company's current governance structure?

Takagi: The majority of the voluntary Nomination and Remuneration Committee is composed of Outside Directors. The Advisory Council, which is also composed mainly of Outside Directors and Outside Audit & Supervisory Board members, has also been established as a voluntary body to be consulted by the Board of Directors. Furthermore, from FY2022, the majority of the Board of Directors consist of Outside Directors, which is unusual in a positive sense, as the majority of directors in the construction industry still tend to be internal directors. I believe that the company has established a stronger governance structure.

Seki: That's right. Advisory meetings enable us to exchange opinions without narrowing down the topics too much, so we can discuss topics such as the future direction of the company from a wide range of perspectives. I believe all the members have expressed a desire to deepen this kind of exchange of opinions.

Uchino: In addition to the composition of the Outside Directors at the Board of Directors meetings, I believe that another important factor behind the active discussions at the Board of Directors meetings is the fact that the detailed minutes of the Management Council, which is the decision-making body on the executive side, are shared with us Outside Directors in advance. I

think this is a very rare initiative. It enables us to understand the issues and deliberation process on the executive side, including matters that are not brought up for discussion at Board of Directors meetings. I highly appreciate this as one of the initiatives by the executive side to resolve the information asymmetry between inside and outside the company.

Seki: It is just as you say. I am very grateful that the detailed minutes of the Management Council meetings not only show the status of discussions, but also contain a large amount of very useful information, such as confirmation of matters for which I had a different perception and answers to questions I wanted to ask.

Takagi: As for current governance initiatives, I believe that the fact that the company is progressively selling off shares held for policy purposes is also a point to be appreciated. Although there is still a high-level issue of how to improve the company's shareholder composition over the medium to long term, shares held for policy purposes were less than 20% of net assets at the end of last fiscal year, and we plan to further reduce them in the future.

Uchino: We began considering a review of our shares held for policy purposes six years ago when I joined the Board as an Outside Director. This was before the Corporate Governance Code stipulated that we should review these shares, so in that sense, I believe that we have been taking a progressive approach. I am not unconditionally rejecting all shares held for policy purposes. However, I am pointing out that it is necessary to judge reasonableness from the perspective of overall profitability with the transaction earnings associated with the holdings, rather than for vague reasons such as the purpose of maintaining good relations with counterparties.

Seki: That is my view as well. After determining and verifying the criteria for whether holdings are meaningful or not, we have been making clear-cut decisions on whether to sell or hold shares, and I think we are moving in the right direction.

Takagi: I would like to mention one more aspect in terms of evaluating the current governance. With regard to the diversity of human resources, Takasago Thermal Engineering is unusual among construction companies in disclosing our targets for the ratio of female managers and the ratio of male employees taking paternity leave, as well as the ratio of mid-career hires and the ratio of foreign nationals among our executives and employees. Diversity can be categorized into two types: demographic diversity in terms of aspects such as gender, nationality, age, and the like, and task-based diversity in terms of experience and ability. I believe that the company excels at task-based diversity. The company has a high ratio of mid-career hires, and the fact that we have been actively recruiting capable human resources who

Our strong awareness as an Environment-Creator™ will advance our ESG

have gained a variety of experience in different industries is probably the greatest feature of our company that cannot be found in other companies in our industry.

Uchino: The company is certainly expanding its task-based diversity. Demographic diversity tends to be a matter of racing to meet numerical goals, whereas with task-based diversity, we have a clear idea of what functions we are looking for. I believe this will lead to mid-career hires making an effort to demonstrate the sought-after tasks and skills. On the other hand, even if we supplement resources from outside, I believe that we need to closely monitor the development of an acceptance system for human resources to ensure that they are not left to struggle on their own.



Shuma Uchino, Outside Director

Seki: As for task-based diversity, the skill matrix has made it easier to visually grasp the necessary tasks. On the other hand, as Uchino-san mentioned, there is no denying the concern about demographic diversity falling into the trap of merely meeting numerical goals, but I think it is also necessary to be aware of the trends of the times. I understand that it is difficult to increase the ratio of women and foreign national employees immediately due to the business conditions, but I think it would be good if we can develop and promote internal human resources, even if it takes a little time.

How do you view our company's efforts from an ESG perspective? Please share your opinions on what you can appreciate as well as future challenges for us.

Uchino: We use the term "Environment-Creator™" to refer to our vision for the company. We

define ourselves as "a company that creates new environments by implementing air conditioning technology for the environments in which people operate and environmental technology that contributes to the global environment." Considering the characteristics of our business, it is true that we are an environmentally conscious company. But in order to truly become an Environment-Creator™, I would like to see the company build a business model in which "E," "S," and "G" can be realized at the same time, rather than improving them separately.

Takagi: I myself have a favorable impression of the company's goal of becoming an Environment-Creator™. I think Uchino-san's view that a future challenge is the importance of the simultaneous linkage of each element of ESG is absolutely right.

Seki: The company's advocacy of being an Environment-Creator™ also resonates with me. Whenever it comes up, I feel that it is an easy-to-understand term that appeals to employees and society. For example, in our "E" initiatives, we are actively promoting the reduction of CO₂ emissions. In some ways, being aware of and improving our respective "E," "S," and "G" initiatives will lead to overall improvements. As Uchino-san said, the ultimate goal should be to improve all ESG initiatives in a well-balanced manner, so I think it is a good idea to consider evaluating new initiatives from an ESG perspective.

Uchino: The reduction of CO₂ emissions is also linked to the performance indicators of executive remuneration as a non-financial indicator, and such individual points can be evaluated as a progressive initiative.

Seki: That's true. On the other hand, when it comes to "S," one of the challenges facing the construction industry as a whole is labor issues, including work style reform. Regarding not only the "environment" in terms of air quality improvement but also the labor "environment" of the people working in the company, I believe that we are consciously focusing on the physical and mental health of our employees, as evidenced by our selection for the Health & Productivity Stock Selection 2022 and the 2022 Certified Health & Productivity Management Outstanding Organizations Recognition Program. However, there is still room for improvement in terms of creating a comfortable working environment for women and promoting work style reforms for employees in construction sites. I hope to see further improvements through addressing this as a future challenge.

Takagi: The "S" work style reform that Seki-

san just mentioned is a major fundamental issue for the entire construction industry. From April 2024, the maximum working hour limit in the construction industry will enter into force, and it is anticipated that work styles will be very different from those in the past. The structural shortage of labor in terms of construction work capacity is not an issue for our company alone, but is a major social issue that affects the entire industry and other industries as well. In the construction industry, it will be necessary to fundamentally review the construction production system through now. Our company's executive team is currently progressively working on this issue, but I believe that such aspects will also be evaluated in the future.

Regarding the point I made earlier about simultaneously strengthening ESG with being an Environment-Creator™ at the core, I would like to emphasize that ESG is not the objective, but that it is important to enhance corporate value over the medium to long term as a result of pursuing ESG. I have been in the capital market for more than 30 years, and I have experienced firsthand that a company's ESG efforts are reflected in its medium to long-term stock price more than people think. I would like everyone in our company to engage in ESG initiatives while being conscious of enhancing corporate value. In doing so, I believe that while what we do is important, what we do not do is also an important choice. I think it is important to pursue our Group's original corporate value of aiming to be an Environment-Creator™, rather



Atsushi Takagi, Outside Director

than being influenced by the efforts of other companies or trends in the world. What I mean by Environment-Creator™ is not only construction work such as air conditioning installation. My image of an Environment-Creator™ for the entire Group is providing better environments for

spaces, including the provision of knowledge and expertise in technological development possessed by our Group company NIPPON PMAC Co., Ltd. as well as services such as maintenance of facilities developed by TMES.

Uchino: I see. I would like to see us simultaneously realize all elements of ESG as an Environment-Creator™ that, with our origin in the environmental business entering from air conditioning, makes environments more universal and provides environments that contribute to all aspects enjoyed by our suppliers, customers, and end users.

Seki: While focusing on creating clean and comfortable environments for workers through air conditioning, I would like our company to contribute to the reduction of CO₂ emissions through the practical application of hydrogen technology, which is becoming a major technological focal point, and to contribute to the creation of an environment in which people can live sustainably on the Earth.



Yoko Seki, Outside Director

What initiatives do you think are necessary to further enhance our corporate value in the future?

Seki: I believe that evolving and commercializing our existing technologies will lead to an increase in our corporate value. However, in the process, I believe that we need to more actively utilize knowledge not only from within the company but also from outside the company. You mentioned earlier that we are actively promoting recruitment of mid-career professionals. In some cases, I think it is necessary for us to take an aggressive recruitment strategy for mid-career professionals to invite highly specialized human resources, rather than just passively waiting for applicants. As the labor problems associated with legal

Improving the effectiveness of governance centered on mutually trusting relationships

revisions in the construction industry draw near, the external environment will continue to change rapidly, including society as a whole being expected to face continued declining birth rates and labor shortages. Given this, it will be essential to combine AI and human resources to improve the efficiency of both construction sites and administrative divisions going forward. In addition, while HVAC equipment, such as facility construction, accounts for more than 90% of our business portfolio now, I believe it will be necessary to strengthen our business portfolio by promoting M&A from a strategic perspective.

Takagi: That's right. If I may add one more thing to what Seki-san said, I would like to raise the importance of price. For the past 10 years, our stock price has outperformed others in the construction industry, our rival companies, and TOPIX. The reason for this is that from FY2011 to FY2014, a period of unprecedented price competition in the construction industry, we have been appreciated for our strategy of maintaining our gross profit margin when accepting orders as the core of our strategy to enhance our corporate value. Going forward, we will face a period of dramatic change that cannot be compared to the past decade. I believe that we will be asked more than ever how we maintain and improve our profit margin when receiving orders while advancing our technology and securing sufficient construction capacity. In addition, the company's stock price performance has compared favorably within the construction industry. However, if we look at PBR, it is less than 1. I believe that we need to think more aggressively than ever about how to improve our ROE and ROIC (return on invested capital) spreads, to find an appropriate business portfolio and balance sheet, and to reduce our cost of capital. With regard to the M&A that Seki-san mentioned, it is important to evolve our business portfolio in a way that does not deviate from the direction of our vision of being an Environment-Creator™.

Uchino: Corporate value is determined by whether investors see the value of their investment in our company in relation to the growth path we have drawn for the medium to long term. Although the company is performing well compared to the rest of the construction industry, we must accept that a PBR of less than 1 is equivalent to being evaluated as not wanting to invest with a sense of the future. How can we chart a sustainable growth path for the company to break through this situation? I believe that the company itself needs to pay attention to business collaboration and co-creation beyond the boundaries of existing industries, without being confined to the industry

classification of "construction industry."

Takagi: With regard to corporate value, there is a teaching referred to as "Five Assets" from my seniors that I have valued the most since my days as a securities analyst. First, there are "organizational assets" such as corporate culture, corporate philosophy, and organizational climate at the center of a company, and "human assets" are created after being attracted to the company by such organizational assets. These human assets give rise to "physical assets," which are the various technologies and construction-related services possessed by our Group. The destination of provision of these physical assets is "customer assets," from which "financial assets" are generated. The concept is that medium- to long-term corporate value can only be achieved by reinvesting these financial assets to further strengthen the organizational assets. What is important here is the order of starting with organizational assets and the fact that these five assets are connected. Because financial assets can only be created from customer assets, it takes about five to 10 years for organizational assets to reach financial assets. In other words, it teaches us that if we know how organizational assets have changed, as securities analysts we can evaluate companies five or 10 years ahead of time. I feel that this is true based on my experience. In the case of Takasago Thermal Engineering, being an Environment-Creator™ has become the core of our organizational assets, and our human capital is gathered under the desire to "become an Environment-Creator™." This loop is important, and this is why I said earlier that it is important to make a decision on what we will not do in terms of what is not in line with our organizational assets. As an Outside Director myself, I intend to fulfill my duties while distinguishing between noise and signals, with a focus on improving the Group's organizational assets.

Seki: I agree with the idea of the five assets. I think that organizational assets are related to being an Environment-Creator™, so it is important to make decisions about various projects from the perspective of what we should do as a company that aims to be an Environment-Creator™.

Uchino: I also believe that the idea of the five assets is really true. I think that another important point is that we should not mistake the order of assets, starting with organizational assets, followed by human, physical, customer, and financial assets. If you read the basic principles of the Corporate Governance Code, the subject is "The Company." So it is the company, not the Outside Directors or other stakeholders, that establishes and operates highly effective

governance. As the fundamental point of the Corporate Governance Code is to indicate a system for the company to govern itself in order to survive, it is important to ensure effectiveness, not merely to meet external items such as the number of Outside Directors and women.

Takagi: That's right. The management of our Group has long had a high awareness of stock prices, and the company had a culture of valuing communication with investors and analysts even before the introduction of the Corporate Governance Code. The company has keenly conducted engagement, asking for strict opinions on how the stock market views the company. The company believes that corporate governance changes depending on the situation and stage a company is in, and also reflects this outlook of management. I also believe that at the heart of a governance structure is the need for strong reciprocity. First and foremost, executives must fully understand the importance of governance. This must be demonstrated through actions such as disclosing the minutes of management meetings so that those monitoring can always make the right decisions, and the monitors must be fully aware of their position and responsibilities and fulfill their job responsibilities. I think it is important to increase the reciprocity between the executive side and the

monitoring side by repeating this process.

Uchino: In order to achieve a state of true mutual trust, I believe it is necessary to strengthen the organizational assets. I mentioned that the order of the five assets is important, but it cannot be said to be in the reciprocity if the executive side trusts and depends on the Outside Directors in a one-sided manner. This is because in order to actively utilize outside knowledge, which is a human asset, it is important to strengthen the organizational assets that generate the human assets. Organizational assets are the fundamental idea that runs through the other four assets. I believe it is necessary to create an organizational climate in which all employees unanimously agree that our company's goal is to become an Environment-Creator™.

Seki: I feel that our company always has a desire to improve our organizational and human assets. Because we have such a positive structure, I have high expectations that we will be able to take in positive trends.

Takagi: That is true. We have achieved a qualifying grade in the construction industry, but we are not satisfied with just that. I hope that we will advance to an even further stage.



Risk Management

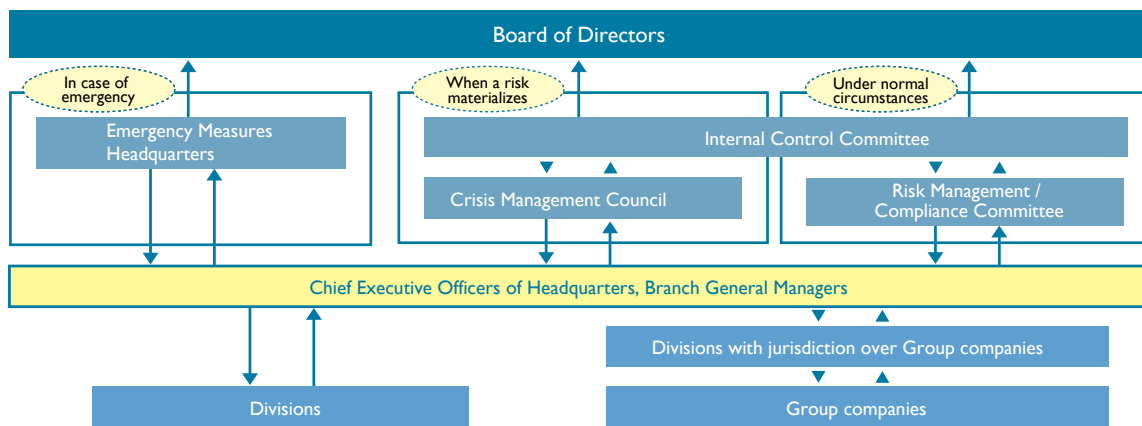
We are committed to measures to prevent management risks from materializing and adequate initial measures and subsequent actions to minimize the impact of crisis.

Risk management system

The Takasago Thermal Engineering Group carries out risk management to prevent all risks from materializing and minimize damage in case a risk actually materializes. To prevent risks from materializing, we established the Risk Management Committee chaired by the Director in charge of risk management, in which the President and Representative Director, COO serves as the chief officer, in accordance with the Risk Management Regulations. The committee

is responsible for the development of the operating policy and plan for the risk management system, the identification of any risks that may have a significant impact on our Group, and the evaluation of the adequacy of measures to address risks. We have developed a system to minimize damage and loss in case a risk materializes to cause a crisis in accordance with the Crisis Management Regulations.

● Risk management system

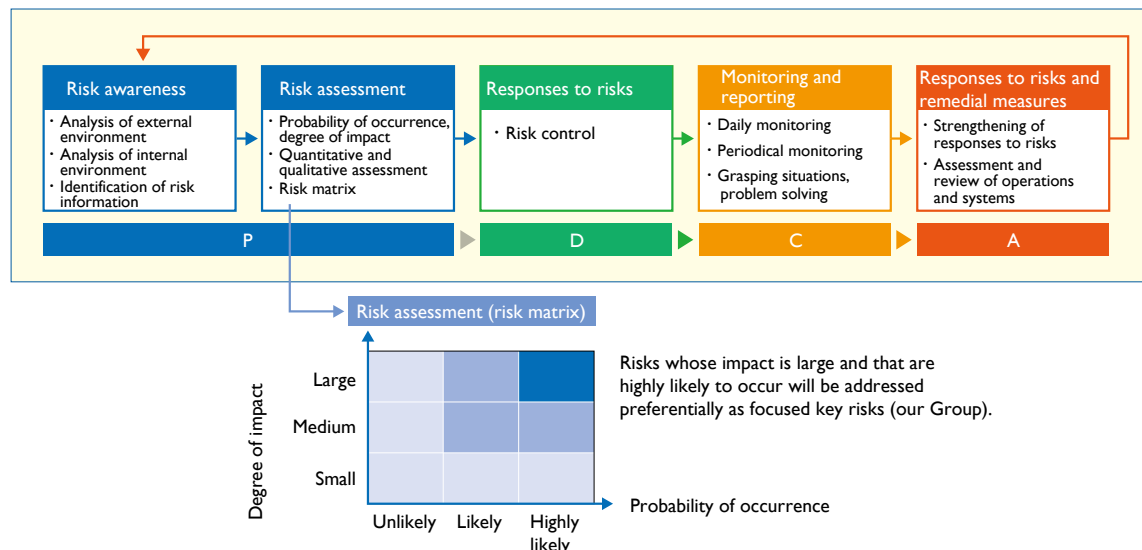


Risk management cycle

In our Group, the Risk Management / Compliance Committee is responsible for identifying and assessing risks to determine what risks to prioritize and to make sure that risk awareness is shared on a Group-wide basis. In risk management, we give first priority to the risks that especially have a large impact on business

management and can occur with a high probability as focused key risks. By having the Group-wide Risk Management / Compliance Committee, whose sessions take place five times a year, review progress and problems every quarter, we enhance the PDCA cycle that contributes to risk reduction activities.

● Risk management cycle



Promotion of information security measures

We view information security as an important business issue. To prevent information security accidents such as information leakage surrounding personal information, customers' and partners' confidential information as well as all types of information handled in the process of work, we have the Basic Policy for Information Security in place to strengthen information security measures on a Group-wide basis.



Information security management and promotion structure

In addition to appointing the officer responsible for risk management as the information security supervisor for the company and the entire Group, we have the Information Security Committee operating under the Company-wide Risk Management / Compliance Committee to strengthen information security measures and manage the state of their implementation, to provide security education to employees, and to respond to and control information security incidents.



Information security measures

We established the digital transformation (DX) strategy "TakasaGO! DX toward the future," regularly review information security risks to respond to the accelerated use of digital technology in our company, unstable global situation, and increase in high-level, diversifying cyber-attacks; and maintain and strengthen information security measures.

- Revision of information rules and regulations to respond to new risks
- Strengthening of endpoint security measures
- Implementation of coding to reduce damage by accidents including information leakage
- Introduction of Security Information and Event Management (SIEM), and strengthening of the operational mechanism of the Security Operation Center (SOC) / Computer Security Incident Response Team (CSIRT)



Education on information security

In addition to offering e-learning to all employees, we distributed a brochure that contains essentials on information security (general version and construction-site version) to raise employees' awareness of information management.



Compliance

We comply with legislation concerning information security at home and abroad, personal information protection, data transfer, among others, and check relevant legislation when needed for appropriate responses and measures.

Risk Management

Business and other risks

We have identified the risks that may have significant impacts on the financial conditions, corporate performance, cash flow, etc. of our Group as listed below. We will take various measures to address them to reduce the risks.

● Business environmental risks

Risk item	Assumed impact	Measures to address the risk
Fluctuations in private capital investment	As a result of the suspension, postponement, change, etc. of investment plans of customers, the demand for construction and HVAC systems may fall more than previously estimated.	▶ We will implement comprehensive company-wide measures including the reduction of fixed costs.
Fluctuations in procurement costs	When material and equipment prices for ducts, piping, heat insulation, refrigerants, and other utility works have sharply risen but it is difficult to reflect the cost increase on the contract amount, the costs of the construction work may increase more than previously estimated.	▶ We will strengthen the procurement function based on the advantage of scale by enhancing the system to control purchases and accelerating the integration of purchases by all offices.
Shortage of technical staff and skilled workers	We may fail to establish a sufficient construction structure to complete the construction work by the specified deadline and lose the trust of customers as a result.	▶ We will try to improve productivity through the establishment and use of an outsourcing system, the utilization of IT tools such as Apple Watch and SPIDERPLUS and standardization of operations. We will also secure technical staff through commitment to the recruitment of new workers in contract construction firms and the introduction of the construction career development system promoted by the MLIT.
Regulations placing a limit on working hours	With the start of the application of limits on working hours for construction work, a decrease in the total number of hours worked by engineers and other workers will lead to a reduction in construction capacity.	▶ We will work to improve productivity through means such as transforming the way construction is carried out by shifting from conventional site-by-site "construction management" to platform-based "production management" (T-Base® project).
Overseas business development	We may face various risks in our target countries such as regulations and supervision by authorities including voluntary regulatory bodies, economic and political instability and differences in business practices, as well as intensified competition with competitors that have a competitive edge in a specific country/region or the global market.	▶ We will promote the review of the strategic bases in our international businesses as a whole and implement proper monitoring through the constant exchange of information with overseas Group companies.
Expansion of business fields	In a target market, the technologies we own may not be suitable or we may not be able to achieve the initially anticipated results depending on the speed of the market expansion, the scale of the growth, or difficulty in entering the market.	▶ We will judge whether we need to withdraw from the market or not according to the predetermined criteria.
M&A / Investment	Contingent liabilities may occur or unrecognized liabilities may be found after an acquisition. The possibility to recover invested capital may decline to losing the whole or part of the investment if the revenue cannot be produced as expected due to changes in the business environment, sluggish performance of the invested company, etc.	▶ Before an M&A or investment, we will perform due diligence on details including the financial statements and contractual relationships of the target company.
Trend of the financial market/ Decrease in the credit strength of our Group	We may fail to raise funds in a timely manner under favorable conditions for our Group, which may constrain the execution of our business.	▶ We will successively communicate and exchange information with financial institutions.
Occurrence of liability for damage or liability for non-conformity	We may be required to pay compensation for damage that is too large to be covered by the umbrella liability insurance carried for unforeseeable circumstances.	▶ To prevent such a situation, we will thoroughly control health and safety through measures such as the provision of instructions on health and safety to sites and the establishment of a proper working environment.
Aging of employees	Decreases in the number of employees are anticipated due to increases in the employees who retire at mandatory retirement age, possibly leading to problems for our future business activities.	▶ We will promote long-term employment by reinforcing the retirement age extension and re-employment systems and increase productivity with labor saving and efficiency improvement through the visualization of techniques by using IoT, etc. We will enhance the use of diverse human resources including international personnel.

Risk item	Assumed impact	Measures to address the risk
Appointment of young workers and professional human resources	If we cannot appoint sufficient young workers and professional human resources, it may create problems for the continuity of our business activities.	We will visit universities, etc. in Japan actively, organize recruitment workshops, and conduct an internship program while also increasing professional human resources by employing mid-career workers.
Absence or infringement of patents	The technologies, etc. used in our Group are not protected if we fail to acquire their patent rights and other intellectual property rights. In the meantime, in case we unintentionally infringe any patent rights and other intellectual property rights of others, we may be required to pay compensation for damage.	We will establish a system to thoroughly investigate infringed patents and constantly share information among all departments.
Asset holding	Marketable stocks, etc. involve the risk of price fluctuations. We may suffer an impairment loss due to a significant decline in market prices and post it as an extraordinary loss.	While paying attention to the economic trends, we will consider options, including the sale of the assets we own, to reduce the risk of a decrease in the value of the assets.
Fluctuations in the exchange rate	The financial results, assets and liabilities of overseas affiliates can be affected by fluctuations in the exchange rate because those figures are converted from the local currency to yen for the preparation of consolidated financial statements.	When conducting a transaction in a foreign currency, we will try to reduce the risk of fluctuations in the exchange rate with foreign exchange reserves and other actions while paying attention to the economic trends.
Possession of personal information and confidential information of customers	In case of external leakage, abuse, etc. of information with illegal access, etc., we may be involved in a legal dispute and subject to punishment from supervisory authorities in Japan and overseas.	We will take measures to address cyber-attacks and strengthen IT governance. To enhance our approaches to incidents, we aim to construct a Computer Security Incident Report Team (CSIRT) system while giving relevant training to employees and taking other initiatives to improve their information technology literacy.
Application of legal regulations, etc	The operation of our Group may be subject to new constraints due to the establishment or revision of legal regulations, withdrawal of an approval/license or punishment by supervisory authorities, the establishment or revision of new guidelines or voluntary rules, etc.	We will promote cross-sectoral initiatives for compliance in the Group and report the status of the initiatives to the Risk Management Committee and the Board of Directors to ensure proper execution of duties while also conducting internal audits to reinforce the compliance system.
Lawsuits, etc.	Our Group may face lawsuits and other claims concerning various issues including the environment, labor and intellectual property rights.	We will try to prevent them through the establishment of a crisis management system to prepare for emergencies, as well as the activities of the Crisis Management Council, while also purchasing various insurance policies.
Natural disasters	The occurrence of large-scale natural disasters, such as earthquakes, typhoons and tsunamis, and pandemics of infectious diseases might result in a suspension or significant delay of construction works as well as a decline in the demand for construction due to the slowdown of economic activities in society as a whole.	We will work to improve the accuracy of the business continuity planning (BCP) manual and develop measures to address emergencies.
Expansion and prolongation of infectious diseases	An increase in infected people within the company could disturb operations. This could also cause a decline in the demand for construction due to the economic downturn, as well as sharp rises in the prices of materials and equipment.	We will set up task forces internally and take various measures to prevent infection and develop measures to address emergencies.
Climate change	Delays or lack of response to climate change may lead to a reduction in business activities due to a decline in reputation among investors, customers, workers, and other stakeholders, and a corresponding decline in corporate value.	In order to handle the transition to a decarbonized society, the ESG Promotion Committee has been established to constantly monitor changing conditions, review environmental targets, and put in place a system to prevent and promptly address risks before they materialize.

Intellectual Property Management

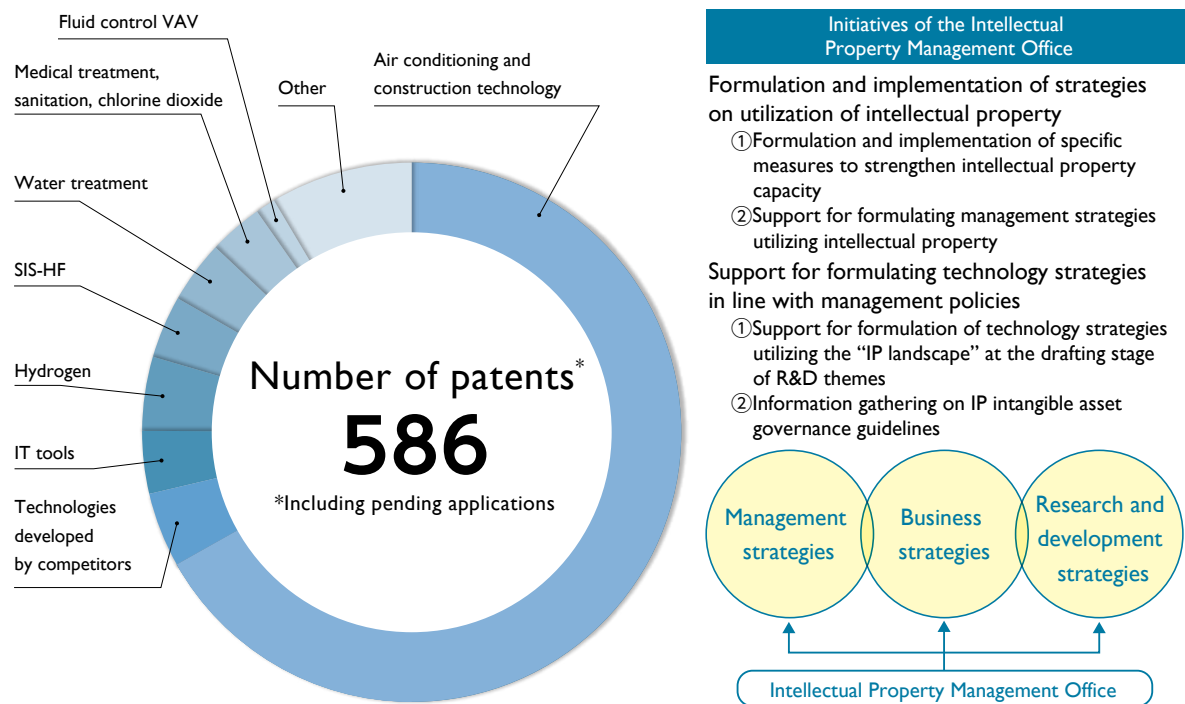
In order to improve our competitive advantage, we will formulate and implement strategies for the utilization of intellectual property, support the formulation of R&D strategies in line with management policies, and strengthen and utilize both patent capabilities and engineering technology (intangible assets such as know-how).

Mission strategies

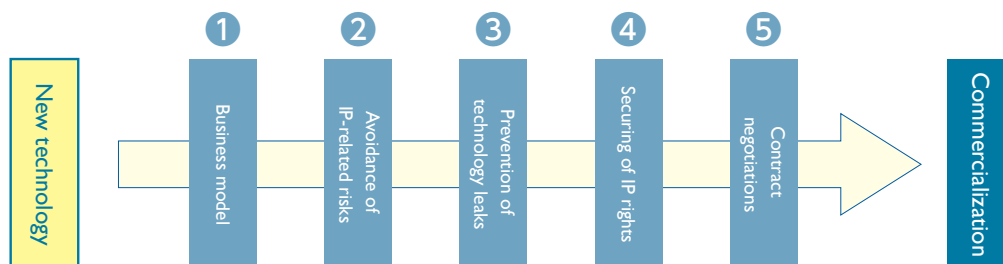
As of the end of March 2022, the number of patents, etc. we own is 758 (including patents, utility models, designs and trademarks), which is the largest in the HVAC industry. Among them, the number of patents is 476, which account for two-thirds of the total, comprising 461 domestic patents and 15 overseas patents. In addition, the number of patents, including those pending (made public and not made public), is 586.

In addition to acquiring patents concerning quality improvement and energy saving equipment in the design and construction of HVAC systems, which is our main business, we are aggressively working to acquire patents of unique technologies, such as hydrogen and SIS-HF. We have increased our number of patents in new business to approximately 20%. We are also promoting initiatives to use the patents we have acquired not only for our solutions but also for open innovation and to grant them to other companies.

At Takasago Thermal Engineering, by organizing the Intellectual Property Management Office along with the Business Strategy Office under the Global Business Planning Headquarters and making it based in the Takasago Thermal Engineering Innovation Center, which houses the Research and Development Headquarters, we design and carry out intellectual property strategies combined with management strategies, business strategies, and research and development strategies from a corporate planning perspective. Furthermore, we also play a role in maintaining and securing a competitive advantage in the market by entering into the business process from the creation of new technologies to their commercialization, and examining proposals for the utilization of intangible assets and business models.

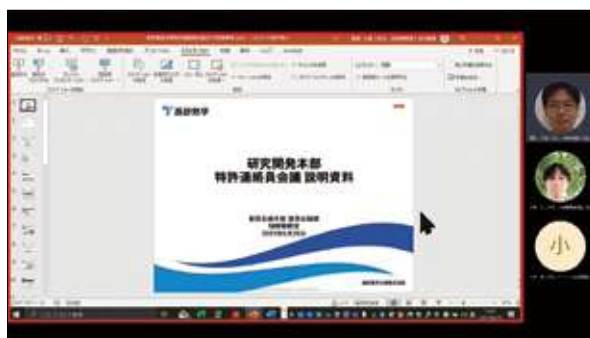


● Business process from new technology creation to commercialization



Prevention of technology leakage

The intangible asset of technological know-how on design, procurement, and construction is an important management asset for engineering companies. Points to keep in mind to prevent leakage and misappropriation of technological know-how accumulated on a daily basis are shared with the sites and elsewhere via the patent contact personnel, and meetings of the contact personnel are held on a regular basis. We have also established a system for sharing useful on-site know-how via the company intranet.



Meeting of patent contact personnel

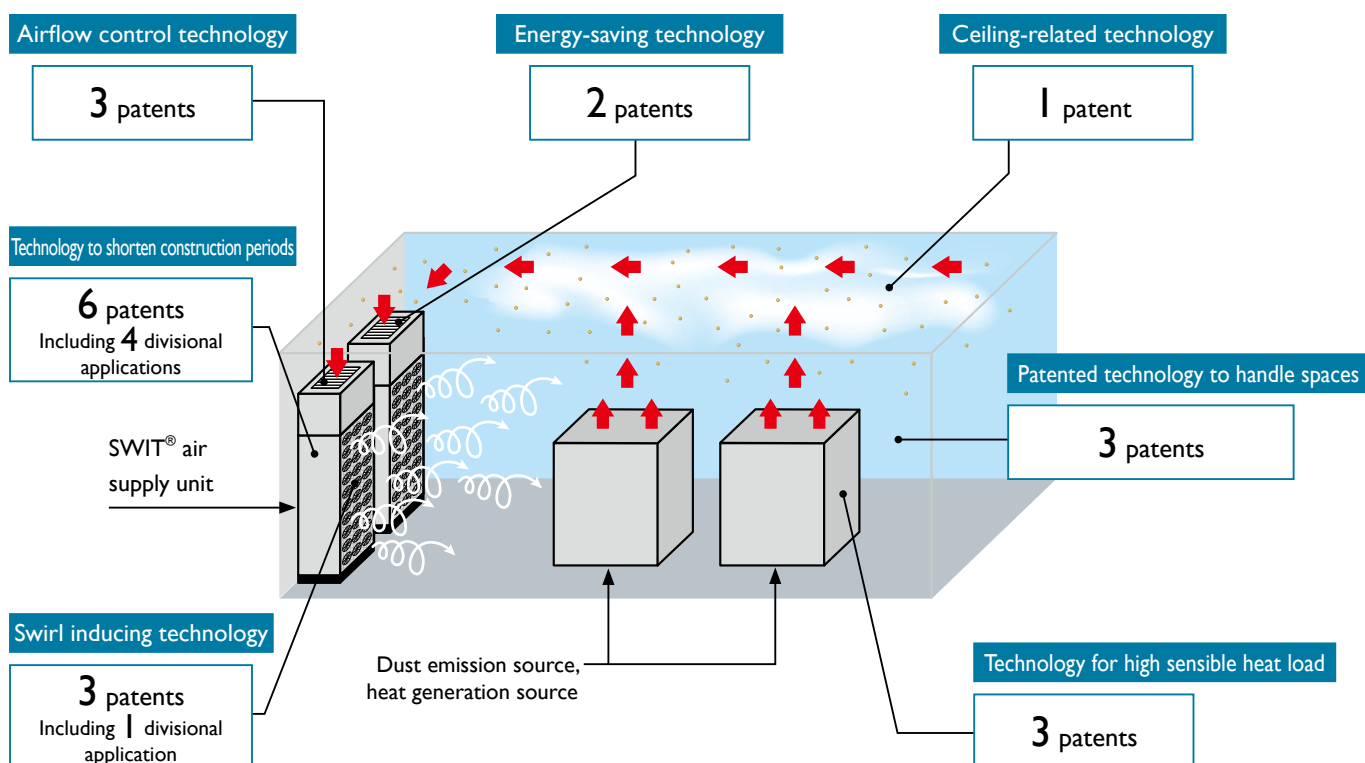
Protection of new technologies

To address the challenges facing the entire construction industry of improvement in productivity in design, procurement, and construction to compensate for the lack of labor, we work to obtain intellectual property rights for new technologies for equipment and site tools. Particularly in the construction industry, it is necessary to collaborate with individual companies in the value chain, including parts manufacturers and sales agencies. We are actively developing technology provision to maximize our revenues and coexistence

with individual companies in the value chain. We have intellectual property contracts covering about 20 technology themes with a total of about 30 companies, and the total amount of technology fee income has been increasing year by year.

In order to demonstrate Takasago's engineering capabilities and differentiate us from our competitors, we are using divisional applications to provide multifaceted protection for technologies that solve various issues related to air conditioning equipment.

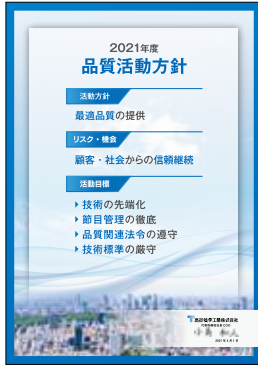
● Acquisition of patents for our proprietary SWIT® technology



Supply of Quality that Generates Satisfaction and Trust

To ensure that our sites can constantly achieve the aggressive target of “the creation of the best product quality,” we are committed to initiatives from multidimensional viewpoints.

What is the best product quality?



To provide value to customers and get them to realize the value, it is important to consider that customers can realize the value only when they make full use of the goods. Therefore, quality assurance cannot be completed without taking how customers use the goods into consideration. Our organization also

has to establish a quality assurance system that not only meets the performance and service specifications required by customers, but also includes the process until customers can realize the value through the provided performance and services. We aim for an ideal quality assurance system where quality is based on the perspective of ensuring that customers can realize the value at the highest level, in addition to the performance of the goods.

proactively offer proposals concerning CO₂ reduction or energy-saving systems and their operation to create new added value in customers' facilities.

As an initiative to enhance quality control, we set up the Safety/Quality Management Group headed by the Business Management Headquarters to integrate the quality control system. From this fiscal year, we implemented an online patrol via wearable cameras utilizing DX technology to work on improvement in the control level and quality equalization.

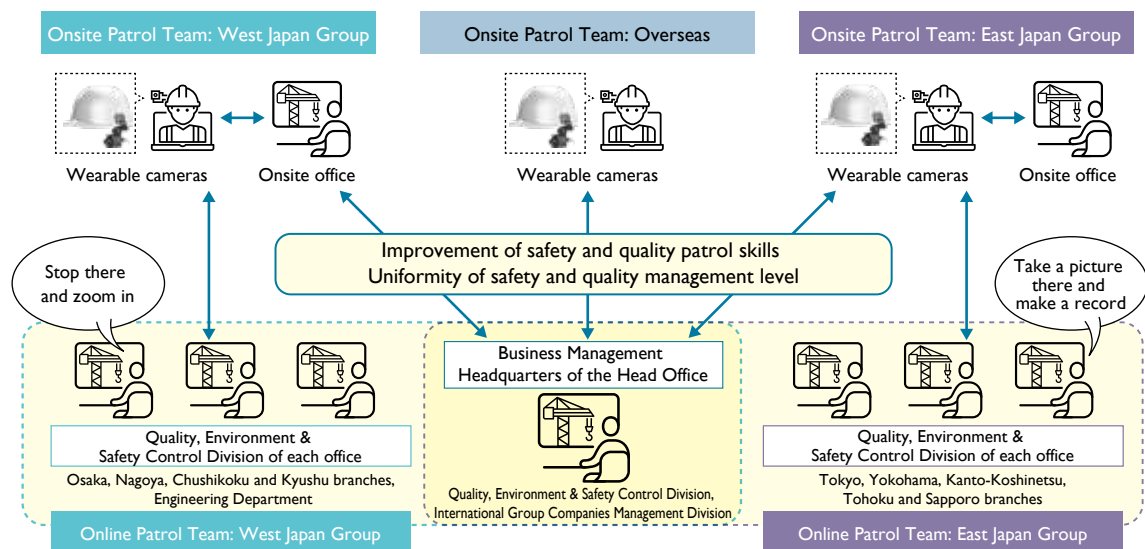
Furthermore, the president conducts on-site patrols during National Safety Week.



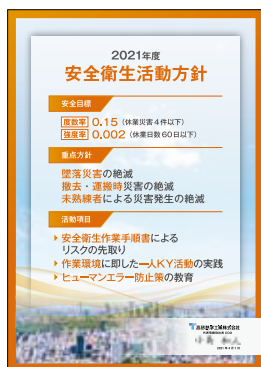
Quality control system

Based on the quality management system certification (ISO 9001:2015) obtained, we will improve ourselves continuously so that we can offer quality goods and services to customers as soon as possible. We will also

● Online patrol implementation outline



Basic concept for occupational health and safety



Under our established safety and health philosophy "Safety is the top priority in carrying out all business tasks," we strive for health and safety activities on construction sites based on the basic approach "The employees working for Takasago Thermal Engineering and their families must never suffer from accidents at construction sites."

Cooperation with partner companies

Kowakai was organized to enhance cooperation with our partner companies working together on the construction sites. It consists of the headquarters and branches. The health and safety cooperation committee established in each of them is committed to the communication of information on safety and health technologies, PR activities, and thorough dissemination of relevant laws. The branches implement activities to improve health and safety including the Branch Office Health and Safety Convention.

Kowakai also operates an online system for safety improvement, TKCS-s (Takasago Kowakai Communication Systems-safety), to share safety information.

Analysis and identification of risks and measures to address them

We see the elimination of three accidents leading to serious accidents in recent years as a priority, coming up with actions to prevent them. To put the target into action, we compile concrete activities to do in the Safety and Health Activities Policy, which we issue



Remote version of the Company-wide Safety and Health Conference

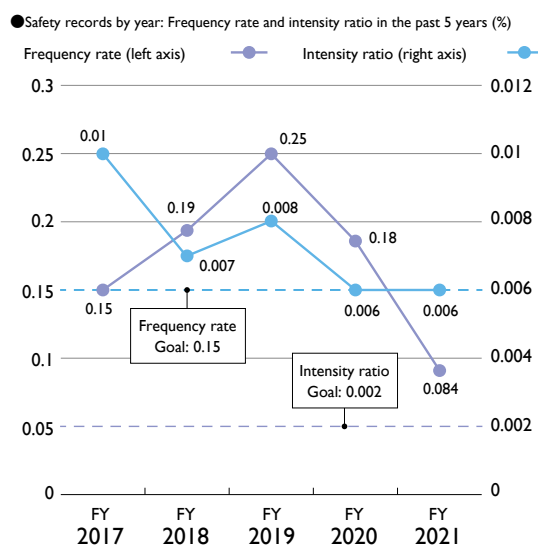
early in each term, to disseminate them to all technical staff and partner companies. In addition, we include risk assessment in the safety and health management, urging each construction site to focus on prevention of risks and measures against them.

Due to the COVID-19 pandemic and toward achieving DX, we have developed the Company-wide Safety and Health Conference and the safety and health patrol into remote versions, trying to raise all employees' and partner companies' awareness of safety and health activities and risk management level.

Safety records by year and pursuit of the elimination of accidents

In FY2021, 33 accidents (three lost-time injuries and 30 non-lost-time injuries) occurred, which resulted we met our goal for the frequency rate of for our safety targets, we did not achieve the intensity ratio target.

When it comes to the accidents leading to lost-time injuries in particular, we will incorporate recurrence prevention measures in the Safety and Health Activities Policy after a thorough analysis of cause to promote zero accidents.



Compliance

Based on the recognition that the establishment of compliance is the foundation for strengthening corporate governance, we are continuously working to enhance the awareness of compliance and ensure it in daily activities.

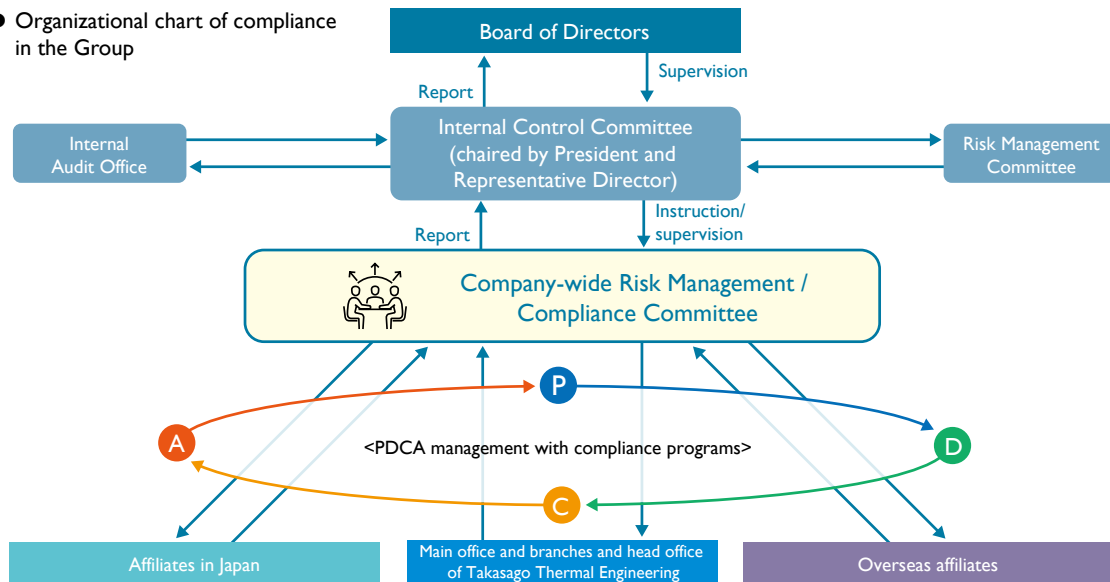
Compliance promotion system

We have set up the Risk Management / Compliance Committee chaired by the officer in charge of the supervision of risk management in the Takasago Thermal Engineering Group as a whole. This committee takes various measures based on the basic policy on compliance. The Compliance Office, which is a dedicated section, is committed to establishing the compliance system and promoting measures for it including the transmission of information to executives and employees and the dissemination of the consultation and reporting counters.

While incorporating major subjects on compliance, such as the prevention of harassment and compliance with competition laws, into the compliance programs, we work to promote compliance through shared recognition of problems as well as the confirmation of progress in measures and the examination of cooperation and coordination between departments by the Company-wide Risk Management / Compliance Committee.

An officer in charge of corporate ethics and staff in charge of the promotion are appointed in each of our affiliates in Japan and overseas to enhance coordination with us and continuously develop the Group-wide system.

- Organizational chart of compliance in the Group



Continuous activities to promote compliance

Awareness-raising activities with the Group Corporate Code of Ethics and various tools

We have established the Group Action Guidelines as the basic action guide for executives and employees and distributed a portable booklet “Group Corporate Code of Ethics” to executives and employees to use for daily duties, in-house training, and other purposes.

In addition, we organize various training programs on compliance for not only employees but also partner companies and periodically prepare and distribute tools for small study sessions in workplaces.

Compliance awareness survey

We conduct a compliance awareness survey once a

year to grasp yearly changes and any new trends in the awareness of compliance among employees.

This survey asks questions about the awareness of various types of harassment and the awareness among employees about placing orders, as well as circumstances in the company, to identify any problems and solve them quickly.

The results of the survey in FY2022 brought some labor problems to the surface continuing on from last year, while there was a sign of improvement in awareness of compliance as a whole. The answers to harassment-related questions presented gaps between different positions and other attributes. Accordingly, we will continue to develop activities to prevent harassment and raise awareness of it.

The survey results are disclosed to all employees and used for compliance training and other purposes in each department. The analysis of the answers is reported to various committees to share the problems and help develop action policies and measures for improvement.

Maintenance of proper relationships with customers (commitment to the prevention of bribery)

To maintain proper relationships with customers, we have prohibited excessive business entertainment, in addition to the offering of bribes to government workers, etc. and commercial bribery to private customers, in the Group Corporate Code of Ethics.

In consideration of the current international situation and other factors, we have also established rules concerning the prevention of bribery that explicitly prevent bribery in each of our subsidiaries in Japan and overseas. The effectiveness of the rules is enhanced through the adaptation of them to the local culture and business practices as well as regular monitoring.

Measures to comply with the Anti-Monopoly Act

For thorough compliance with the Anti-Monopoly Act and other competition-related laws, we have specified and practiced measures for each of the stages from “prevention” to “detection and early discovery,” “response to the occurrence or suspicion of a violation” and “measures to prevent any violations from being forgotten or the rules from losing substance”.

Our executives and employees will strive for thorough compliance and we will continue to create an environment enabling the continuous execution of healthy operations.

1 Prevention	<ul style="list-style-type: none"> Clarification of rules with the Basic Rules on Compliance with Competition Law and the Guidelines on Contact with Other Companies in the Industry and periodical review of them Enhancement and improvement of training for compliance with competition laws
2 Detection and early discovery	<ul style="list-style-type: none"> Check and storage of records on contact with companies in the same industry Voluntary inspection by sales sections and management sections Internal audits or monitoring by legal sections
3 Response to the occurrence or suspicion of a violation	<ul style="list-style-type: none"> Establishment of procedures to prevent violations Development of an in-house investigation system
4 Measures to prevent any violations from being forgotten or the rules from losing substance	<ul style="list-style-type: none"> Periodical review and implementation of training in the “Compliance Month” Report of the status of management and operation of the Competition Law Compliance Program to the Internal Control Committee and the Board of Directors

Whistle-blower system that guarantees independence and anonymity

In addition to the consulting counters within the company, we have established a wide range of reporting counters, including external services by a law firm that eliminates conflicts of interest separate from the legal counsel, thereby establishing reporting channels independent from the chain of command and order in business operations. We enacted and implemented the Rules on the Protection of Whistle-blowers in the Group, which ensure independence and anonymity.

In FY2021, we received a total of nine reports through this system, including reports on harassment and opinions to the company.

The reports are passed to the Company-wide Risk Management / Compliance Committee and the Whistle-blowing Committee, while the protection of the whistle-blowers is ensured, to identify and remedy problems early. The content of the reports is also reflected in the subjects selected for compliance training and other efforts to maintain and build appropriate systems.

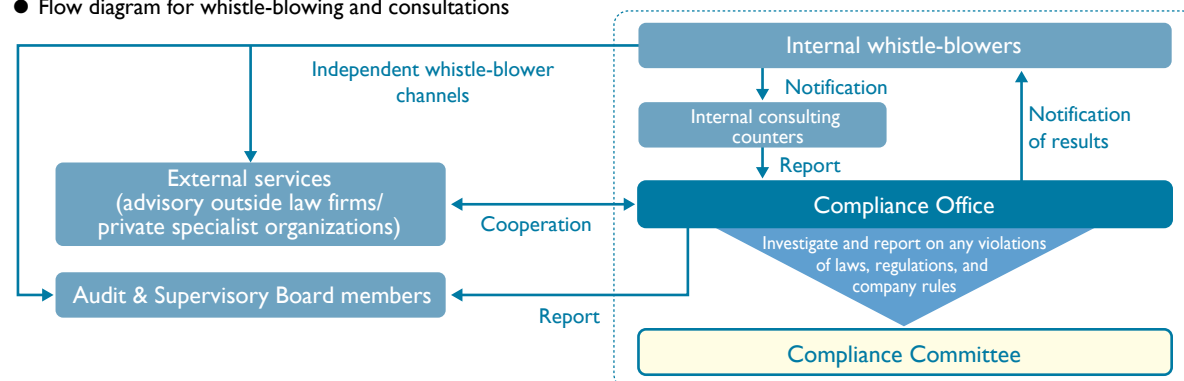
At our overseas bases, we work to make the whistle-blower system known and promote the establishment of the counters in multiple languages.

● The number of reports made in the whistle-blower system by category

Category	FY2019	FY2020	FY2021
Harassment	5 (1)	4 (1)	2 (0)
Opinions to the company or superiors	1 (0)	1 (0)	4 (2)
Labor management, etc.	1 (0)	0 (0)	1 (1)
Other	3 (0)	1 (1)	2 (2)
Total number of reports	10 (1)	6 (2)	9 (5)

Figures in parentheses are the number of cases not corrected

● Flow diagram for whistle-blowing and consultations



Financial Data

Financial data (consolidated)	Unit	2012	2013	2014	2015
Business results					
Orders received	million yen	253,918	264,280	255,648	265,301
Net sales	million yen	248,430	237,389	243,582	251,291
Gross profit	million yen	22,249	27,308	27,800	29,526
Selling, general and administrative expenses	million yen	18,678	19,527	20,073	20,237
Operating Income	million yen	3,570	7,780	7,727	9,289
Ordinary income	million yen	4,760	9,109	8,582	10,602
Net income attributable to parent company's shareholders	million yen	2,186	4,011	5,196	6,650
Net income per share	yen	28.74	53.24	69.28	89.40
Rate of return on equity	%	2.5	4.4	5.2	6.4
Ratio of ordinary income to total assets	%	2.4	4.3	3.9	4.7
Gross profit margin	%	9.0	11.5	11.4	11.8
Selling, general and administrative expenses ratio	%	7.5	8.2	8.2	8.1
Ratio of operating income to net sales	%	1.4	3.3	3.2	3.7
Debt equity ratio	times	0.05	0.05	0.07	0.09
R&D expenses	million yen	843	768	791	918
Capital investment	million yen	1,209	962	2,019	2,325
Depreciation and amortization	million yen	734	770	758	840
Net sales of general air conditioning equipment	million yen	156,774	152,796	150,547	157,511
Net sales of industrial air conditioning equipment	million yen	85,034	77,508	85,927	86,350
Manufacturing and sales of facilities and equipment	million yen	6,452	6,919	6,976	7,291
Other	million yen	169	163	130	138
Overseas	million yen	31,698	29,937	40,959	28,553
Maintenance	million yen	—	19,830	20,512	20,586
Financial positions					
Total assets	million yen	207,465	217,132	225,810	223,267
Net assets	million yen	93,932	97,416	108,362	104,613
Interest-bearing debt	million yen	4,443	4,447	7,700	9,435
Net assets per share	yen	1,186.44	1,248.38	1,413.59	1,392.30
Shareholders' equity	million yen	90,371	93,415	105,725	102,325
Equity ratio	%	43.6	43.0	46.8	45.8
Cash flows					
Cash flows from operating activities	million yen	13,054	13,575	(3,423)	(1,272)
Cash flows from investing activities	million yen	(870)	1,455	(4,921)	(5,398)
Cash flows from financing activities	million yen	(2,801)	(3,285)	(837)	(2,215)
Dividends					
Dividends per share:	yen	25	25	25	28
Payout ratio	%	87.0	47.0	36.1	31.3
Ratio of dividends to net assets	%	2.2	2.1	1.9	2.0
Number of employees					
Number of employees	persons	4,312	4,405	4,471	4,576
Non-consolidated	persons	1,859	1,850	1,858	1,885
Consolidated subsidiaries in Japan	persons	1,908	1,938	1,940	1,999
Overseas consolidated subsidiaries	persons	545	617	673	692

*Rounded down to the nearest million yen

2016	2017	2018	2019	2020	2021 (FY)
273,464	288,646	333,887	297,883	287,501	340,184
260,204	289,933	319,834	320,893	275,181	302,746
34,082	39,550	41,877	43,376	36,845	41,396
21,699	23,187	24,657	25,476	24,545	27,012
12,383	16,362	17,219	17,900	12,300	14,383
13,427	17,461	18,359	19,286	13,902	15,639
8,665	11,804	12,609	13,231	10,116	11,535
117.83	160.41	173.29	186.49	145.56	169.38
8.2	10.3	10.4	10.8	8.0	8.7
5.9	7.0	6.8	7.1	5.2	5.5
13.1	13.6	13.1	13.5	13.4	13.7
8.3	8.0	7.7	7.9	8.9	8.9
4.8	5.6	5.4	5.6	4.5	4.8
0.05	0.14	0.14	0.18	0.23	0.24
903	1,064	945	1,357	899	1,150
862	3,303	3,962	12,669	4,422	2,552
776	730	824	1,299	1,537	1,739
162,818	181,341	194,658	188,968	151,115	160,202
88,664	101,373	118,305	125,183	118,137	136,503
8,572	7,068	6,713	6,588	5,796	5,953
148	149	156	153	132	86
33,824	47,343	47,360	47,749	34,311	50,631
21,739	22,856	23,632	25,056	24,194	25,446
233,426	264,062	279,743	265,649	271,146	300,736
111,574	124,484	126,208	125,861	135,849	136,897
5,527	16,277	17,402	21,733	29,933	33,058
1,487.29	1,637.63	1,704.31	1,757.68	1,907.64	2,009.35
109,382	120,546	122,060	122,091	132,135	132,897
46.9	45.7	43.6	46.0	48.7	44.2
23,528	6,170	14,892	(6,369)	22,568	1,186
2,329	(5,685)	(6,069)	(8,187)	(324)	1,042
(6,079)	7,107	(7,928)	(4,199)	3,642	(8,007)
36	50	52	56	56	60
30.6	31.2	30.0	30.0	38.5	35.4
2.5	3.2	3.1	3.2	3.1	3.1
4,831	5,714	5,912	5,899	5,890	6,018
1,950	2,025	2,051	2,064	2,116	2,131
2,040	2,120	2,218	2,201	2,182	2,198
841	1,569	1,643	1,634	1,592	1,689

ESG Data

E Environment

Item	Unit	2017	2018	2019	2020	2021 (FY)
Greenhouse gas						
Greenhouse gas (GHG) emissions (Scope 1+2+3)	tCO ₂	—	5,553,046	4,968,991	4,005,423	4,652,204
Scope1	tCO ₂	—	2,751	2,754	2,037	2,176
Scope2	tCO ₂	—	4,347	3,110	2,442	1,864
Scope3	tCO ₂	—	5,545,948	4,963,127	4,000,944	4,648,164
Waste						
Total amount of industrial waste discharged	t	21,561	30,584	23,972	20,213	20,790
Final disposal volume	t	2,998	3,613	3,430	2,797	2,900
Amount of waste recycled	t	18,563	26,971	20,542	17,416	17,890
Recycling rate	%	86	88	86	86	86
Contribution to water resources conservation through water resources and proprietary technologies						
Amount of water resources input	m ³	—	16,666	22,581	24,181	32,484
Number of sites with flushing water purification units (Reduction of environmental impact from wastewater at production sites)	Number	49	47	49	56	52
Other						
Green procurement at offices	%	100	100	100	100	100
Percentage of main offices and branch offices with lights off during lunch breaks	%	100	100	100	100	100

S Society

Item	Unit	2017	2018	2019	2020	2021 (FY)
Promotion of diversity (non-consolidated)						
Number of employees	persons	2,025	2,051	2,064	2,116	2,131
Employment rate of people with disabilities	%	2.20	2.26	2.26	2.48	2.57
Ratio of female employees	%	14.2	15.0	15.7	14.6	17.3
Ratio of female managers	%	1.2	1.3	1.3	1.5	1.6
Ratio of female manager candidates (Ratio of employees to deputy managers)	%	3.0	4.2	5.0	4.2	5.5
Average number of years worked	Men	years	15.5	15.5	15.5	16.4
	Women	years	13.0	12.8	13.6	12.3
Turnover rate (turnover rate within 3 years of joining)	%	12.2	13.3	23.5	12.5	6.5
Percentage of male employees who took childcare leave	%	1.8	15.9	18.6	27.7	21.5
Ratio of mid-career professional hires	%	8.8	8.5	9.1	9.1	8.9
Ratio of foreign national employees	%	1.2	1.5	1.9	3.0	3.0
Employee training *Calculated from training held by Takasago Academy (excluding training held by the headquarters, main office, and branches)						
Total training cost	million yen	142	292	186	108	92
Total training time	hours	79,969	86,085	77,445	76,023	85,528
Training cost per person	10 thousand yen	7.0	14.2	9.0	5.1	4.3
Training time per person	hours	39.5	42.0	37.5	35.9	40.1

Item	Unit	2017	2018	2019	2020	2021 (FY)
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Health and productivity management

Percentage of employees who received health checkups	%	99.8	100	100	100	100
Comprehensive health risk	—	—	94	93	90	93
Productivity loss due to presenteeism	million yen	—	(1,908)	(1,901)	(1,756)	(1,985)

Occupational safety and health

Frequency rate	Goal	%	0.15	0.15	0.15	0.15	0.15
	Actual result	%	0.15	0.19	0.25	0.18	0.084
Intensity ratio	Goal	%	0.002	0.002	0.002	0.002	0.002
	Actual result	%	0.01	0.007	0.008	0.006	0.006

Social harmony

Contributions to NGOs and NPOs Amount invested in communities	million yen	57	45	69	58	44
Number of Kowakai member companies	companies	1,445	1,463	1,613	1,830	1,950

G Governance

Item	Unit	2017	2018	2019	2020	2021 (FY)
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Compliance and risk management

Number of employees disciplined or terminated due to corruption, bribery, etc.	persons	0	0	0	0	0
Cost of fines and settlements due to corruption, bribery, etc.	million yen	0	0	0	0	0
Number of compliance (whistle-blower) reports	Number	8	5	10	6	9
Compliance seminars, e-learning, awareness surveys	Number of times held	2	3	3	3	3

Governance

Number of Directors (after the regularly-held General Meeting of Shareholders)	persons	9	9	11	11	10
Number of Outside Directors (after the regularly-held General Meeting of Shareholders)	persons	3	3	4	4	5
Ratio of Outside Directors	%	33.3	33.3	36.4	36.4	50.0
Number of issues of shares held for policy purposes	issues	116	112	110	105	102
Number of shares held for policy purposes	thousand stocks	22,734	21,592	19,547	17,357	16,252
Total sum posted on the balance sheet of shares held for policy purposes	million yen	37,545	33,686	26,130	29,879	26,929

Corporate Overview

Corporate Overview

(as of March 31, 2022)

Company name	Takasago Thermal Engineering Co., Ltd.
Established	November 16, 1923
Number of employees	2,131 (consolidated: 6,018)
Capital	13,134 million yen
Financial closing	March
Listed	On the First Section of the Tokyo Stock Exchange (now the TSE Prime Market)
Address	6-27-30 Shinjuku, Shinjuku-Ku, Tokyo, 160-0022
TEL	+81-3-6369-8212
FAX	+81-3-6369-9103

Business description

(as of March 31, 2022)

- Air conditioning systems
- Clean rooms and associated equipment and devices
- District heating and cooling facilities
- Plumbing and sanitary systems
- Co-generation systems
- Electrical, instrumentation and communication systems
- Equipment diagnosis
- Failure diagnosis systems
- Dehumidifying/drying systems
- HVAC systems for nuclear energy facilities
- High-precision HVAC systems
- Waste vacuum transfer systems
- Construction work
- Exhaust heat recovery systems
- Heating/cooling systems
- Refrigerating/freezing systems
- Design, construction, production, installation and maintenance of other environmental control and thermal engineering systems
- Design, manufacture, import, export, sale and mediation of machinery, equipment and materials
- Consulting services concerning energy saving and environmental measures
- Business related to greenhouse gas emissions trading
- Purchase, sale, brokerage, lease and management of real estate
- Worker dispatch business
- Security business
- Cleaning business
- Energy supply business
- Power generation business
- Water treatment business

License under the provisions of Article 3, paragraph (1) of the Construction Business Act

(as of March 31, 2022)

[Special construction business]

License No.: (TOKU-2) No. 5708 issued by the Minister of Land, Infrastructure, Transport and Tourism

License date: December 4, 2020

Duration of license validity: From December 4, 2020 to December 3, 2025

Licensed fields of construction:

Plumbing, machine and equipment installation, electrical work, telecommunications work and general construction work

[Ordinary construction business]

License No.: (HAN-2) No. 5708 issued by the Minister of Land, Infrastructure, Transport and Tourism

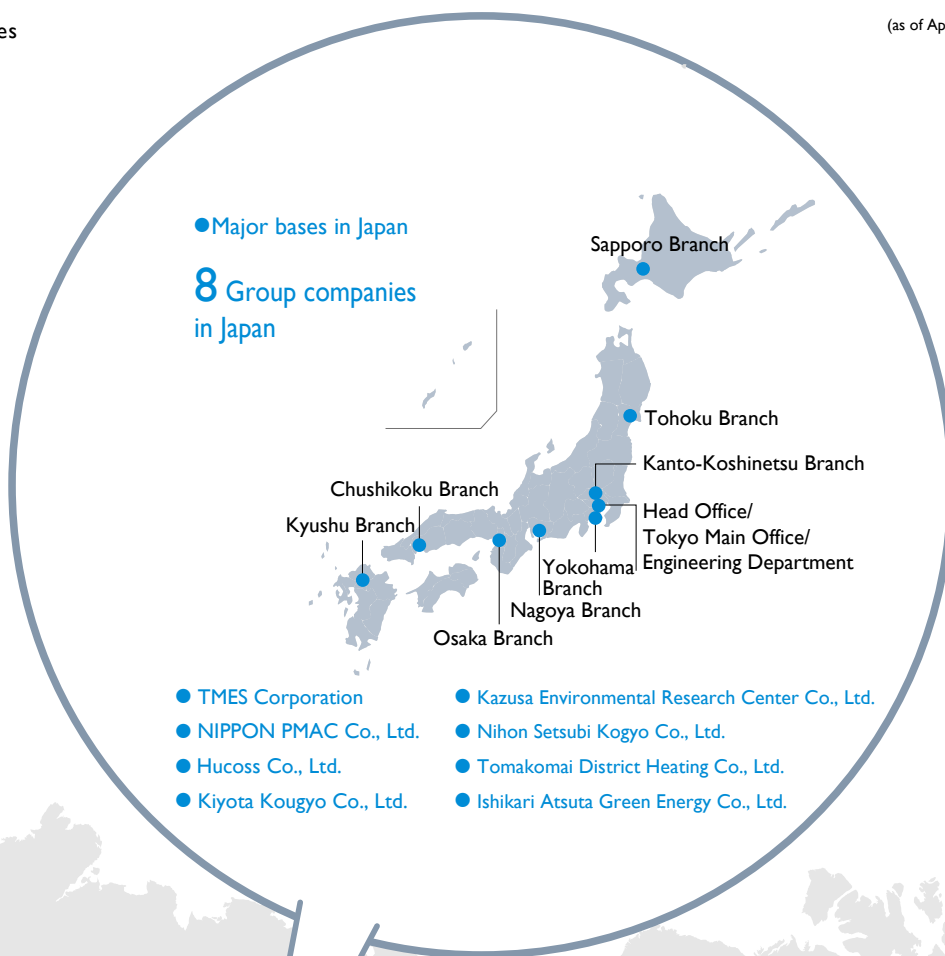
License date: December 4, 2020

Duration of license validity: From December 4, 2020 to December 3, 2025

Licensed fields of construction: Fire protection facility construction work

● Major bases

(as of April 1, 2022)

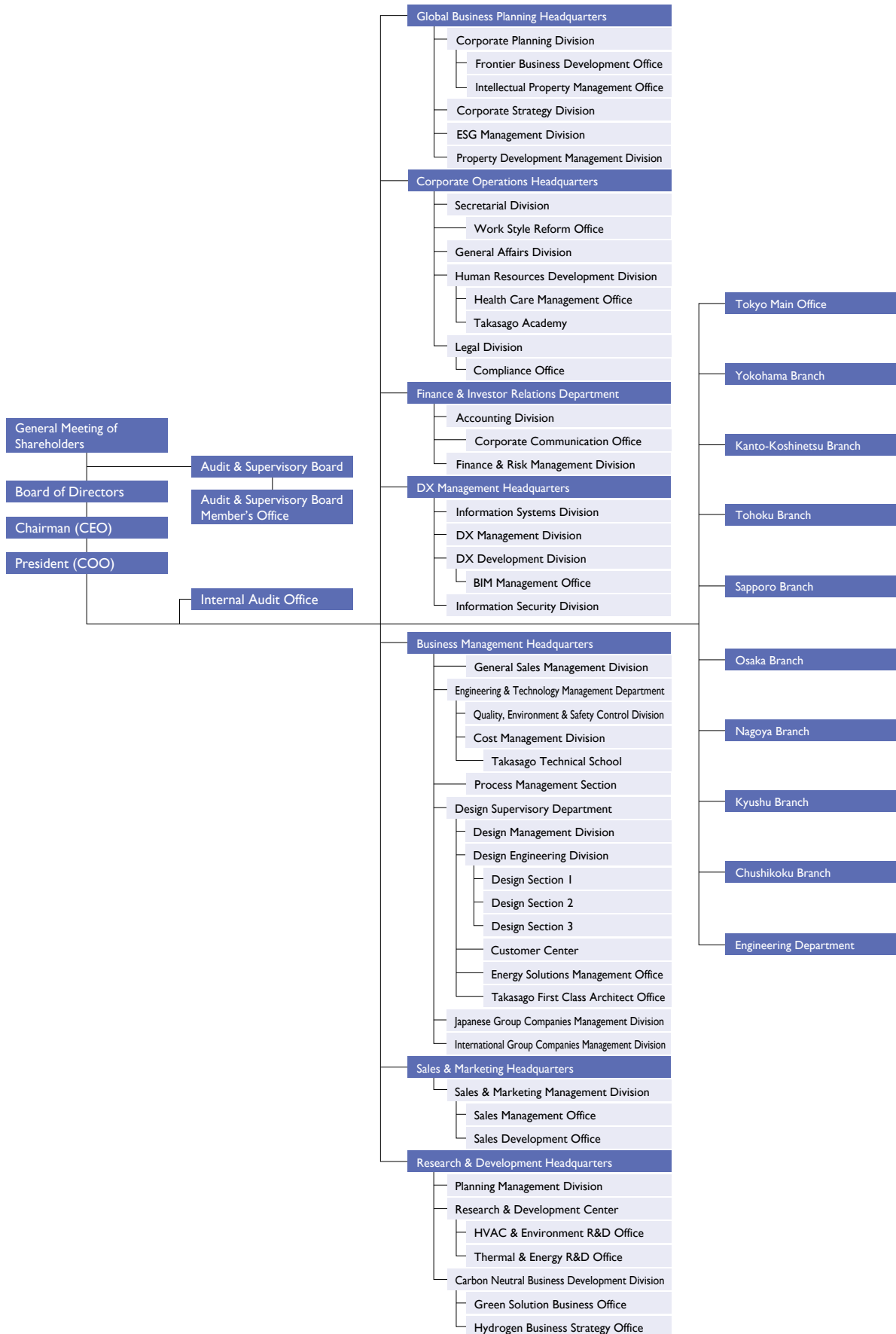


※Myanmar Branch Office of Takasago Thermal Engineering has been established in Myanmar.

Corporate Overview

Organization chart

(as of April 1, 2022)



Stock information

Major shareholders (Top 10)

(as of March 31, 2022)

Shareholder's name	Number of shares owned (thousand shares)	Percentage (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	7,976	11.85
Nippon Life Insurance Company	4,560	6.78
Dai-ichi Life Insurance Co., Ltd.	4,231	6.29
Takasago Thermal Engineering Employee Shareholders' Association	3,377	5.02
Takasago Mutual Benefit Society	2,886	4.29
Custody Bank of Japan, Ltd. (Trust Account)	2,072	3.08
MUFG Bank, Ltd.	1,439	2.13
STATE STREET BANK AND TRUST COMPANY 505001	1,328	1.97
Mizuho Bank, Ltd.	1,210	1.79
Keiokaku, Ltd.	1,016	1.51

(Notes) 1. The number of shares owned is shown rounded down to the nearest thousand shares.

2. The treasury stock (2,985,145 shares) is excluded from the calculation of the shareholding ratio.

3. The shareholding ratio is rounded down to two decimal places.

4. The treasury stock excludes our shares owned by the executive remuneration BIP trust (564,914 shares).

5. The treasury stock excludes our shares owned by Employee Stock Ownership Plan (J-ESOP) (285,300 shares).

Status of shares

(as of March 31, 2022)

• Total number of issuable shares

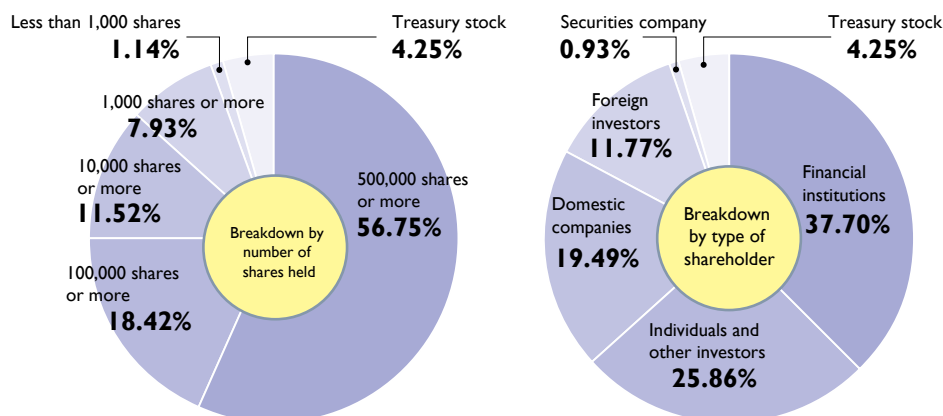
200,000,000 shares

• Total number of issued shares

67,254,257 shares
(excluding **2,985,145**
treasury stock shares)

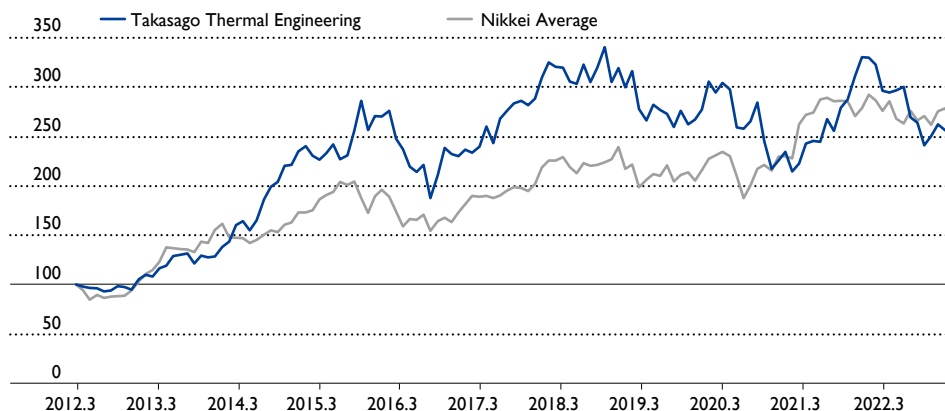
• Number of shareholders

6,704 people
(decreased by **315** from the
end of the previous fiscal year)



Stock price trends

The stock prices of Takasago Thermal Engineering and Nikkei Average are relative values with the prices at the end of March 2012 set to 100



**TAKASAGO
CORPORATE REPORT**

2022

Environment-Creator™