

DAIHEN REPORT 2021

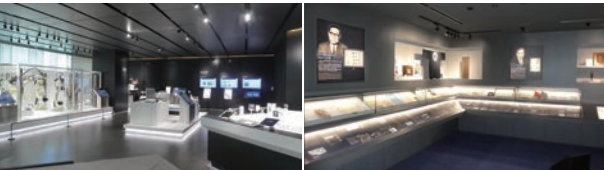


Corporate data

Company name	DAIHEN Corporation
Date established	December 1, 1919
Capital	¥10,596 million
Sales	¥145,144 million (March 2021, consolidated)
Employees	3,814 (As of March 2021, consolidated)
Business	Manufacture, sale and servicing of power equipment, welding machines, industrial robots, RF generators for semiconductor manufacturing, wireless transfer systems, etc.
Head office location	2-1-11 Tagawa, Yodogawa-ku, Osaka 532-8512 Japan Tel: +81-6-6301-1212
Business offices and plants	Juso Business Office (Osaka), Rokko Business Office (Kobe), Mie Business Office (Taki-cho, Mie), Kanehira Plant (Osaka), Chitose Plant (Chitose, Hokkaido)
Regional offices	Hokkaido Regional Office, Tohoku Regional Office, Tokyo Regional Office, Chubu Regional Office, Chugoku Regional Office, Kyushu Regional Office
Website	www.daihen.co.jp



Head Office (Juso Business Office)



Showrooms (1F Head Office)



Our Head Office Building is registered with Osaka City as a Tsunami Evacuation Building.

Executive officers (As of June 25, 2021)

Directors and operating officers

Chairman	Tetsuya Tajiri
President and Chief Executive Officer	Shoichiro Minomo
Executive Vice President and Member of the Board	Kazuo Kamo
Executive Vice President and Member of the Board	Keiki Morimoto
Senior Vice President and Member of the Board	Haruhisa Kimura
Senior Vice President and Member of the Board	Shingo Wada
Member of the Board	Keiichi Ando
Member of the Board	Emiko Magoshi
Member of the Board	Yasufumi Fujiwara

Auditors

Standing Auditor	Naoki Urai
Standing Auditor	Keitaro Takahashi
Auditor	Haruo Urata
Auditor	Masayuki Furusawa
Auditor	Masashi Yoshida

Operating officers / Fellows

Senior Vice President	Kentaro Kaneko	Vice President	Yasuhiko Fujitomi
Senior Vice President	Ichiro Yamano	Vice President	Tong Hongjun
Senior Vice President	Yasuhiro Ohnishi	Vice President	Hideki Imura
Senior Vice President	Tomoyuki Ueyama	Vice President	Masana Morioka
Senior Vice President	Hiroaki Oichi	Vice President	Norbert Kleinendonk
Vice President	Yasuhiro Nishimori	Vice President	Kazuki Kondo
Vice President	Ryohei Tanaka	Fellow	Yuji Yoshizako
Vice President	Toshiyuki Arai		
Vice President	Tadashi Kuriyama		

Editorial policy

We publish this report to let all of our stakeholders know the kind of business activities we are conducting in the DAIHEN Group and, by doing so, build trust between us. A lot of effort has gone into editing the layout so that people of all walks of life will find the content easy to read and will gain a proper understanding of what we do.

Going forward, we will continue to upgrade the content of the report by adding information that our stakeholders expect and want.

[Opinions and requests are welcome!]

Your opinions and requests are great sources of information that help us to improve not only this report but also our business activities. Let us know what you think.

DAIHEN Website >> Contact Us >> Other inquiries >> Inquiry form

Reporting period

This report covers fiscal year 2020 (April 1, 2020 to March 31, 2021). This report also contains some information from before fiscal 2020 and after April 2021.

Scope of organizations covered

In principle, this report spans the initiatives of the DAIHEN Group, which comprises DAIHEN Corporation and its consolidated subsidiaries. The environmental report contained herein presents the environmental initiatives of our Group plants — in Tottori, Oita, Matsudo, Eniwa, Hirosaki, Kagawa, and Izumiotsu — that are participating in the environmental management system of DAIHEN Corporation.

Reference guidelines

- *Guidelines 2013* of the Global Reporting Initiative (GRI)
- *Environmental Accounting Guidelines* (Fiscal 2005 Version), Ministry of the Environment, Japan
- *Environmental Reporting Guidelines* (Fiscal 2012 Version), Ministry of the Environment, Japan
- *JIS Z 26000*, Japanese Standards Association

Next issue

The next issue of this report is scheduled for 2022.

Disclaimer

This report includes our plans and prospects as of the date of publication; projections based on management plans and management policies; and past and current data on the DAIHEN Group. The reader is advised that these projections are assumptions or judgments based on the best information available at the time, and the possibility exists that future business performance may differ due to changes in various conditions, unforeseen results, and changes to forecast business activities.

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Doing what we can to shape a sustainable world

Daihen's continuing evolution as an R&D company that helps solve social issues

Since our founding in 1919, DAIHEN has been working behind the scenes — developing products that society has needed. Products like our transformers, welding machines, industrial robots and RF generators for semiconductor manufacturing have helped to upgrade the power infrastructure that underlies lives and livelihoods, and take the manufacturing world to new heights and new dimensions.

Now, we are taking new steps in our evolution as an R&D company that looks squarely at the issues society needs to

prioritize most. This has made us to develop energy management systems that encourage greater use of sustainable energy sources, charging infrastructure that is essential toward promoting the spread of electric vehicles, new bonding processes that make vehicle chassis lighter, and other “Green Solutions” that help wean society off of carbon, as well as providing people-friendly teachless robots, automated charging systems, remote real-time maintenance and repair support services, and other “Tailored Solutions” that free people of

menial tasks so that they can focus on more creative activities.

By promoting these efforts, we aim to please our customers, employees and their families, shareholders, suppliers and the communities that host our business operations all at the same time in what we like to call the “simultaneous contentment for all”.

We ask for your continued understanding and support of all that we are trying to achieve.



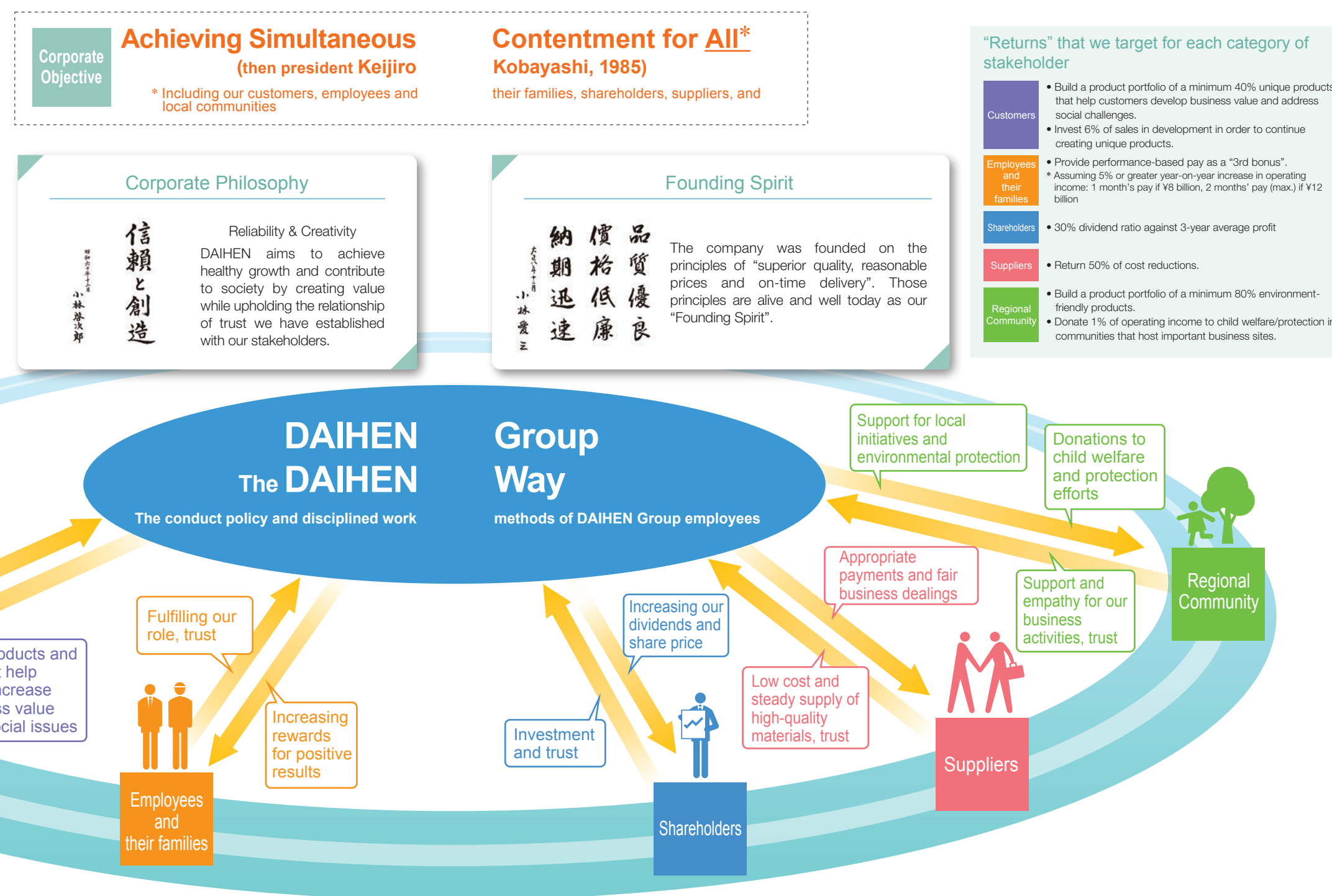
麓毛 正一郎
Shoichiro Minomo
President and Chief
Executive Officer

田尻 哲也
Tetsuya Tajiri
Chairman

The DAIHEN Group is committed to achieving “simultaneous contentment for all”.

Though it may sound like a juggling act, our prime objective in the DAIHEN Group is to make all of our stakeholders – customers, employees and their families, shareholders, suppliers and hosting communities – happy at the same time. We call it “simultaneous contentment for all”. To do that, we have set “Returns” that we target for each category of stakeholder.

All of the people that work for the DAIHEN Group play an important role in achieving that objective. It requires a concerted effort of our entire workforce and their adherence to the work disciplines and code of conduct we define as the “DAIHEN Way”.



DAIHEN's Action Charter

For the market

- We shall provide safe, high-quality products that meet customer needs and satisfy our customers with timely services and a straightforward response. In this way, we shall win the confidence of our customers through our business activities.
- We shall remain sensitive to change and enthusiastically create new products and technologies while developing new markets.

With our fellow workers

- We shall nurture an environment in which our employees are highly motivated to maximize their abilities and we shall properly evaluate the performance of our employees.
- We shall voice our frank opinions and shall jointly develop a vision for the future as well as an innovation plan. With a strong will, we shall prevail against our competitors.

To win the confidence of shareholders

- We shall continuously develop a stable business so that we can earn profits and increase our corporate value. In addition, we shall publicly disclose accurate information as necessary.

For all our suppliers

- We shall conduct honest trade with our suppliers so that they receive appropriate payment for the products and services they provide.

As members of society

- When we do business, we shall observe the laws and regulations of the corresponding country or region and shall respect their cultural norms and customs. In addition, we shall strive to protect the environment so that we can maintain good relations with society.
- We shall respect human rights and shall treat all people equally. We shall not intrude on personal privacy and shall act sensibly as a member of society.

Doing our part to achieve SDGs

Advocated by the United Nations since 2015, SDGs raise 17 goals societies around the world should strive to achieve with regard to social issues such as poverty, inequality and climate change. As a corporate citizen whose prime objective has long been the “simultaneous contentment for all”, the DAIHEN Group has innately contributed to the sustainable development of society for some time by using our technological abilities to create unique products that fulfill a useful purpose. In fact, every aspect of the businesses we undertake can be tied to goals that are expressed in one way or another by SDGs. Going forward, we are intent on proving ourselves useful to specific causes and making further contributions to sustainable development through even closer correlations between our business activities and SDGs.



Correlations between DAIHEN Group business activities and SDGs

Breakdown		Recent important activities of the DAIHEN Group	ESG qualification	Related SDGs	Read more	
DAIHEN's prime objective, "Simultaneous contentment for all"	Customers	<ul style="list-style-type: none">Building a product portfolio of a minimum 40% unique useful products that help customers develop business value and address social challengesInvesting 6% of sales in development in order to continue creating unique useful products	<div>Environment</div> <div>Society</div>	<div>7</div> <div>8</div> <div>9</div> <div>11</div> <div>12</div> <div>13</div> <div>17</div>	Pages 5 and 6	
	Employees and their families	<ul style="list-style-type: none">Providing performance-based pay as a "3rd bonus"* Assuming 5% or greater year-on-year increase in operating income: 1 month's pay if ¥8 billion, 2 months' pay (max.) if ¥12 billion	<div>Society</div>	<div>8</div> <div>17</div>		
	Shareholders	<ul style="list-style-type: none">30% dividend ratio against 3-year average profit				
	Suppliers	<ul style="list-style-type: none">Returning 50% of cost reductions				
	Regional community	<ul style="list-style-type: none">Building a product portfolio of a minimum 80% environment-friendly productsDonating 1% of operating income to child welfare/protection in communities that host important business sites		<div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>16</div> <div>17</div>		
Fiscal 2020 results	Achievements of the DAIHEN Group	<ul style="list-style-type: none">Smart energy management field Participated in the Smart City Saitama Model (Phase 3: Urawamisono E-Forest). Participated in proving tests of the electric ship, Urban Water Mobility.Factory automation field Developed the JoyPEN joystick pendant for intuitive robotic operation.Material processing field Further investment expected because of increased demand outlook for semiconductor manufacturing equipment (RF generator systems).	<div>Environment</div> <div>Society</div>	<div>7</div> <div>8</div> <div>9</div> <div>11</div> <div>12</div> <div>13</div> <div>17</div>	Pages 9 and 10	
	Important activities and results from fiscal 2020			<div>17</div>		
Medium-term business plan (fiscal 2021 – 2023)	Promotion of "Green Solutions" and "Tailored Solutions"	<ul style="list-style-type: none">Optimizing standard products and packages for expanding use of sustainable energy sources, reducing environmental loads, diffusing EVs, conserving energy, etc.Developing equipment and systems for addressing manpower and instructor shortages, alleviating dangerous, labor-intensive and dirty work, accommodating different types of people and workstyles, automating work in cramped spaces, and reducing workloads associated with equipment management	<div>Environment</div> <div>Society</div>	<div>7</div> <div>8</div> <div>9</div> <div>11</div> <div>12</div> <div>13</div> <div>17</div>	Pages 11 and 12	
	Sales promotion of new products and materials in the Tokyo metropolitan area	<ul style="list-style-type: none">Building relations with reliable partners, establishing sales channels, and exploring and introducing sales methods best suited for new products and materialsExplored constructing a new head office in the Tokyo metropolitan area.				
	Automation of production and back-office operations by reviewing design and workflows	<ul style="list-style-type: none">Continuing our "Loss Cutting (cost optimization) Initiative" (by automating production from the module design stage and eliminating simple back-office tasks to improve the accuracy and speed of workflows)				
	Activation of organizational strengths and human resources by introducing a "Small Company System"	<ul style="list-style-type: none">Creating an open-minded and lively workplace atmosphere in order to spawn leaders who can steer development and business with the spirit and conviction of a venture capitalist (Small Company System; periodical results reporting meetings; and educational support programs geared for acquiring PhDs and MBAs)	<div>Society</div>	<div>4</div> <div>8</div>		
	Strengthening of risk management by preparing a new BCP	<ul style="list-style-type: none">Building a group-wide risk management system with priorities based on a proper balance between risks and costs (preparing a new BCP, and planning and promoting measures to activate communications)	<div>Society</div> <div>Governance</div>	<div>8</div> <div>12</div> <div>17</div>		
Promotion of carbon-free business	Strengthening development and promoting sales of equipment and systems that help society wean itself off carbon	<ul style="list-style-type: none">Expanding use of sustainable energy sources (self-sustained solar power systems and Extra-High-Voltage Transformer Packages for sustainable power plants)Promoting the diffusion of EVs (EV charging systems)Tougher resilience when integrated with an EV (V2X emergency power system)	<div>Environment</div>	<div>7</div> <div>9</div> <div>11</div> <div>12</div> <div>13</div> <div>17</div>	Pages 13 and 14	

Breakdown		Recent important activities of the DAIHEN Group	ESG qualification	Related SDGs	Read more
Corporate governance	Compliance	<ul style="list-style-type: none">Created a Compliance Committee.Imparting compliance education using the DAIHEN Code of Ethics and Guide to Compliance with Laws and RegulationsProviding learning opportunities focused on contracting and individual laws and regulationsEstablished a "Helpline" to prevent and discover illegal acts before they go too far.	<div>Environment</div> <div>Governance</div>	<div>4</div> <div>8</div> <div>10</div> <div>12</div> <div>16</div>	Page 27
	Risk management	<ul style="list-style-type: none">Created an Information Security Committee.Enforcing our information security policyPromoting information security awareness activitiesStrengthening information security foundations (managing and controlling user access rights to information assets, implementing e-learning in information security both in Japan and overseas, and strengthening network security measures)Respect for intellectual property rightsImplementing training in contracting"Best Quality" activities based on our quality policy (creation of a Quality Control Committee, acquisition of ISO 9001, certification, training in quality management, etc.)Preparations against natural disasters and accidents (creation of a Health & Safety Committee, registration of business sites as tsunami evacuation buildings, stocking of emergency supplies, etc.)Conducting internal audits		<div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>8</div> <div>9</div> <div>10</div> <div>11</div> <div>12</div> <div>13</div> <div>16</div>	Pages 28–30
Information disclosures to shareholders/investors	Improvements to IR activities	<ul style="list-style-type: none">Personalized IR activities (direct phone calls, telephone surveys and reporting, etc.)Staging IR briefings for institutional investorsReleasing useful information above and beyond legal disclosure requirements swiftly, fairly and accurately via our website and other media	<div>Society</div> <div>Governance</div>	<div>8</div> <div>12</div> <div>16</div> <div>17</div>	Page 31
Materials procurement	Promoting business with suppliers that is mutually beneficial to all parties	<ul style="list-style-type: none">Adopted a basic policy on materials procurement.Holding meetings to explain our procurement policy and practices to suppliersRevised Green Procurement Guidelines and updated the procurement systemCost-reduction activities that emphasize VE/VA proposals	<div>Environment</div> <div>Society</div>	<div>3</div> <div>9</div> <div>11</div> <div>12</div> <div>13</div> <div>15</div> <div>16</div> <div>17</div>	Page 32
Employees (Personnel)	Motivating personnel systems	<ul style="list-style-type: none">Personnel rating system with clear evaluation criteriaFair, acceptable treatmentNew employee training tailored to personal development and corporate growthMentorship program as a workplace activitySupport systems for diverse workstyles (accommodations for personal values and situations)	<div>Society</div> <div>Governance</div>	<div>4</div> <div>5</div> <div>8</div> <div>10</div>	Pages 33 and 34
	Creating workplace environments where people of all nature can enjoy working	<ul style="list-style-type: none">Promotion of work-life balanceEnforcing measures to prevent the spread of COVID-19 (encouraging employees to work remotely, reducing the number of days of factory operation, promoting use of online conferencing systems, thorough health management, etc.)Hiring of persons with mental and physical disabilitiesIncreased hiring and support for women in accordance with the Act on the Promotion of Women's Participation and Advancement in the Workplace			
Health & Safety	Enforcement of health and safety activities	<ul style="list-style-type: none">Adopted a policy of "prioritizing health and safety in all business activities".Promotion and strengthening of the "visualization of dangers" in the workplacePromotion of inherent safety measures against major risksIdentification and preventative measures for dangers that lead to serious accidentsPromoting workplace improvements based on tabulated results of stress testsImprovements to driver education for newly hired and inadequately skilled driversEstablished and feting "Safety Check Day".Enforcing measures to prevent the spread of COVID-19 (adopted infection prevention guidelines, measuring body temperature, sanitary measures for meeting rooms and common areas, etc.)	<div>Society</div>	<div>3</div> <div>4</div> <div>8</div> <div>11</div> <div>12</div> <div>15</div> <div>16</div>	Pages 35 and 36
Symbiosis with hosting communities	Communication with hosting communities	<ul style="list-style-type: none">Community engagement activities (festivals, candle nights, etc.)Interaction with neighborhood schools (plant tours, internships, etc.)	<div>Environment</div> <div>Society</div>	<div>1</div> <div>3</div> <div>4</div> <div>8</div> <div>11</div> <div>16</div> <div>17</div>	Pages 37 and 38
	Supporting social welfare, education, and cultural initiatives	<ul style="list-style-type: none">Support for community activities (donations to bazaars)Educational and academic support (exhibiting at OSTEC Exhibition Hall)Support for the cultural arts (Support for orchestras, etc.)			
	Cleanup activities	<ul style="list-style-type: none">Contributions to community beautification efforts by all business sites			
Promotion of environmental management	Business activities and environmental loads	<ul style="list-style-type: none">Promoting the visualization of the relationship between business activities and environmental loads of the DAIHEN Group and reducing those environmental loads	<div>Environment</div>	<div>3</div> <div>4</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> <div>11</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> <div>17</div>	Page 39
	Environmental management of the DAIHEN Group	<ul style="list-style-type: none">Improving environmental management systemsGreen procurementReduction of environmental risksDevelopment and expansion of green products and businessValue creation for customersPromotion of recyclingPreventing global warmingPreservation of biodiversityWaste reductionAir pollution control			Pages 40–43
	Environmental activities plans and results				Page 44
	Environmental protection activities policy and system	<ul style="list-style-type: none">Promotion of environmental protection by adopting the DAIHEN Group Environmental Policy and establishing supporting systems			
	Environmental management systems	<ul style="list-style-type: none">Acquisition of ISO 14001 certificationPrevention of environmental accidents, responding to claims, and preventing reoccurrence of accidentsIncreasing opportunities to learn about the environment and implementing internal awareness activitiesInternal environmental audits			Page 45
	Environmental accounting of the DAIHEN Group	<ul style="list-style-type: none">Promoting environmental protection activities based on appropriate cost-sharing			Page 46
	Energy/Resource-saving activities	<ul style="list-style-type: none">Preventing global warming (reduction of CO₂ emissions)Waste reduction (effective use of resources)Air pollution control (management and prevention of release of chemical substances)Preservation of biodiversity (reduction of water consumption)			Pages 47–49

The pages indicated under "Read more" report on DAIHEN Group activities we think represent our best contributions to SDGs.

To please our customers and contribute to the world, we remain focused on developing DAIHEN products that offer unique added value.

Fiscal 2020 results

The business environment in fiscal 2020 was shrouded in obstacles because of the COVID-19 pandemic, but investment in semiconductor manufacturing equipment picked up and equipment investment in the automotive sector recovered in the latter half of the year. As a result, sales increased slightly over the previous year (by 0.1%) to 145,144 million yen.

On the profit front, operating income was up 3,117 million yen from the previous year at 12,183 million yen, thanks to

lower outlays for materials from our “Loss Cutting (cost optimization) Initiative” and increased benefits from productivity improvements. Ordinary income increased 4,406 million yen from the previous year to 13,762 million yen after posting qualifying land sales by affiliated companies accounted for by the equity method, which resulted in 9,411 million yen (up 2,739 million yen from the previous year) in profits attributable to the owners of the parent.



Smart energy management field

Participated in the Smart City Saitama Model (Phase 3: Urawamisono E-Forest)

In Saitama City, efforts to build smart communities are being promoted under the concepts of “fostering communities where people show their faces” and “ensuring carbon-free energy security”.

DAIHEN delivered an EV charging system complete with power conditioners and storage batteries for the charging station located in the center of one such smart community. Moreover, energy is being efficiently utilized across the community by using DAIHEN's Synergy Link to collect and control power generated from solar panels installed on all homes in the community, which is making a significant contribution to Saitama City's goal of “building the ultimate in carbon-free, recycle-based community”.



Illustrated view of charging station

Participated in proving tests of an electric ship

DAIHEN participated in proving tests of the electric ship, Urban Water Mobility, conducted in the Osaka Bay area as part of a joint project with the Kansai Electric Power Company and e5 Lab. The ship's batteries are charged and power onboard the ship is wirelessly controlled using DAIHEN's wireless charger, which makes the vessel a practical EMS and BCP option for nearby facilities on shore. These proving tests are a preliminary step to deploying the ship as charging infrastructure for the World Expo Osaka, Kansai slated to open in 2025.



Illustrated view of the electric ship, Urban Water Mobility

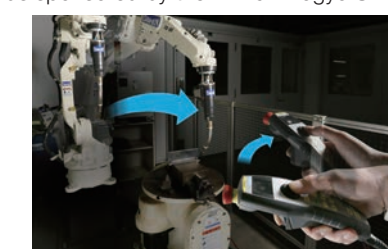
Factory automation field

Developed the JoyPEN joystick pendant for intuitive robotic operation

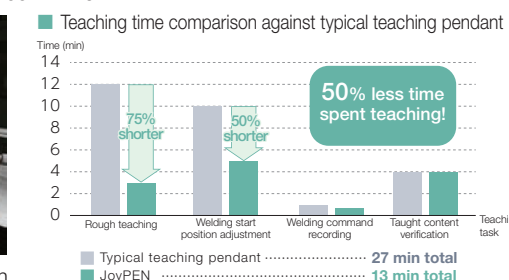
Using a joystick similar to that found on a video game controller and a gyrosensor, DAIHEN developed the JoyPEN joystick pendant as a teaching tool for intuitive robotic operation. Compared to typical teaching pendants, the JoyPEN is smaller, lighter and the first in the industry that can be operated with one hand. These features make it possible for users to spend less time teaching their robots what to do. The pendant was awarded the Machine and Robot Parts Award at the 18th “CHO” MONODZUKURI Innovative Parts and Components Awards sponsored by the Nikkan Kogyo Shimbum in 2021.



JoyPEN



Teaching operation



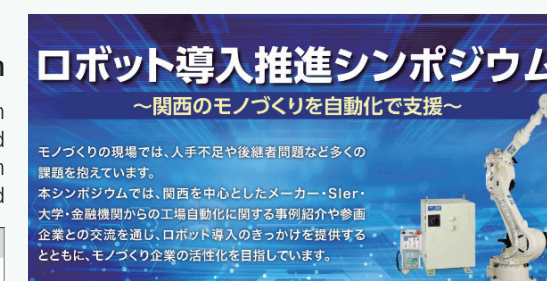
Column

Online seminars hosted to promote robot introduction

DAIHEN hosted two online seminars to encourage the introduction of robots and activate the manufacturing industry. DAIHEN showed examples of factory automation at manufacturers, universities, system integrators and financial institutions mostly in the Kansai, and interacted with the businesses that attended.

Organized by DAIHEN, Cosponsored by Nihon Kogyo Shimbum

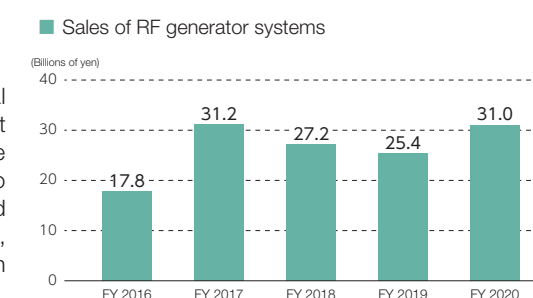
Dates: Dec. 8 & 9, 2020
Attendance: Over 400 persons



Material processing field

Situation with RF generator systems for semiconductor manufacture

During fiscal 2020, semiconductor related investment for personal computers, data centers and numerous other applications was robust because of the rollout of 5G infrastructure and the transition to remote working and online study that boomed as a preventative measure to catching COVID-19. Expectations for fiscal 2021 are for increased investment in semiconductors as IT applications for digitalization, automatic driving, IoT devices and more are expected to grow, in addition to continued demand for the aforementioned reasons.



We will launch our “Step Up 2023” Medium-term Business Plan.

Summary of the previous Medium-term Business Plan, “DAIHEN Value Plan”

- DAIHEN pursued the “DAIHEN Value Plan” with a primary focus on creating original “products and businesses for new domains”. The plan was implemented over a 9-year period from fiscal 2012.
- On the development front, DAIHEN increased investment outlays in R&D to 5% of sales (up 3 percentage points from the previous level) and promoted early development and market investment in products and businesses outside of existing transformer and welding machine categories, hence “new domains”. Compared to fiscal 2011, sales increased 1.6x.
- Operating income and ROE improved respectively to 8.4% (up 4.4 percentage points from fiscal 2011) and 11.0% (up 6.5 percentage points over the same period), owing to the “Loss Cutting (cost optimization) Initiative” that DAIHEN undertook to internally produce the capital needed to strengthen development.
- As a result of strengthening development and improving cost structures in line with the concepts of the “DAIHEN Value Plan”, operating income reached an all-time high (3.3x compared to fiscal 2011) and, in line with targeted returns for stakeholders, employees were paid a third bonus equal to 1.5 month’s pay, 90 yen in shareholder dividends were paid out per share (2.6x compared to fiscal 2011) and the company was able to give back to its hosting communities (donated 1% of operating profit to child welfare and protection programs in communities that host DAIHEN business sites).

“Step Up 2023” Medium-term Business Plan

Basic strategy 1 Promoting “Green Solutions” and “Tailored Solutions”

Currently, “CO₂ reduction” is a big theme of global environmental protection around the world with the Japanese government having set the goal of becoming carbon neutral by 2050. Moreover, “addressing the manpower shortages” that stem from an aging population and dwindling birthrate, and providing “support for diversified workstyles”, which is essential toward hiring, are important social issues. In “Step Up 2023”, DAIHEN is focusing development on solving these social issues in order to make a greater contribution to society as a business corporation.

Green Solutions

Optimize standard products and packages for expanding use of sustainable energy sources, reducing environmental loads, diffusing EVs, conserving energy, etc.

Tailored Solutions

Develop equipment and systems for addressing manpower and instructor shortages, alleviating dangerous, labor-intensive and dirty work, accommodating different types of people and workstyles, automating work in cramped spaces, and reducing workloads associated with equipment management.

■ Important development themes and sales targets (Unit: 100 million yen)

Development field	Important development themes	Sales targets		
		FY 2021	FY 2022	FY 2023
Green Solutions	Sustainable energy-compatible EMS	60	150	250
	Products made from materials of low environmental loads			
	Charging infrastructure equipment and systems			
	Bonding machines for lighter weight EVs			
	Energy-efficient generators for semiconductor manufacturing systems			
Tailored Solutions	Multitasking robots	10	50	100
	Teachless robots			
	Collaborative robots for arc welding			
	IoT & AI-driven servicing			
	Stronger lineup of interprocess transfer robots			
Total		70	200	350

■ Efforts to strengthen and speed up development

- ① Increase investment in R&D from the current 5% of sales to 6%.
- ② Front-load development.
- ③ Utilize alliances with universities, research institutes and partner businesses.
- ④ Develop products and technologies as coordinated efforts between business and engineering departments.
- ⑤ Begin construction on a new development center.

Basic strategy 2 Sales promotion of new products and materials in the Tokyo metropolitan area

To expand business into new domains like EV charging systems and EMS for sustainable power producers, DAIHEN is putting a lot of time and effort into building relations with reliable partners, establishing sales channels, and exploring and introducing sales methods best suited for new products and materials. To expand sales in the Tokyo market, DAIHEN is courting customers big and small, strengthening its messaging and exploring the construction of a new head office in the metropolitan area.

■ Sales targets for the Tokyo market (Unit: 100 million yen)

	FY 2020 results	FY 2021 targets	FY 2022 targets	FY 2023 targets
EMS & charging related	30	40	60	100
Welding, bonding & FA related	60	60	70	100
Total	90	100	130	200

Basic strategy 3 Automation of production and back-office operations by reviewing design and workflows

Since production automation based on current designs is nearing its limits, DAIHEN is adding module design in order to take production automation to another level. Moreover, in back-office operations, DAIHEN is analyzing work processes and reviewing workflows, in addition to introducing robotic process automation (RPA), in order to eliminate simple tasks and utilize upstream and outside data in real-time to improve the accuracy and speed of workflows.

Basic strategy 4 Activation of organizational strengths and human resources by introducing a “Small Company System”

For DAIHEN to be the company it wants to be, it needs leaders who can steer development and business with the spirit and conviction of a venture capitalist, and those who can support them. For that reason, DAIHEN introduced a “Small Company System” that puts passionate employees in a leadership position from where they promote development or new business projects by proposing plans, obtaining funding and recruiting a team of like-minded colleagues to see the project through. Moreover, DAIHEN is improving its personnel system so that leaders can periodically report on their projects directly to top management, and take part in upgraded educational support programs geared for acquiring PhDs and MBAs.

Basic strategy 5 Strengthening of risk management by preparing a new BCP

In order to improve its corporate value and meet the expectations of all stakeholders, DAIHEN is building a group-wide risk management system with priorities based on a proper balance between risks and costs. Two areas where considerable time and effort are being allocated are ① to prepare a new BCP with contingencies for new risks like pandemics, and ② plan and promote measures to activate communications as a countermeasure to emerging risks.

■ Financial targets

	FY 2020 results	FY 2023 targets
Sales	145,100 million yen	200,000 million yen or higher
Operating income to sales	8.4%	10% or higher
ROE	11.0%	12% or higher
Ratio of R&D outlay to sales	5.0%	6% or higher
Dividend ratio (against 3-year average profit)	30.0%	30%

In order to help society wean itself off carbon, DAIHEN is strengthening development and expanding sales of its Energy Management Systems (EMS) and charging infrastructure equipment. The former consist of control technologies and equipment for introducing and expanding use of sustainable energy, while the latter is indispensable to the diffusion of EVs.

Expanding use of sustainable energy

Self-contained solar power systems

Self-contained solar power systems are garnering a lot of attention as an effective means for weaning businesses off carbon, since solar panels can be installed on an office or factory roof or in a nearby field, and the electricity that they generate can be used to power the business. The solar power systems made by DAIHEN do not waste any of the electricity generated from sunlight thanks to the “highest conversion rate in the industry”, “real-time energy control by Synergy Link” and “effective use of storage batteries”.



Installed on a large factory

Sustainable power plants

The extra-high voltage transformers used for mega solar plants and offshore wind farms often have to be installed in narrow valleys and other cramped places. Sometimes, a suitable location is hard to find. Moreover, there are numerous issues beyond that, like how to lower the initial cost of installation, shorten the construction period and reduce the running costs once put into use. DAIHEN’s Extra-High-Voltage Transformer Packages integrate an extra-high-voltage transformer and control panel into a compact design that reduces conventional footprints by as much as 70%. Moreover, all of the equipment is shipped as a fully assembled package, therefore they can be transported and installed for less cost and in a greatly shorter amount of time than typical units.



Extra-high-voltage transformer package

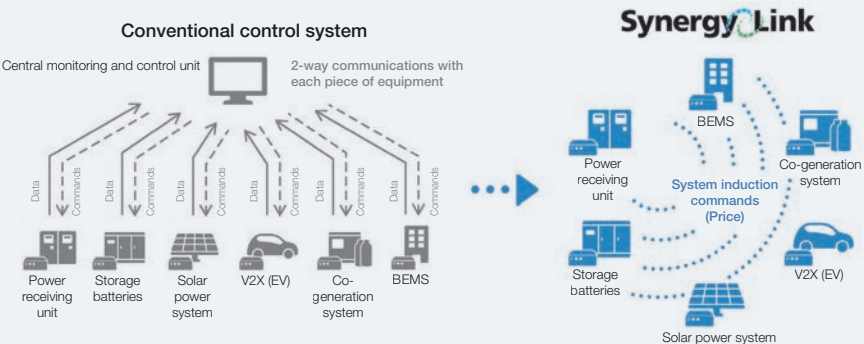
■ Illustrated comparison



Column

Autonomous cooperative control from DAIHEN’s ‘Synergy Link’

Synergy Link is a new proprietary control technology from DAIHEN that optimizes energy use by synergistically linking equipment and systems without requiring a high-performance central monitoring and control unit. An autonomous cooperative control system that employs Synergy Link can guide an entire system toward the best output condition by simply installing a small module on each piece of equipment. It enables each piece of equipment to autonomously determine its output level and operate like in a chain. This approach makes expensive units that previously were needed for central monitoring and control unnecessary, thus greatly reducing initial introduction costs.

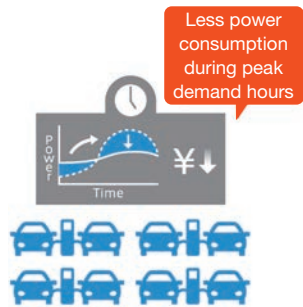


Promoting the diffusion of EVs

EV charging systems

Electric vehicles (EV) are increasingly hitting the road as part of the push to wean society off its dependency on carbon-based fuels. Further spread, nonetheless, will require greater user convenience such as longer travel distances per charge and construction of charging infrastructure. DAIHEN is working to improve user convenience and, by that, help diffuse EVs, with charging infrastructure matched to user preferences, like 2-plug quick charging stands that eliminate “lines at the pump”, OCPP*-compatible plug-in quick charging stands that support online reservations and account settlement from smartphones, wireless charging systems that enable charging by simply parking a vehicle in a designated location, and travel charging systems that charge the vehicle while driving. Moreover, using Synergy Link, an EMS that integrates EV charging infrastructure can be easily built. In that kind of setup, even if charging infrastructure is widely introduced alongside a future increase in EVs or to charge multiple vehicles during peak demand hours, the cost to charge an EV will be optimized and the charging infrastructure will operate stably because each charging stand and storage battery system works by autonomous cooperative control.

* Open Charge Point Protocol: International communication protocol for controlling quick charging stands for electric vehicles. Allows billing and equipment operation and servicing without going through a dedicated terminal or special network.



Synergy Link distributes demand when charging multiple vehicles during peak hours and can accommodate any future increases in resources.

Tougher resilience when integrated with an EV

V2X emergency power system

Interest in business continuity planning (BCP) that secures power supplies in a natural disaster has grown in recent years. DAIHEN’s V2X* system is an emergency power system with a charging stand and storage battery, capable of supplying power stably for a long period of time in an emergency. In normal times, it is used as a charging station or an alternative power system during peak demand hours.

The V2X system can supply electrical power to any 3-phase load, so it can power important equipment like commercial air-conditioners and elevators, and water supply pumps, thus helping to build a proper environment for an evacuation shelter.

* V2X: Acronym for Vehicle to Everything. Collective term for technologies and systems for sharing power between vehicles equipped with a storage battery, like an EV, and homes, buildings and power grids.



V2X emergency power system

Column

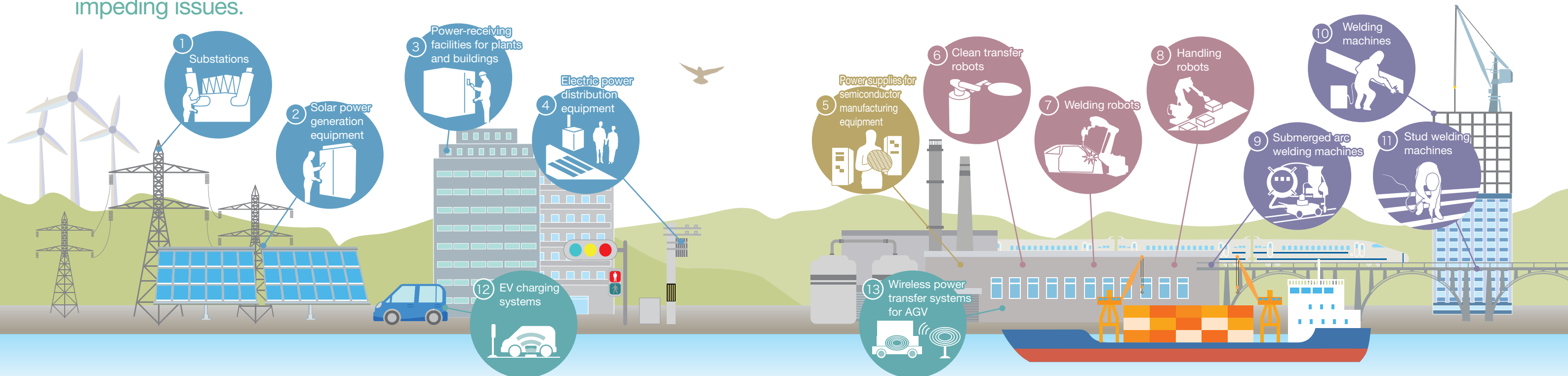
Participating in Virtual Power Plant (VPP) verification project

DAIHEN is participating in a VPP* construction verification project promoted by the Ministry of Economy, Trade and Industry’s Agency of Natural Resources as a resource aggregator.

* Virtual Power Plant.: A new concept in power supply and demand balancing that uses IoT to centrally control solar power systems, storage batteries, EVs and other pieces of equipment scattered within a power grid so that they function as a single (virtual) power plant.

Fiscal year	Project aims		Achievement
	Control targets	RA server development	
2016 (1st year)	Storage batteries (PCS remote control only)	Autonomous cooperative control server (RA functions, UI and other features to be developed during the next fiscal year)	• Verified PCS line. • Verified GW communications for servers and resources.
2017 (2nd year)	Storage batteries (Control over solar systems)	Server with RA functions (Functions coordinated with the Kansai Electric Power Company)	• Succeeded in getting a response to DR command to a power management area with a consumer.
2018 (3rd year)	BEMS resources (Air conditioners)	Functionality for aggregation in multiple locations	• Succeeded in getting a response to DR command to a power management area with multiple consumers.
2019 (4th year)	V2X resources including EV stands	System development for compatibility with the Replacement Reserve for FIT	• Succeeded in getting a response to DR command to the reference value of the Replacement Reserve for FIT.
2020 (5th year)	Home V2H resources	System development for controlling terminal equipment	• Successfully aggregated terminals for multiple scattered resources.

The DAIHEN Group is helping to reshape human society for sustainable development by creating products that solve impeding issues.



Just about anywhere you look, you can see how products from the DAIHEN Group have been used to make communities, industries and ways of life better. Our electrical power equipment supplies electricity to factories, buildings and homes, our welding machines are used to make steel buildings, bridges and ships, and our industrial robots are helping to automate factories.

Power transmission & distribution products



1 Power transformer

Developed for long service-lives, low power loss, low noise emissions and compact sizes, DAIHEN's high-quality power transformers are contributing to stable power supplies wherever they are used.



2 Power conditioner

DAIHEN has greatly reduced power consumption compared to earlier air-conditioned systems, by incorporating the industry's first air-cooled heat exchanged cooling system into these power conditioners (Awarded the Energy Conservation Grand Prize by the Energy Conservation Center, Japan in 2015).



2 3 Solar power generation package with built-in storage batteries

These package systems combine a solar power system with a series of storage batteries. The electricity generated by the solar power system is efficiently consumed by optimally charging and tapping the storage batteries, which is helping factories, buildings and other sites to lower both their electricity bills and CO₂ emissions.



3 V2X system

These systems cleverly integrate EV/PHEV charging stations and a series of storage batteries. They are helping to make communities more disaster-resilient by supplying electrical power from the EVs and battery set to important loads such as evacuation shelters during outages and other emergencies.

Industrial robots



6 Wafer transfer robot

These robots speedily and accurately transfer silicon wafers in clean environments where not even a speck of dust is tolerable. They are helping to improve the productivity of semiconductor devices that underscore an energy-saving smart society.



7 Arc welding robot

Highly articulate and agile, our welding robots are a big contribution to factory automation and the higher quality welding targeted with that.



8 Handling robot

Robots are increasing productivity and making up for labor shortages by nimbly and correctly performing simple factory jobs like transferring, assembling and processing parts and materials.



9 Submerged arc welding machine

Because our welding products are designed to save power and ensure safety on top of delivering the world's highest level of welding and cutting performance, DAIHEN is helping industries to increase productivity and protect the global environment at the same time.



10 Digital inverter welding machine

RF generator for plasma applications



3 Top-runner transformer

Because it operates very efficiently with minimal energy loss and reduces CO₂ emissions, this transformer is classified as a top-runner.



4 Step voltage regulator

These units support a stable supply of power through optimal voltage control in order to overcome voltage fluctuations on the transmission lines, such as those resulting from interconnection with dispersed power sources.



4 Pad-mounted transformer

Supports effective underground power distribution as well as landscape conservation in urban areas while mitigating disasters and securing space for roads.



4 Pole-mounted transformer

Our pole-mounted transformers step down the high-voltage electricity carried over the power lines to a practical voltage that people and businesses can use, making them an integral part of stable power supplies.



5 RF generator

These generators stably produce the high-quality plasma essential to manufacturing semiconductor devices. They are designed and built to sustainably develop industries that drive technological advances like IoT and AI.

5 Microwave supply system

Charging systems



11 Stud welding machine

Stud welding is method for joining steel beams and concrete using wedge-like pins known as "studs". It is widely used in the construction industry to erect buildings and bridges. DAIHEN's stud welding machines are used for building projects all across cities.



12 Quick charging stand for EV

This stand enables continuous charging from two plugs. It makes charging easier for users, which should help EVs to spread and, in turn, steer societies toward lower consumption of carbon-based fuels.



12 Wireless charging system for EV

Simply stopping the vehicle over the charger automatically starts charging. The system works by magnetic resonance and realizes the highest level of charging efficiency in the industry.



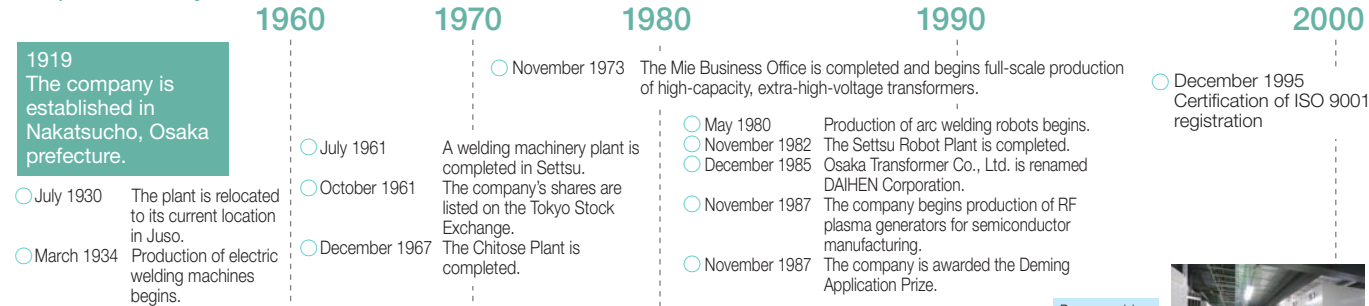
13 Wireless power transfer system for AGV (Automated Guided Vehicle)

These systems enable highly efficient charging without any cables. They are helping to automate factory operations, reduce labor and improve productivity.

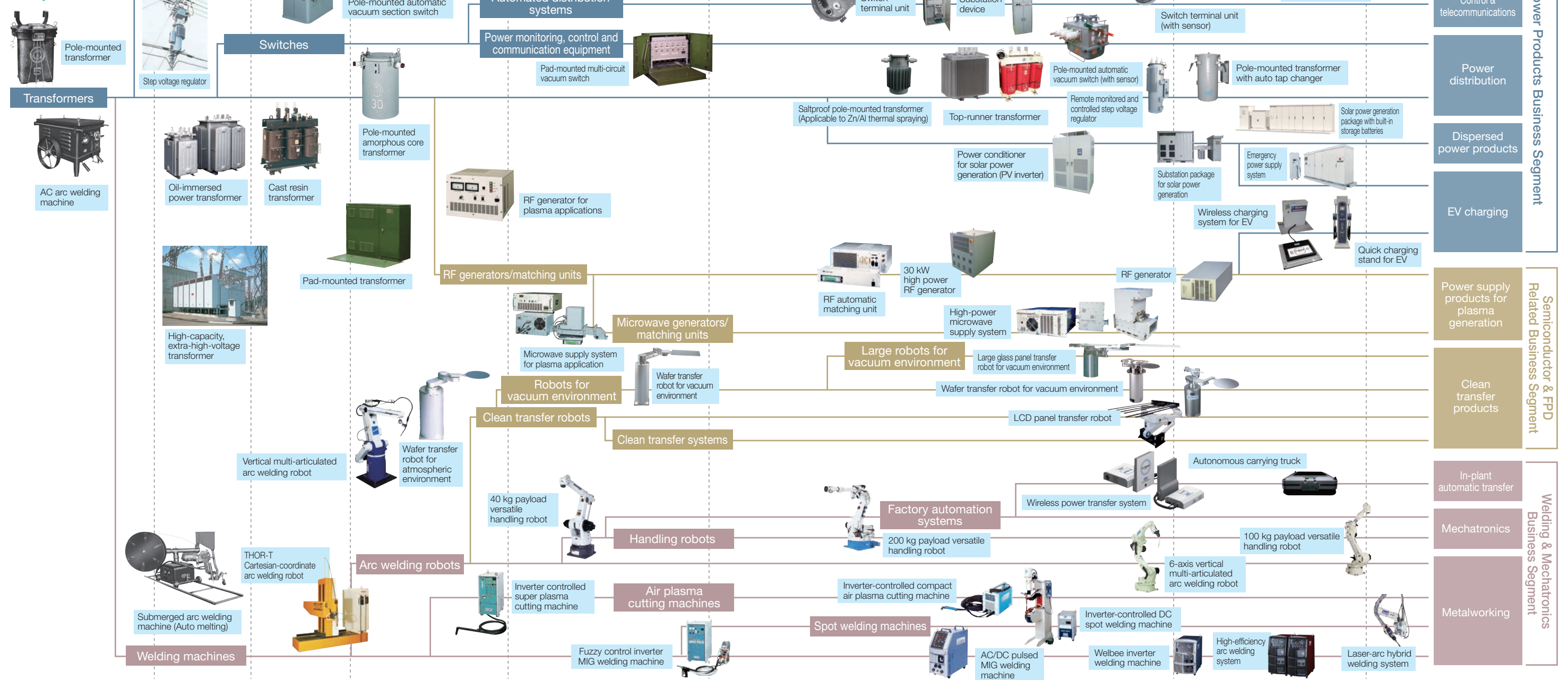
Since our founding, we have continuously pursued technological innovation in order to meet the needs of society. Here are some of the big moments of the DAIHEN Group.

Since the company's founding in 1919, DAIHEN has always sought the latest technologies in order to create values that meet the needs of society – those values manifested in the form of transformers, welding machines, industrial robots, semiconductor manufacturing equipment and a plethora of other products. With diligence and commitment, we have helped to improve the electrical infrastructure that powers modern life and elevate manufacturing around the world to new heights. Going forward, we want please our customers and serve society to even greater degrees by building original values that address society's woes into the products and services we provide.

Corporate history

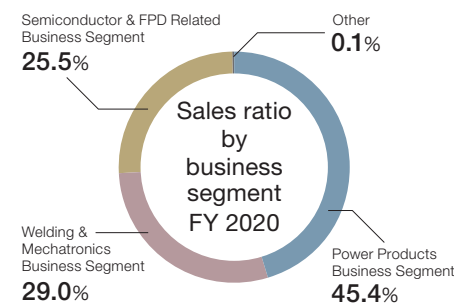


Product development history



Three business fronts where we are helping to improve the electrical infrastructure that powers modern life and elevate manufacturing around the world to new heights

Though DAIHEN began by making solely transformers at first, we quickly got a rhythm for developing products and technologies that society has needed, e.g., applying what we knew about transformers to developing welding machines, responding to the needs to robotize welding work, and transitioning welding control into RF generators for manufacturing semiconductors. The trust and technologies we have cultivated in these three areas of business are the foundations we cite in our “DAIHEN Value 2020” medium-term business plan for continuously creating unique products that improve the social value of our customers’ business, transitioning our own business from standalone products to system solutions and seeking ways to solve issues that burden society through business.



Power Products Business Segment



V2X emergency power system

Overview

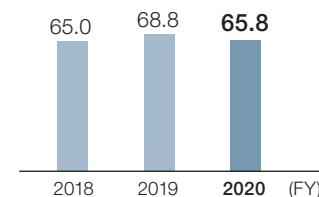
Power equipment is where DAIHEN got started. The company began by making pole-mounted transformers in the 1910s when the first electrical grids were branching out across Japan. Ever since then, we have been a leading manufacturer of transformers and supplied vast numbers of highly reliable products, thus making a major contribution to ensuring the stable supply of electricity society cannot do without.

Today, we are proactively engaged in developing products and systems that are helping to wean society off its dependence on carbon-based fuels, by expanding the use of sustainable energy sources and encouraging the spread of EVs.

Performance in fiscal 2020

Sales in the power products business segment were 65,842 million yen (down 4.3% from the previous year) due to slow replacement demand for power distribution equipment in Japan, delayed installation of large-class transformers in Southeast Asia because of COVID-19 pandemic, and other factors. Operating income, however, was 6,749 million yen (up 515 million yen from the previous year) thanks to cost reductions and other efforts.

Sales (Billions of yen)



Welding & Mechatronics Business Segment



Laser-arc hybrid welding equipment

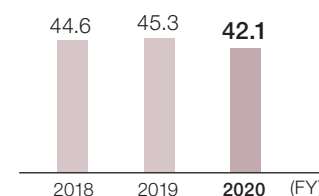
Overview

Welding is one of the elemental technologies that modern manufacturing cannot do without. It plays a vital role in building everything from cars, trains and ships to megastructures like bridges and towers. Over the years, DAIHEN has masterfully wielded its proprietary control technologies to make and supply welding machines that meet the needs of production sites. And, we have integrated mechatronics into those technologies to develop welding robots. As one of the top manufacturers of welding equipment in the world, we aim to solve the plethora of issues people who are engaged in manufacturing in one way or another face, not only by encouraging businesses to automate their welding processes but also by upgrading handling robot lineups and applications.

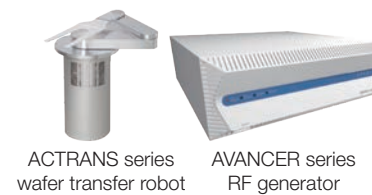
Performance in fiscal 2020

In the welding and mechatronics business, demand for industrial robots increased largely because economic activity in China quickly got back to normal. In other areas as well, automotive investment was on a recovery track by the end of the fiscal year. Nevertheless, the slump in equipment investment during the first half of the year proved to be damaging, as sales reached only 42,107 million yen (down 7.1% from the previous year) and operating income fell to 3,812 million yen (down 198 million yen from the previous year).

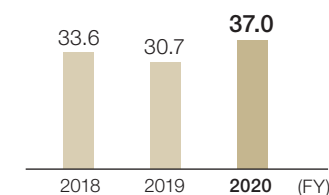
Sales (Billions of yen)



Semiconductor & FPD Related Business Segment



Sales (Billions of yen)



Overview

Life in many parts of the world today is comfortable and affluent because of smartphones, tablets, large-screen TVs and many of great gadgets. DAIHEN's plasma generators and clean transfer robots are hard at work in the clean rooms and factories that are manufacturing the semiconductor devices and flat panel displays that are instrumental to these products. Our advanced technologies are helping to keep production plants around the world running 24 hours a day, 365 days a year.

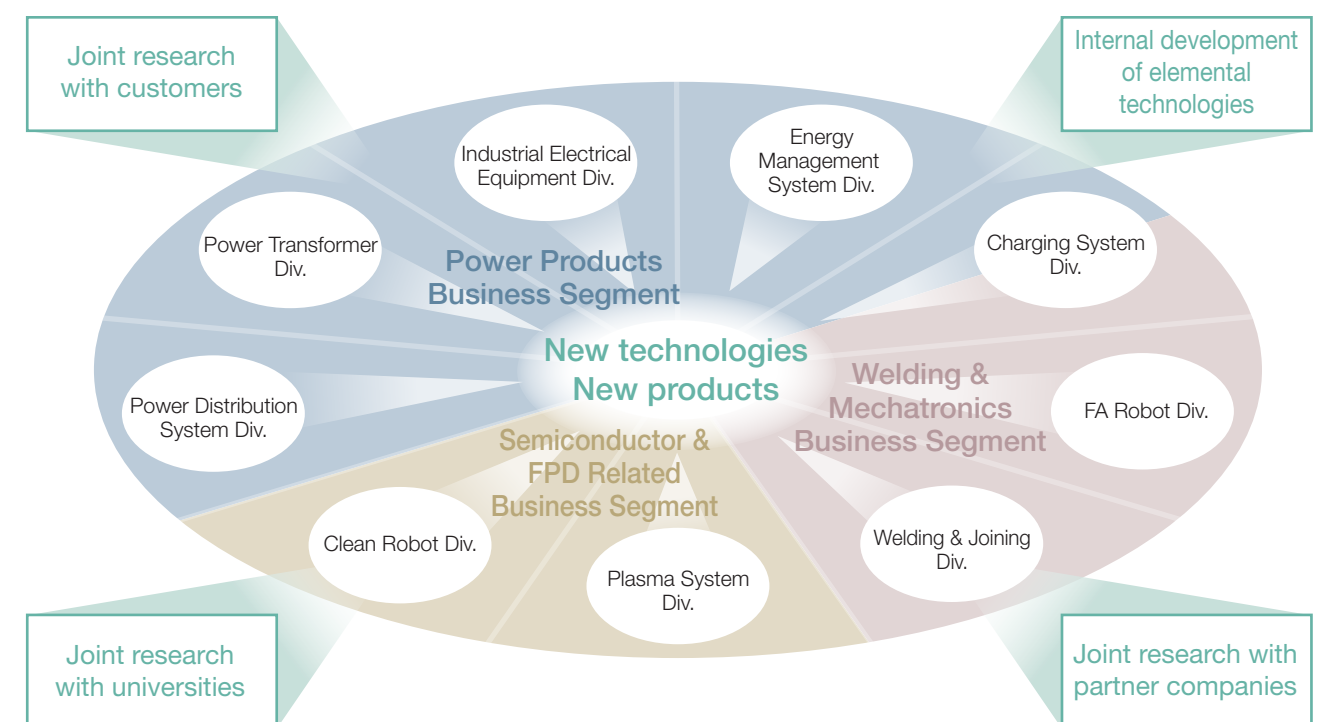
Performance in fiscal 2020

In the semiconductor and FPD related business segment, sales were 37,027 million yen (up 20.3% from the previous year) and operating income was 6,181 million yen (up 2,909 million yen from the previous year), as robust investment in semiconductor manufacturing equipment paralleled the rollout of 5G network infrastructure.

Sales and operating income from real-estate leasing and other business did not change much from the previous year at, respectively, 197 million yen and 68 million yen.

New business (R & D)

DAIHEN has cultivated and refined the power transformation and control technologies it has accumulated over the years into original core technologies by organically integrating them with the technological advances that emerge from the processes of social and scientific evolution. From this base of power electronics and mechatronics, we are aggressively promoting research and development both internally on our own and jointly in cohort with universities, private research institutes and other interests in an effort to create and foster new pillar businesses of the next generation.



DAIHEN creates value as a consolidated group of companies that do it all from manufacturing to sales and servicing.

●:Consolidated subsidiary

●:Non-consolidated subsidiary accounted for by equity method

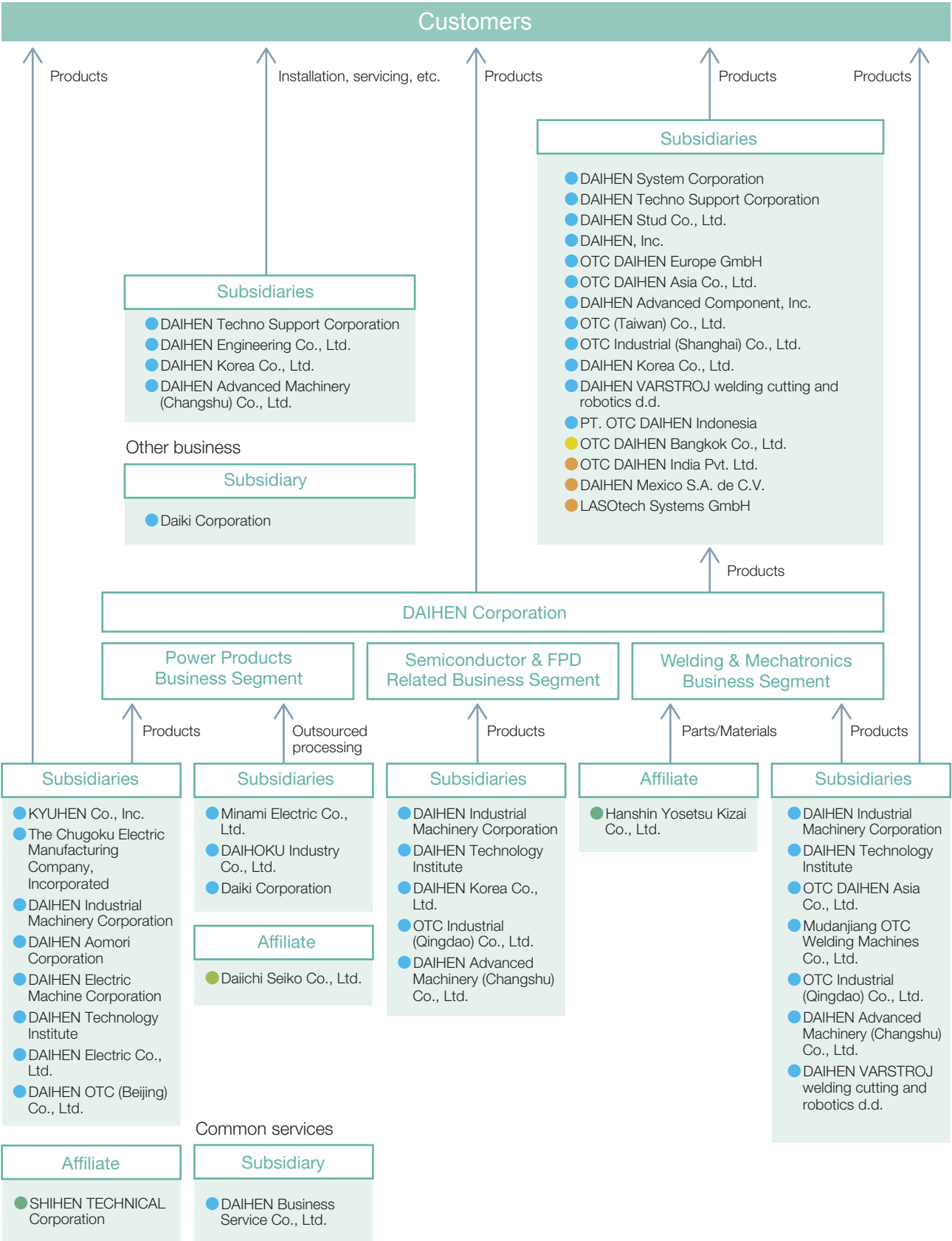
●:Non-consolidated subsidiary

●:Affiliated company accounted for by equity method

●:Affiliated company not accounted for by equity method

Segment ... Main products	Manufacturing	Sales, servicing, etc.
<div>Power Products Business Segment</div> <div>Power transmission and distribution products</div>	<div>DAIHEN Corporation</div> <div>● KYUHEN Co., Inc.</div> <div>● The Chugoku Electric Manufacturing Company, Incorporated</div> <div>● DAIHEN Industrial Machinery Corporation</div> <div>● DAIHEN Aomori Corporation</div> <div>● DAIHEN Electric Machine Corporation</div> <div>● Minami Electric Co., Ltd.</div> <div>● DAIHEN Technology Institute</div> <div>● DAIHOKU Industry Co., Ltd.</div> <div>● Daiki Corporation</div> <div>● DAIHEN Electric Co., Ltd.</div> <div>● DAIHEN OTC (Beijing) Co., Ltd.</div> <div>● SHIHEN TECHNICAL Corporation</div> <div>● Daiichi Seiko Co., Ltd.</div>	<div>DAIHEN Corporation</div> <div>● KYUHEN Co., Inc.</div> <div>● The Chugoku Electric Manufacturing Company, Incorporated</div> <div>● DAIHEN System Corporation</div> <div>● DAIHEN Techno Support Corporation</div> <div>● DAIHEN Engineering Co., Ltd.</div> <div>● DAIHEN Electric Co., Ltd.</div> <div>● SHIHEN TECHNICAL Corporation</div>
<div>Welding & Mechatronics Business Segment</div> <div>Welding machines, industrial robots, wireless charging systems</div>	<div>DAIHEN Corporation</div> <div>● DAIHEN Industrial Machinery Corporation</div> <div>● DAIHEN Stud Co., Ltd.</div> <div>● DAIHEN Technology Institute</div> <div>● OTC DAIHEN Asia Co., Ltd.</div> <div>● Mudanjiang OTC Welding Machines Co., Ltd.</div> <div>● OTC Industrial (Qingdao) Co., Ltd.</div> <div>● DAIHEN Advanced Machinery (Changshu) Co., Ltd.</div> <div>● DAIHEN VARSTROJ welding cutting and robotics d.d.</div> <div>● LASOtech Systems GmbH</div> <div>● Hanshin Yosetsu Kizai Co., Ltd.</div>	<div>DAIHEN Corporation</div> <div>● DAIHEN Techno Support Corporation</div> <div>● DAIHEN Stud Co., Ltd.</div> <div>● DAIHEN, Inc.</div> <div>● OTC DAIHEN Europe GmbH</div> <div>● OTC DAIHEN Asia Co., Ltd.</div> <div>● OTC (Taiwan) Co., Ltd.</div> <div>● OTC Industrial (Shanghai) Co., Ltd.</div> <div>● DAIHEN Korea Co., Ltd.</div> <div>● PT. OTC DAIHEN Indonesia</div> <div>● DAIHEN VARSTROJ welding cutting and robotics d.d.</div> <div>● OTC DAIHEN Bangkok Co., Ltd.</div> <div>● OTC DAIHEN India Pvt. Ltd.</div> <div>● DAIHEN Mexico S.A. de C.V.</div> <div>● LASOtech Systems GmbH</div>
<div>Semiconductor & FPD Related Business Segment</div> <div>RF generators for semiconductor manufacturing</div>	<div>DAIHEN Corporation</div> <div>● DAIHEN Industrial Machinery Corporation</div> <div>● DAIHEN Technology Institute</div> <div>● DAIHEN Korea Co., Ltd.</div> <div>● OTC Industrial (Qingdao) Co., Ltd.</div> <div>● DAIHEN Advanced Machinery (Changshu) Co., Ltd.</div>	<div>DAIHEN Corporation</div> <div>● DAIHEN Techno Support Corporation</div> <div>● DAIHEN Advanced Component, Inc.</div> <div>● DAIHEN Korea Co., Ltd.</div> <div>● DAIHEN Advanced Machinery (Changshu) Co., Ltd.</div>
<div>Real-estate leasing, etc.</div>		<div>● Daiki Corporation</div>

The DAIHEN Group is composed of the parent DAIHEN Corporation, 37 subsidiaries and six affiliates. As our main line of business, we manufacture, sell and service power transmission and distribution products, welding machines, industrial robots, RF generators for semiconductor manufacturing and charging systems. The group is organized by line of business, business segment and affiliation as shown below.



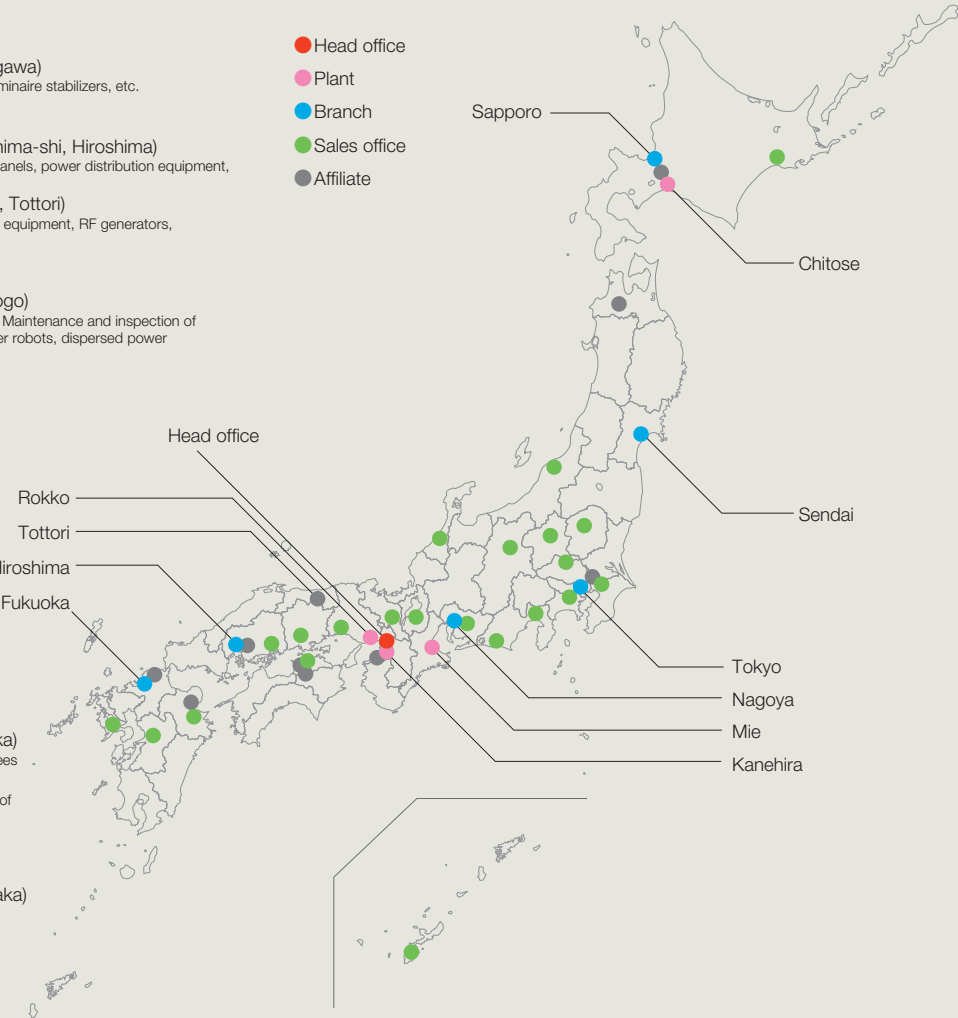
The DAIHEN Group tailors its services to each specific market and uses every strength it can muster from across the group to help customers solve their issues.

Network in Japan

Main group companies

- SHIHEN TECHNICAL Corporation (Tadotsu-cho, Kagawa)
Manufacture and sale of power transformers, electronic devices, luminaire stabilizers, etc.
- KYUHEN Co., Inc. (Fukutsu-shi, Fukuoka)
Manufacture and sale of power transformers, water heaters, etc.
- The Chugoku Electric Manufacturing Co., Inc. (Hiroshima-shi, Hiroshima)
Manufacture and sale of transformers, distribution panels, control panels, power distribution equipment, monitoring and control systems, etc.
- DAIHEN Industrial Machinery Corporation (Tottori-shi, Tottori)
Manufacture of welding machines, control and telecommunications equipment, RF generators, dispersed power equipment, etc.
- DAIHEN System Corporation (Osaka-shi, Osaka)
Sale of industrial transformers, dispersed power equipment, etc.
- DAIHEN Techno Support Corporation (Kobe-shi, Hyogo)
Sale of welding machines, cutting machines, industrial robots, etc.; Maintenance and inspection of welding machines, cutting machines, industrial robots, clean transfer robots, dispersed power equipment, etc.
- DAIHEN Stud Co., Ltd. (Kobe-shi, Hyogo)
Sale of welding machines; Manufacture and sale of welding materials; Welding work
- DAIHEN Electric Machine Corporation (Osaka-shi, Osaka)
Manufacture of industrial transformers
- DAIHEN Aomori Corporation (Hirosaki-shi, Aomori)
Manufacture of fuses, power distribution equipment/parts and surge protective devices
- Minami Electric Co., Ltd. (Tadotsu-cho, Kagawa)
Manufacture and processing of cans, sheet metal and related mechanical fittings
- DAIHEN Technology Institute (Kitsuki-shi, Oita)
Manufacture of clean transfer robots, dispersed power equipment, wireless power transfer systems, etc. Development of software
- DAIHOKU Industry Co., Ltd. (Eniwa-shi, Hokkaido)
Manufacture and processing of cans, sheet metal and related mechanical fittings
- DAIHEN Business Service Co., Ltd. (Osaka-shi, Osaka)
Human resource placement by rehiring former DAIHEN Group retirees
- Daiki Corporation (Osaka-shi, Osaka)
Processing of transformer parts; Real-estate leasing; Management of sports facilities
- DAIHEN Engineering Co., Ltd. (Osaka-shi, Osaka)
Installation, testing, servicing, and remodeling of transformers and power receiving and distribution equipment
- DAIHEN Welfare Enterprise Co., Ltd. (Osaka-shi, Osaka)
Health, welfare, and pension work for employees of DAIHEN and subsidiary companies

- Head office
- Plant
- Branch
- Sales office
- Affiliate



● Head Office (Juso Business Office)
Manufacture and sale of power transmission and distribution products and semiconductor devices



● Rokko Business Office
Sale of welding machines; Manufacture and sale of industrial robots, etc.



● Mie Business Office
Manufacture of power transformers



● Chitose Plant
Manufacture of power transmission and distribution products



● Kanehira Plant
Servicing of pole-mounted transformers

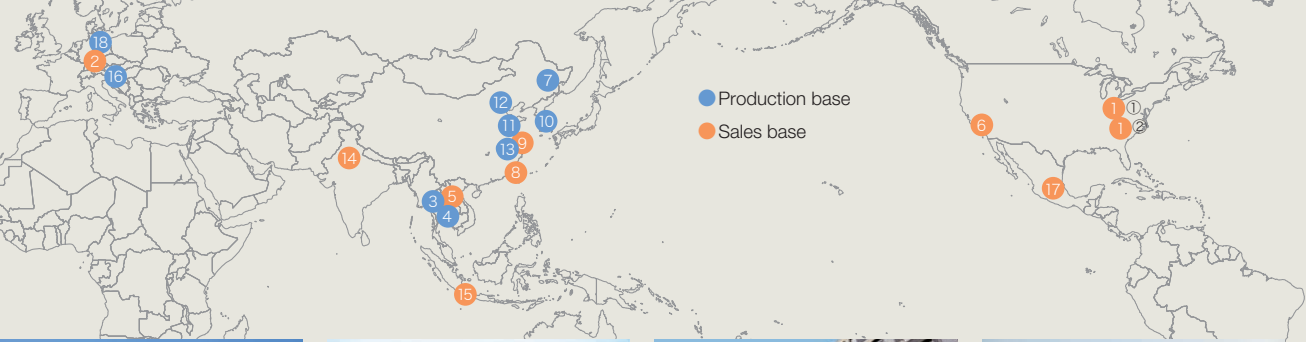


● DAIHEN Industrial Machinery Corp.
Manufacture of welding machines, control and telecommunications equipment, RF generators, dispersed power equipment, etc.



● DAIHEN Technology Institute
Manufacture of clean transfer robots, dispersed power equipment, wireless power transfer systems, etc. Development of software.

Network overseas



DAIHEN, Inc. (USA) ① Dayton Office
Sale of welding machines, cutting machines, industrial robots, etc. in North, Central and South America



DAIHEN, Inc. (USA) ② Charlotte Office
Sale of welding machines, cutting machines, industrial robots, etc. in North, Central and South America



OTC DAIHEN Europe GmbH (Germany)
Sale of welding machines, cutting machines, industrial robots, etc. in Europe



OTC DAIHEN Asia Co., Ltd. (Thailand)
Manufacture and sale of welding machines, cutting machines and related parts in Southeast Asia and Oceania



DAIHEN Electric Co., Ltd. (Thailand)
Manufacture and sale of power transformers, etc.



DAIHEN Advanced Component, Inc. (USA)
Sale of RF generators, clean transfer robots, etc.



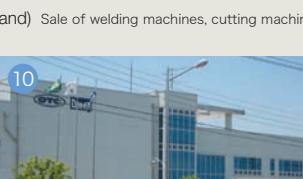
Mudanjiang OTC Welding Machines Co., Ltd. (China)
Manufacture of welding machines and related parts



OTC (Taiwan) Co., Ltd.
Sale of welding machines, cutting machines, industrial robots, etc.



OTC DAIHEN Bangkok Co., Ltd. (Thailand)
Sale of welding machines, cutting machines, welding/cutting torches, industrial robots, etc.



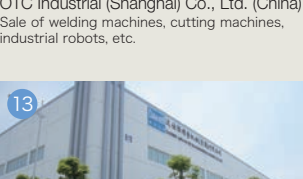
OTC Industrial (Shanghai) Co., Ltd. (China)
Sale of welding machines, cutting machines, industrial robots, etc.



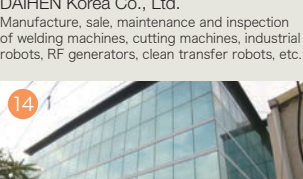
DAIHEN Korea Co., Ltd.
Manufacture, sale, maintenance and inspection of welding machines, cutting machines, industrial robots, RF generators, clean transfer robots, etc.



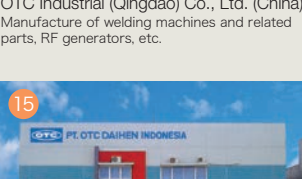
OTC Industrial (Qingdao) Co., Ltd. (China)
Manufacture of welding machines and related parts, RF generators, etc.



DAIHEN OTC (Beijing) Co., Ltd. (China)
Manufacture and sale of transformers, etc.



DAIHEN Advanced Machinery (Changshu) Co., Ltd. (China)
Manufacture, sale, maintenance and inspection of welding machines, cutting machines, industrial robots, etc.



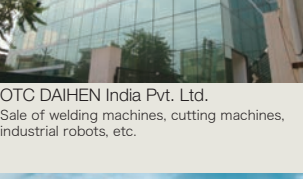
OTC DAIHEN India Pvt. Ltd.
Sale of welding machines, cutting machines, industrial robots, etc.



PT. OTC DAIHEN INDONESIA
Sale of welding machines, cutting machines, industrial robots, etc.



DAIHEN VASTROJ welding cutting and robotics d.d. (Slovenia)
Manufacture and sale of welding machines and system products in Europe



LASotech Systems GmbH (Germany)
Manufacture and sale of system products in Europe



DAIHEN Mexico S.A. de C.V.
Sale of welding machines, cutting machines, industrial robots, etc.



LASotech Systems GmbH (Germany)
Manufacture and sale of system products in Europe



Osaka Transformer Co., Ltd.
*OTC is the brand name DAIHEN uses outside of Japan.

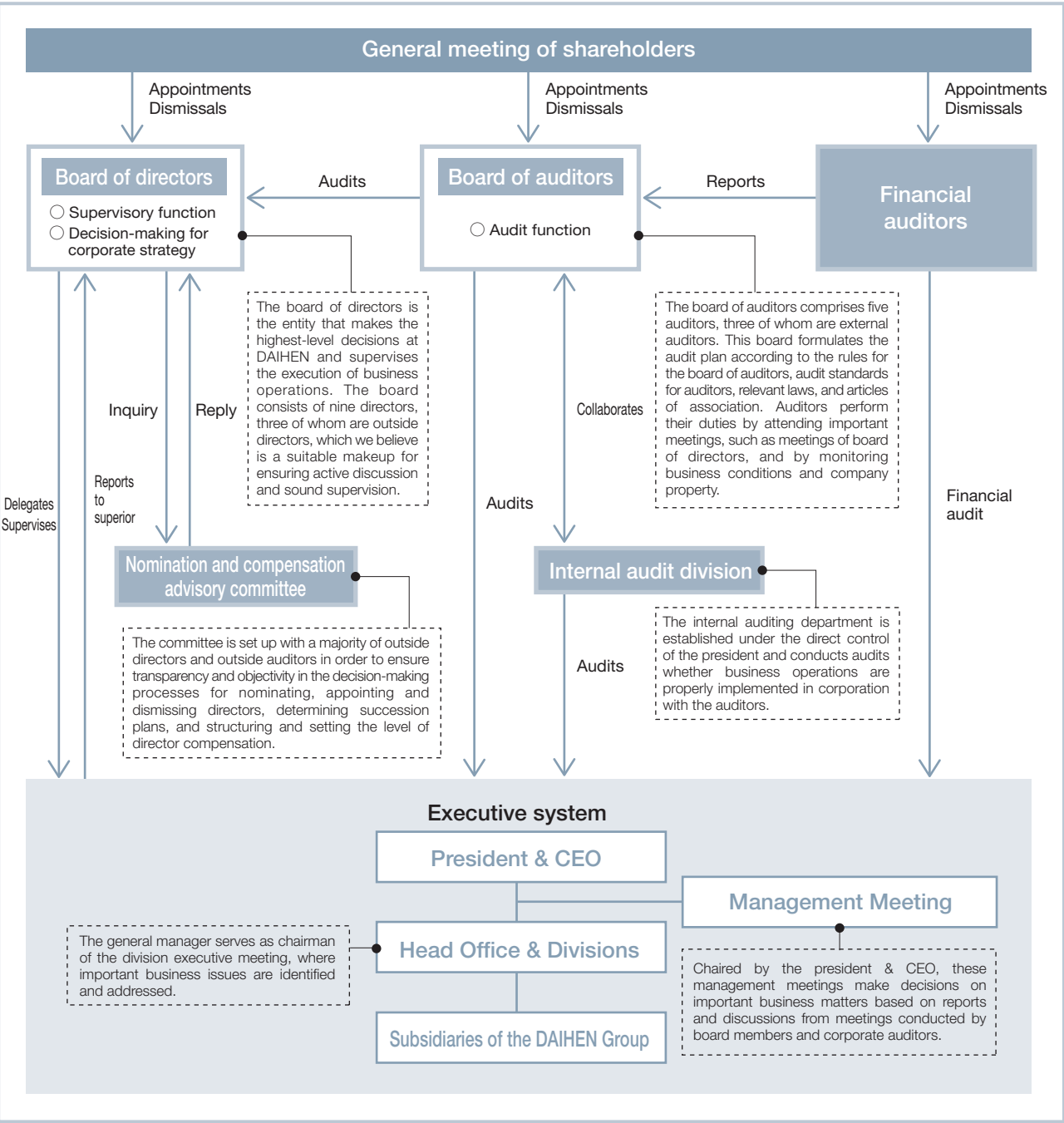
Ensuring management transparency and thorough compliance

An underlying principle of all our operations is to win the trust of our customers and all elements of society. The DAIHEN Group is striving to enrich its corporate governance in order to improve the transparency of management and ensure full compliance.

Efforts in corporate governance

The DAIHEN Group maintains a board of auditors that monitors the business undertaken by the board of directors. In June 2001, we adopted an executive officer system and enhanced the decision-making and supervisory functions of the board of directors to ensure the efficient operation of our business.

Corporate governance system



Corporate officers

As per the Articles of Association, DAIHEN's board of directors is composed of no more than twelve persons of any age, gender and nationality, as this number and makeup are believed to bring the most balance of knowledge, experience and skill, and diversity to the board as a whole.

Director appointments are based on an overall evaluation of the experience, insight, expertise and character deemed necessary to execute and realize business strategies with a deep understanding of DAIHEN's corporate philosophy. Auditors must have broad experience and insight because their duty is to audit business execution on behalf of the shareholders. Outside directors are selected in consideration of their overall independence, business experience and expertise from the perspective of enhancing the board's role of overseeing and supervising business operations, and are reported to the Tokyo Stock Exchange as independent directors.

In June 2021, DAIHEN increased the number of independent outside directors so that they account for one-third of the board of directors.

Officer/Responsibilities	Name	Management / Business strategies	Compliance / Risk management	Finance / Accounting	Human resource management	Technology / R&D	Sales / Marketing	International experience / Diversity
Chairman	Tetsuya Tajiri	●	●	●	●		●	
President and Chief Executive Officer	Shoichiro Minomo	●				●		●
Executive Vice President and Member of the Board	Sales (Power equipment) Kazuo Kamo	●			●		●	
Executive Vice President and Member of the Board	Sales (Welding & joining equipment, FA robots) Keiki Morimoto	●				●	●	●
Senior Vice President and Member of the Board	Sales (Industrial power equipment) EMS Division Haruhisa Kimura	●			●		●	
Senior Vice President and Member of the Board	Personnel, General & Judicial Affairs departments; Environment, Safety & Facilities Management Center; risk management & compliance Shingo Wada	●	●			●		●
Member of the Board	Independent Keiichi Ando	●	●	●	●			
Member of the Board	Independent Emiko Magoshi	●			●			●
Member of the Board	Independent Yasufumi Fujiwara					●		●
Standing Auditor	Naoki Urai	●				●	●	●
Standing Auditor	Keitaro Takahashi	●				●	●	●
Auditor	Independent Haruo Urata	●	●	●	●			
Auditor	Independent Masayuki Furusawa	●			●			●
Auditor	Independent Masashi Yoshida			●				

Compliance and risk management initiatives

In addition to fulfilling our corporate social responsibility, we continue to seek ways to improve compliance awareness among all our employees. We are addressing this issue by implementing various initiatives intended to ensure that we do not betray the trust of the public.

In the area of risk management, we streamlined our manuals and regulations and instituted training in preparation for natural disasters and accidents; moreover, we have developed a system to serve as a framework for ensuring compliance in relation to risks associated with misconduct and legal violations.

As for risks related to rapidly developing information systems and the intellectual property field, we are addressing risk management through workshops, enacting various rules and regulations, and keeping employees informed throughout the company.

A Compliance Committee up and running

We created a Compliance Committee in order to build, put into action and maintain a compliance management system. It is chaired by the Director of Compliance and composed of planning department managers from the respective divisions, department heads from the head office, etc. As a committee, they plan and promote compliance activities of the DAIHEN Group, and report and discuss issues that occur.

The DAIHEN Code of Ethics

The DAIHEN Code of Ethics spells out exactly how we are to conduct ourselves in business and stay true to the key concepts of our corporate philosophy, "Reliability & Creativity", by laying down the basis of laws and regulations, internal regulations and manuals, and other rules with which we must comply as a corporation.

A pocket-size version of this publication has been distributed to all Group employees so that their actions and decision-making will always be to the highest ethical standards.



DAIHEN Code of Ethics

Guide to Compliance with Laws and Regulations

As a means of preventing legal violations resulting from a lack of recognition or ignorance of the law, we have developed a compliance guide that summarizes the laws and regulations that all employees must follow. It also presents specific incidents involving violations of the law. This guide can be viewed or printed from any computer on the corporate network.

Establishment of a counselor's office for the compliance, "Helpline"

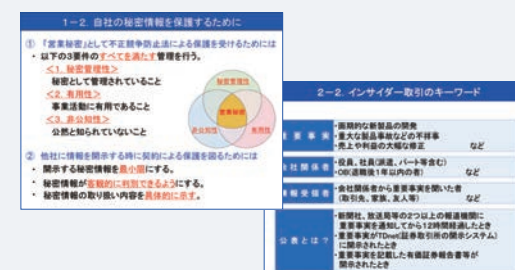
We established a "Helpline" to prevent, detect and correct potentially illegal acts before they go too far. It gives employees a channel for reporting compliance concerns internally to a designated department or, if need be, to a law firm outside the company.

Our Whistleblower Protection Rules state expressly that any persons who report an incident will receive full protection and guarantee them that the matter will be kept strictly confidential and that they will not be treated adversely because they consulted the Helpline.

Column

Compliance training

Compliance training is imparted to ensure the DAIHEN workforce is fully aware of and acts in line with corporate ethics, laws and regulations. The importance of upholding these social and legal obligations is repeatedly driven home by putting into perspective the serious consequences that compliance violations by the company can have for customers, shareholders, suppliers, local communities that host our business sites and the company itself. Moreover, we are making our workforce aware that they are always representing the company and helping them to better understand the laws, regulations and rules that govern our business through internal workshops and e-learning that focus on contracts and specific laws and regulations, and periodically explain the DAIHEN Code of Ethics and Guide to Compliance with Laws and Regulations. Through these programs, we are trying to establish a proper understanding of compliance and diffuse that amongst the entire workforce so that everyone "acts in line with corporate ethics".



E-learning modules used in compliance training

Strengthening information security

In light of the growing importance of information security, the entire DAIHEN Group has adopted a variety of initiatives to enhance our information security system.

[Past activities]

Creation of an Information Security Committee

Our Information Security Committee (ISC) improves the information security policy for maintaining and managing information security from a single unified perspective. The ISC also promotes awareness activities such as required security training and education, in order to make the DAIHEN workforce conscious of the importance of information security, and introduces tools for preventing leaks and illegal access to confidential information, etc.

Compliance with our information security policies

The Group has established information security policies, such as the "Basic Policy for Information Security", "Rules on Information Security Measures" and "Rules on the Protection of Personal Information", and organized them to facilitate compliance. In order to verify that the information security measures are working properly, we conduct internal audits every year and, if inadequacies are detected, improvement plans are crafted and implemented.

Promotion of information security awareness activities

Information security measures are explained to the workforce in an educational session, in order to raise employee awareness. Specifically, awareness activities such as training and education are conducted to alert employees to targeted email attacks aimed at businesses and organizations.

To promote compliance at our overseas business sites as well, we explain our policies, rules and measures through educational sessions similar to Japan and provide guidance for the use of information security tools.

Strengthening our information security infrastructure

To safeguard against information leaks caused by personal computers or external recording media being stolen, lost or hacked, devices at DAIHEN are protected with passwords, operating logs are kept and external recording media are carefully managed. Information security has also been bolstered through the introduction of systems and software such as a thin client system that does not save files to computer disks and antiviral software that detects malicious behavior suspect to malware.

[Important actions planned in fiscal 2021]

We will strengthen information security across the entire Group by improving awareness and establishing measures.

- Management and administration of user authorities over information assets
- Training in information security via e-learning at all business sites including those overseas
- Stronger network security measures

Initiatives to protect our intellectual property

In the area of intellectual property, we are implementing a variety of initiatives to support risk management and legal compliance. For example, we comply with applicable laws and regulations relating to intellectual property rights before we undertake to develop, manufacture, or sell a product; in addition, we always confirm that we are not infringing the intellectual property of another company (to prevent the risk of infringement). This approach ensures that our customers can use our products in full confidence.

Proper stewardship of intellectual property rights

In order not to infringe upon the intellectual property rights of other companies, we regularly read through public gazettes that report on new patents and the like. We also conduct design reviews and patent clearances when developing new products or modifying designs to make sure we steer clear of rights that belong to others.

On the reverse side of that topic, we build patent networks around our best technologies to clearly differentiate our products from competitor products, and use these legal protections to gain a competitive edge and stabilize business.

For all of that to happen requires us to be at the best of our abilities, therefore we provide and regularly upgrade education on intellectual property rights, management and protection via a combination of level/purpose-based internal training that is structured by the number years of experience an employee has, and outside learning opportunities organized by the Japan Intellectual Property Association.

Training in contracting

The open innovation that is defining these times is steering businesses such as DAIHEN to cooperate more and more with other businesses, universities and institutes both at home and abroad. This is making how confidentiality, joint research and development, and results are contracted that much more important. Therefore, as a part of our employee training program, we hold seminars on contracting every year and, in more recent years, have targeted sales departments for those seminars because our sales forces are often the first point of contact in business processes that require contracting. Those seminars are structured as presentations with practical exercises using actual contracts, so that participants get a better grasp of the material. These programs are intended to continuously elevate knowledge of contracting processes amongst our workforce.



Seminar on contracting

Earning the confidence of our customers by providing high-quality goods and services

DAIHEN's quality policy is just the beginning of concerted efforts to provide customers with products and services they trust and like.

Earning the confidence of our customers

Quality policy

As reflected in our corporate philosophy of "Reliability & Creativity" and our founding spirit of "Superior Quality, Reasonable Prices, and On-Time Delivery," DAIHEN has been striving since its establishment to provide customers with reliable products and services. A key part of that has been a strong emphasis on quality.

We have earned our customers' trust because a common mindset that settles for nothing less than the "Best Quality" is shared amongst everyone on the DAIHEN workforce. In order to retain that trust, DAIHEN has adopted a quality policy and is continuously taking steps to heighten quality in cooperation with our suppliers.

Quality policy

In accordance with our founding spirit and corporate philosophy, we are winning the confidence of our customers by providing outstanding products.

Each division is addressing "customer satisfaction" as an indicator of customer trust. We intend to further increase our efforts in this regard.

Words from the frontline of quality control

Aiming for product quality that contributes to society

In the Power Distribution System Division, we make and supply pole-mounted transformers, pad-mounted transformers, step voltage regulators, switches and fuses for power companies, thus contributing to a stable power supply. Power distribution equipment is basic social infrastructure, so those products have to be high quality. For that reason, we evaluate quality through design reviews to ensure the required functionality in every process from design to manufacturing and shipping, and we are proactively promoting standardization and automation to eradicate defects. Going forward, we will be making concerted efforts as a division to improve quality and contribute to society with products that fit new social needs such as more environment-friendly products and even reused products for a carbon-free world.

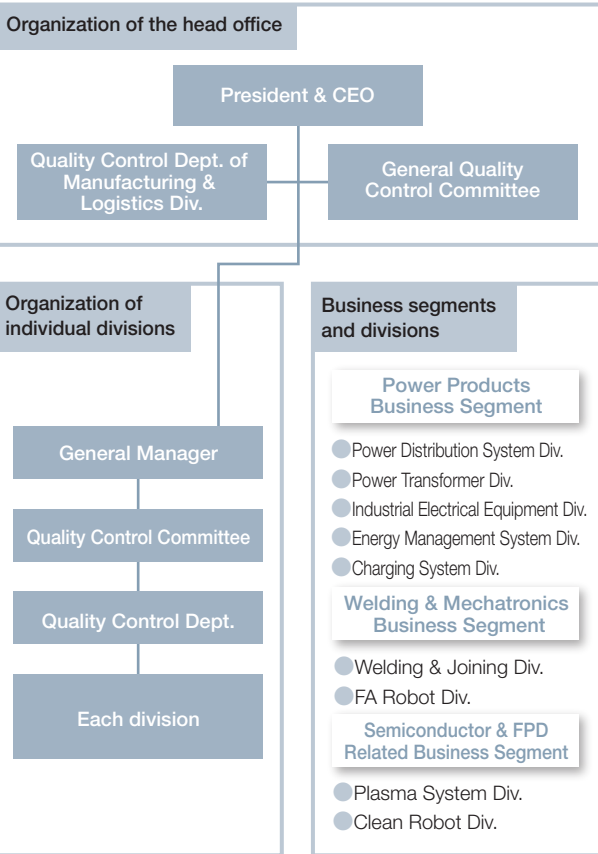


Hiroshi Oshima
Manager, Quality Control Dept.
Power Distribution System Div.

Quality assurance system

At DAIHEN, there is a separate quality management system for every business segment and a Quality Control Committee that reports and discusses quality issues in every division. There is also a General Quality Control Committee that discusses problems common to all divisions, as well as corrective solutions for serious quality issues that arise in a given division. Decisions are fed back to the all divisions.

Quality assurance system



Response system for significant quality problems

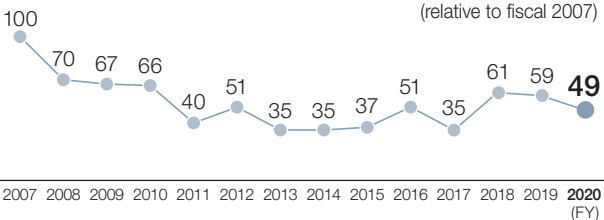
If a product of the DAIHEN Group were to cause or potentially cause physical harm to a customer or their property, or if minor trouble were to impact a number of customers, we would treat it as a "serious quality issue" and muster a response team. The response team would quickly collect information, troubleshoot the problem and devise and implement corrective measures. We also have a system in place to share the case information across the group in order to prevent any reoccurrence.

No one has ever filed a product liability suit against our company because of a non-conforming product. Nevertheless, it is very important that we root out any significant quality problems to win the confidence of our customers. The entire group, therefore, is always making efforts to discover and correct quality problems.

Enhancing customer satisfaction

In order to raise the quality bar further, the DAIHEN Group promoted a series of 3-year plans beginning with the Absolute Quality Initiative in 2006 and followed by the Quality Spiral Initiative in 2009 and the New Quality Spiral Initiative that focused on minimizing risks in 2012. In 2013, we went back to basics and implemented PDCA cycles to correct and prevent any reoccurrence of individual quality problems and risks. In 2020, we turned our attention to design processes to manage changes. As a result of these efforts, we gradually improved our ratio of sales to the total cost of losses due to defects. In fact, we scored a 49 in 2020 against our benchmark (100) year of 2007. To improve "customer satisfaction" and maintain their unwavering trust in us going forward, we will engage the entire group in strengthening activities that will prevent unexpected quality issues from arising in the first place.

Trend in total cost of defect loss ratio



Certification of ISO 9001 registration

Since 1995, the divisions within the DAIHEN Group have sequentially acquired ISO 9001 certification of their quality management systems. Currently, all divisions and overseas production sites other than those that were newly established are ISO 9001-certified.

Acquiring certification of ISO 9001 registration expands our foundation for doing more than just meeting customer requirements; it testifies to our commitment to comply with the original purpose of the ISO 9001 standard, which is to continuously improve our structure in order to ensure customer satisfaction.

ISO 9001-registered divisions and group companies

Fiscal year	Divisions, group companies
1995	Welding Products Division (Now Welding & Joining Division)
1996	Power Transformer Division
1997	Power Distribution Products Division (Now Power Distribution System Division)
1998	Mechatronics Division (Now FA Robot Division)
1999	Power & Control System Division (Now Industrial Electrical Equipment Division) DAIHEN Electric Co., Ltd.
2001	Semiconductor & FPD Related Business Segment (Now Plasma System Division and Clean Robot Division) Mudanjiang OTC Welding Machines Co., Ltd.
2004	OTC DAIHEN Asia Co., Ltd. OTC Industrial (Qingdao) Co., Ltd.
2009	DAIHEN OTC (Beijing) Co., Ltd.
2012	DAIHEN Advanced Machinery (Changshu) Co., Ltd.
2014	DAIHEN VASTROJ welding cutting and robotics d.d.
2016	DAIHEN Stud Co., Ltd.
2018	DAIHEN Korea Co., Ltd.

Quality control exclusive training initiative

As part of a greater effort to maintain and improve quality, quality management training is imparted throughout the DAIHEN Group in Japan and abroad with a particular focus on developing human resources.

The curriculum is designed to teach participants how to use and practice quality control methods, strengthen activities for preventing unexpected troubles and recurrences, and apply logical thinking processes to problem-solving. Participants train in QC methods, failure analysis, and more. The program additionally teaches statistical analysis in relation to product design, development and manufacturing as a basis for developing ISO 9001 auditors who can improve product safety standards, enhance systems and processes, and raise the bar of our quality management systems.



Lecture on statistical analysis



Basic training session in QC methods



Exercise for internal ISO 9001 auditors (to improve skills)

Small group activities

In the DAIHEN Group, many business activities directed at attaining policy objectives are conducted in small groups from a top-down approach (PS activities*). This kind of platform helps us to find better ways to look at and execute work, make improvements and efforts, and maintain and improve the quality of our products and services, because we can condense and piece that process together with a logical and scientific train of thought.

In support of these activities, we train each employee in the fundamentals: QC perspectives and approaches, seven QC tools, seven new QC tools, problem-solving procedures, target-attainment procedures, report-writing and the like. We also visualize the progress of our small group activities on our intranet while keeping everyone informed of the results of our initiatives. In this way, we are upgrading our job control and improvement capabilities while improving quality awareness.

* PS activities: Policy-based Small group activities

To win the confidence and meet the demands of shareholders

In order to meet the expectations of shareholders and investors and justify their confidence in us, we remain committed to the sound and transparent management of our business. Moreover, we are dedicated to business development and are engaged in dissemination of accurate and pertinent information.

Basic policy

The policy of the DAIHEN Group is to implement the corporate philosophy characterized by the keywords “Reliability & Creativity.” We are upholding this policy by faithfully and honestly providing safe, high-quality products and services that meet the needs of our customers while continuing to demonstrate reliability through our business operations. Moreover, while remaining dedicated to creating value and developing markets with new products and innovative technologies, we are diligently contributing to social development.

In addition, by implementing comprehensive investor-relations initiatives to provide information on our Group’s business and financial circumstances as required for sound investment decisions, we intend to earn the ever deeper confidence of shareholders and investors.

Increasing our corporate value

In today’s business world, a company can no longer differentiate itself from competitors by pursuing just QCD* alone. As we see it, intangible assets — human resources, technologies, sales routes, intellectual properties, environmental protection, etc. — enhance corporate value and provide a basis for maintaining a competitive edge and achieving sustainable growth. In order to enhance the value of our intangible assets, we invest time, money and efforts into developing human resources, building patent networks around our core technologies and bettering relations with our stakeholders, while improving our internal cohesion and networking so that we are stronger as a group.

*QCD: Quality Cost Delivery

Paying good dividends

DAIHEN has adopted the important policy of continually paying a good dividend to our shareholders. We are committed to maintaining this policy of returning profits to shareholders subject to our profitability, financial circumstances, and the future development of our business.

Five-year record of dividend payments

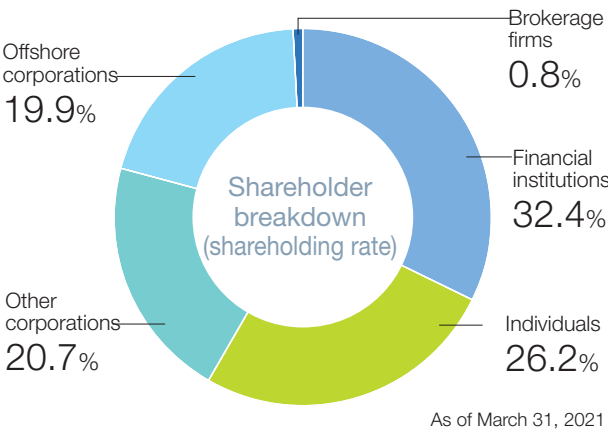
Fiscal year	2016	2017	2018	2019	2020
Dividend (in yen)	60	75	80	85	90
Payout ratio (%)	24.2	27.6	32.4	31.6	23.6

Notes:
• DAIHEN executed a reverse stock split of 5 shares into 1 on October 1, 2018. For comparative purposes, dividend amounts are shown assuming the reverse stock split was executed in fiscal 2015.
• We set a payout ratio of 30% against the 3-year average profit as a target in our 2020 medium-term business plan.
• Our payout ratio against the 3-year average profit in fiscal 2020 is 30.0%.
• Dividends for fiscal 2019 include a “100th Anniversary Commemorative Dividend” of 5 yen.

Stock data

As of March 31, 2021

Number of shareholders	8,932
Shares outstanding	27,103,291

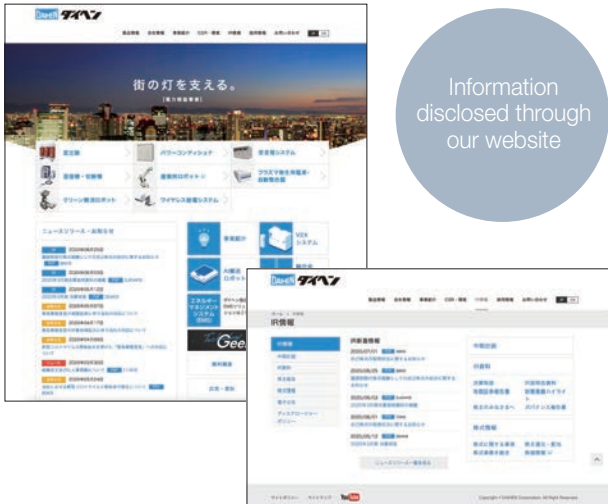


As of March 31, 2021

Information disclosure

We disclose all information required by legal disclosure standards. In addition, if we determine that it is necessary to disclose additional information to increase shareholder understanding of our company, we will disclose such information immediately and accurately through various media, even if disclosure of such information is not required by any laws or regulations.

Moreover, we will continue to proactively release information about investor relations activities through our corporate website (www.daihen.co.jp) and IR conferences for institutional investors, etc.



As a partner to our customers, we seek to achieve mutual prosperity and outstanding customer satisfaction.

To provide our customers with excellent products, we are promoting green procurement to ensure fair and equitable trade with our suppliers in the interests of mutual development.

Basic policy for material procurement

To meet customer demand by providing valuable products and services to our customers, we depend on the cooperation of suppliers offering excellent products and technologies. The DAIHEN Group believes that one of the most important elements of manufacturing competitive products is the procurement of high-quality materials. Therefore, on our website, we always list the items we seek to procure. In addition, we have adopted a basic policy for material procurement so that we can maintain and develop partnerships with our suppliers.

Basic policy for material procurement

Offering openness and fairness of opportunities

We openly provide opportunities for all our suppliers to participate in trade, regardless of nationality, region, business scale, or business experience.

Fair evaluation

We adhere to principles of competition as the basis on which we select suppliers. We generally take management reliability and technical development capability into consideration and make a fair evaluation in addition to evaluating quality, price, and delivery date.

Mutual development

We maintain sound trade relations based on mutual trust with suppliers and strive to support reciprocal corporate development.

Compliance with the law

We faithfully meet our contractual obligations with our suppliers, negotiate according to laws and regulations, and maintain healthy business practices.

Our policy is not to use conflict minerals that serve as a source of funds for warlords who violate human rights.

Communication with our suppliers

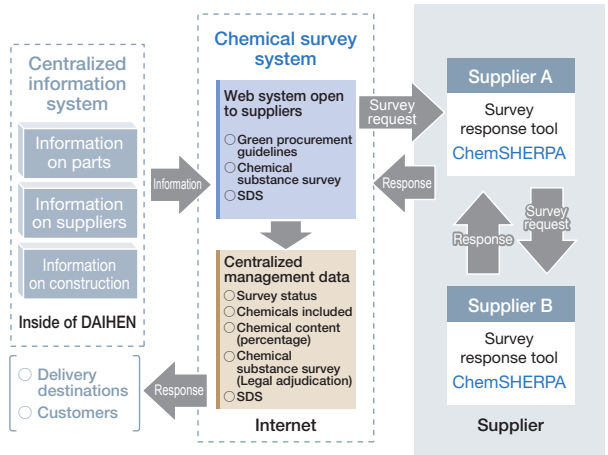
We hold policy briefings and explain our business and procurement policies, as well as the annual plans of each of our divisions, so that we and our suppliers are on the same page.

Moreover, we conduct a survey of how satisfied our suppliers are of their business dealings with DAIHEN and their thoughts of our procurement policy and practices. In turn, we apply this information back to our procurement activities in order to improve business processes and build stronger relations with our suppliers.

Green procurement initiatives

In step with global trends in chemical management and the push for standardization inside Japan, we revised the Green Procurement Guidelines of the DAIHEN Group into a seventh edition that brought our management processes closer in line with the newly unified chemSHERPA platform for sharing information on chemicals contained in products. Moreover, to promote green procurement, we also upgraded the system we had been using to investigate chemical substances so that we could use data across our global supply chains and share environmental data. The new system has made our environmental assessments faster and easier, and given us yet another tool for making environment-friendly products in the DAIHEN Group.

Outline of green procurement and surveys taken

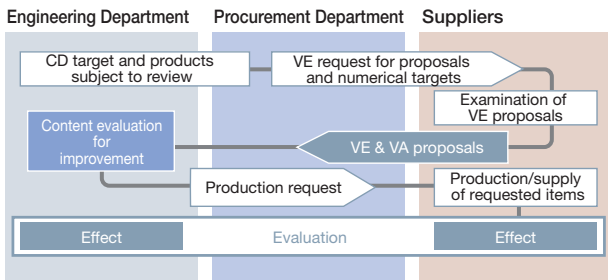


Working with our suppliers to raise productivity

The DAIHEN Group aims to ensure quality and improve market competitiveness while streamlining our manufacturing processes and enhancing ease-of-manufacturing by actively implementing cost reductions focused on Value Engineering/Value Analysis (VE/VA) proposal initiatives.

Through these activities, we jointly participate in improvement proposals together with those who place and receive orders, and we share the results with both parties. We believe this is a desirable way to operate our business while earning reasonable profits.

The flow of VE and VA proposals



Establishing an active workplace and improving our personnel system by providing rewarding work

We are establishing an active workplace and improving our personnel system by providing rewarding work. Moreover, we are supporting our employees' choice of varied working styles.

“Inspiring” and “motivating” our workforce

The underlying principle of DAIHEN's personnel system is to “inspire” and “motivate” each and every employee to go beyond what is expected of the role he/she plays in helping the company achieve its objectives. This is done by considering suitability and capabilities in job assignments, developing aggressive target-management skills, clarifying performance evaluation criteria, and providing fair and acceptable treatment. When “inspired” and “motivated”, our employees are more likely to demonstrate their skills and feel satisfied with what they are doing, which in turn should translate into better performance and corporate growth. We additionally think that will improve the work environment, which will then further “inspire” and “motivate” our workforce, creating a positive “personnel cycle” that benefits both the employee and the company.

Awarding employees with a 3rd bonus for efforts

The DAIHEN Group is adamant about balancing returns amongst its stakeholders. Since employees are stakeholders, too, a “3rd bonus” is paid in addition to regular bonuses to reward employees for their efforts in product development and cost reduction that enable the company to attain financial targets.

Conditions for 3rd bonus

When 5% or more increase in operating income over the previous year:
1 month's pay if ¥8 billion or more to
2 months' pay (max.) if ¥12 billion or more

New employee training

Because of social changes and newly accepted work patterns, corporate development going forward is underscored by the thinking that an organization grows only as much as the people it employs grow. At DAIHEN, we have long believed that our employees are and should be in charge of their own personal growth with a forward-looking attitude about learning and experiences that require and by liking one's job and going about it enthusiastically, their growth will lead to better results. This is why we put so much effort into our human resource development programs.

In 2020, because of the COVID-19 pandemic, we took our new employee training online by proactively using a new web-based meeting platform. So that recruits could acquire the knowledge and skills needed to find the right mindset and feel motivated to work at DAIHEN when studying at home, we uploaded literature on everything from DAIHEN's roots and values and conversational English to basic administration, electrical theory, which underscores all of our products, and more.

Recruits continue their learning from literature long after they have been assigned to a workplace because the mindset and knowledge they acquire from it is “theirs for the keeping” and will serve them in their work.

Developing new recruits as a workplace activity

A “mentoring program” has been introduced in order to systematically guide new recruits in the right direction and get them up to speed in their assigned workplaces as quickly as possible. Rather than managers or supervisors, mentors are someone who can steer the new recruits through daily tasks and counsel them on life issues from a common ground approach. The primary purpose of the program is to help the new recruits settle into their jobs as soon as possible and promote their growth so that they can execute their work smoothly.

To make the program more effective, not only is one mentor assigned to each new recruit but also the entire workplace is tasked with aiding the new recruits. This idea of an entire workplace developing its new recruits is intended to create a constructive atmosphere in which everyone instinctively assists the new recruits in the same way they themselves received help and guidance when they were new.

Supportive of new lifestyle choices: Employee programs for our 100th anniversary

New lifestyles demand new workstyles. At DAIHEN, we understand that.

Support for balancing work with childcare and nursing care responsibilities

We have improved the employment options for individuals with small children or family members who need looking after so that they can continue to work while caring for loved ones. These options offer employees considerable flexibility above and beyond legal requirements, beginning with shorter shifts and reduced workweeks of just 4 days a week. Not only are these systems in place but we are also reshaping workplace environments so that employees can easily make use of these systems. We will continue to look for ways to support workstyles that allow for the things that our employees value and want to prioritize.

Support for study abroad and business startups

Healthy life expectancies in Japan are the longest in the world and are flirting with the 100-year mark. To make the most of those good years, it is wise to put a life plan with future goals on paper and develop a workstyle that agrees with one's personal values and priorities. That most likely involves challenging oneself, which begins by finding an interest one would willfully pursue. It might be studying abroad to gain certain qualifications or skills, or launching a business in something you are good at and are motivated to take a step further. At DAIHEN, we have programs in place to support employees who want to embark on new challenges.

Long-term disability insurance

Health is a fundamental component of corporate life. Being healthy allows one to choose a workstyle that agrees with one's values and priorities. However, if stricken with an illness or infirmity that causes one to miss work, one may no longer be able to support the lifestyle he/she desires and plans he/she had may have to be changed. DAIHEN's corporate insurance plan gives employees access to proper medical care and pays compensation for lost wages due to illness or infirmity to a degree that permits one to maintain a certain lifestyle.

Workstyle reform and motivating workplaces

For an individual to grow personally and lead a rewarding life, it is important to work efficiently and use the time gained therefrom to better one's skills and knowledge, and to make one's life more fulfilling. To help our employees balance work and life choices, we are always looking for ways to develop a productive mindset that knows not to waste time and reshape the workplace into a motivating environment where employees can perform to the best of their abilities.

Productivity enhancements with innovative business processes

All across the DAIHEN Group, Loss Cutting Initiatives are replacing manual jobs with automation and reducing overtime work. RPA is also being constructively introduced to automate repetitive clerical tasks.

Efforts to manage work time

Activities are underway to spur employees to consciously manage their work time such as to declare the first day of the week “No Overtime Day” and require everyone to leave work at the same time, as well as shutting all lights off at a set time every day in offices.

Financial aid for self-improvement

At DAIHEN, we encourage our workforce to obtain qualifications that they can apply to their jobs and have a financial aid program that can cover those expenses in order to incentivize them to learn.

Health and well-being of our employees and their families during the COVID-19 pandemic

Since 2020, the entire planet has been engulfed in unprecedented crisis caused by the worldwide spread of COVID-19. Countries everywhere have introduced countermeasures that have drastically changed the way people work and live. DAIHEN implemented the following actions in placing top priority on the health and well-being of our employees and their families.

- Promoted working from home**
The first step to promoting working from home was to prepare an environment for that (adjusted content and workflows, increased communication terminals with security measures, stronger network, etc.) in sales, service, design and development, and administrative departments.
- Reduced the number of work days at plants**
Since it was not practical for the production departments to work from home, we moved holiday schedules around and reduced the number of weekdays of work in order to minimize the risk of transmission when commuting to/from work.
- Used web-based meeting platforms**
Web-based meeting platforms were upgraded and used to avoid the risk of transmission from in-person meetings within the group or with suppliers and customers.
- Enforced health measures**
A system was set up where employees measured their temperature before heading to work and when they arrived at the office/plant, and would immediately see a doctor if feverish or exhibiting other symptoms.
- Measures for preventing transmission when commuting to work**
To avoid crowds during the commute to/from work, employees were encouraged to drive and bike to work, as well as to stagger commute time. Moreover, shuttle buses were rented to reduce the chances of person-to-person contact.

- Measures for preventing transmission in the workplace**
Various measures were taken to prevent the risk of transmission including requiring hands be sanitized when arriving at the office/plant, installing partitions on desks and in meeting rooms and cafeterias, limiting the number of persons in meeting rooms, elevators and smoking rooms, ventilating indoor spaces often, using space sterilizers, staggering mealtimes at cafeterias, and more.
- Measures for those infected with COVID-19**
If someone became infected with COVID-19, strict contact rules recommended by public health authorities were applied. This included ordering all persons that potentially came in contact with the infected person to work from home and get a PCR test, in order to prevent spread.
- Awareness education for employees**
Posters about social distancing, wearing masks, washing and sanitizing hands, avoiding business meals and entertainment were put up around workplaces to constantly remind our employees to protect themselves from the virus.

Promoting employment of persons with disabilities

Daiki Corporation became a special subsidiary of DAIHEN in 1983. Daiki is now promoting employment of persons with physical and mental disabilities while improving the working environment for these individuals.

Percentage of persons with disabilities working at DAIHEN



2013 2014 2015 2016 2017 2018 2019 2020 (FY)

Corporate Action Plan under the Act on Promotion of Women's Participation and Advancement in the Workplace

We established an exploratory committee of labor and management representatives to find ways for women to demonstrate their skills and play more active roles in the workplace. They formulated and submitted the below “Corporate Action Plan” to the Equal Employment Office of the Osaka Labor Bureau. We will take more action like this going forward so that women are given the same job opportunities as their male counterparts.

- Objective**
Build workplaces where women can demonstrate their skills and play more active roles.
- Period**
June 1, 2021 – May 31, 2024 (3 years)
- Targets**
 - (1) Raise the percentage of women amongst new recruits (graduates and midcareer transfers) to 10% or higher.
<Activities>
 - Create more opportunities for women employees to be involved in hiring activities and meet with college students, especially women students.
 - Work with departments on preparing and implementing training plans that will lead to women playing a more active role in the workplace.
 - Periodically collect opinions from women employees and extract and solve issues.
 - (2) Raise the percentage of employees who take annual paid holidays to 70% or more.
<Activities>
 - Use the company's intranet and training programs to create a corporate atmosphere that makes it easy to take holidays. (Stage awareness seminars for superiors, etc.)
 - Promote improvements in workplaces that have a low percentage of employees taking paid holidays.

Our health and safety initiatives

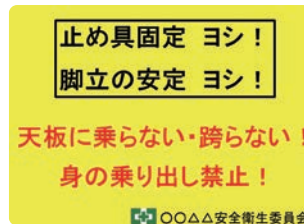
Group Policies

Safety is the underlying pretext to our corporate prime objective of “simultaneous contentment for all”. To stand by that commitment, we have made it a basic policy of the DAIHEN Group to place “top priority on health and safety”. This compels us to create workplace environments where our employees are reassured of their health and safety, and to establish a corporate culture and mindset where managers and supervisors take the lead in promoting health and safety activities in the workplace as an important first step toward preventing on-the-job accidents, and all employees actively participate in these activities conscious and aware that they are ultimately responsible for their own health and safety.

Prioritized activities

Stepped up our “visualization of dangers” in the workplace

We compiled good examples of hazard prevention signs, posters and the like from the divisions into a list of warnings and shared it across the group as yet another effort to ensure safety in the workplace. Our goal remains to make it so that everyone on the DAIHEN workforce can be safe on the job regardless how much knowledge or experience they have.



Example hazard prevention sign

Continued to promote safety against serious risks

In order to ensure safety against serious risks, we added more risks that were gauged to be Level 3 or higher in risk assessments to a special management ledger that we use to systematically improve safety.

Extracted and took measures against hazards that could develop into serious accidents

We reviewed past accidents and countermeasures, and had outside professionals do safety patrols to recheck everything. Moreover, each workplace was given a list of past accidents from across the group that had been recorded into a database, which they used to conduct activities to make sure similar accidents do not occur in their respective locations.



Safety patrol with outside professionals

Using stress test results to improve workplace environments

Department heads undergo training in line care designed to help them alleviate employee stress that might develop into health issues if left unchecked. After learning how to read stress test results and possible ways to improve workplace environments, department heads identify areas in their own workplaces that could be improved and set about doing that.

Enhanced driver education for new and unskilled drivers

At DAIHEN, we did a lot toward preventing traffic accidents involving company vehicles, by providing driving practice, evaluating driving skills, training drivers in road hazard awareness and conducting classes in traffic safety where participants learn to observe the rules of the road and practice good driving behavior.



Driver education for company drivers

“Safety Check Day”

Since 2018, December 15 has been known as “Safety Check Day” at DAIHEN. On that day, everyone at DAIHEN checks just how safe they are based on the way they think and act. This year, everyone took a time-out to think about safety during which they filled out a specially prepared sheet that spurred them to ask whether he/she was acting unsafely or unknowingly working under unsafe conditions. Results were shared amongst workplace members and improvements were made.

Measures against COVID-19

We enforced all of the basic measures recommended for preventing the spread of COVID-19, including masking, washing and sanitizing hands before entering the workplace, and social distancing. We also adopted guidelines for the group and conducted patrols as directed in those guidelines to make sure everyone was observing measures for preventing transmission.

Important measures

Taking temperatures before entry

Our efforts to prevent the risk of contagion began before work with temperatures being taken and the health of family members being checked before entry was allowed to business sites. In addition to measuring temperature at home, employees had their temperature taken by staff at the entry point to their workplace. Rules were established and made known to all as to how persons detected with fever would be treated.



An employee's temperature being measured prior to entering a business site

Measures to reduce the risk of contagion during commutes

A multitude of measures were taken to reduce the risk of contagion during commutes such as to stagger commute times, encourage employees to drive and bike to work, offer shuttle bus services and move holiday schedules around.



Shuttle bus charted for commuting to/from work

Work from home

Employees who could manage to do so were encouraged to work from home as a way of reducing social contact.

Measures for tools, etc.

Every effort was made to not share tools, etc., but when they were, those tools were sanitized after use.



Sanitizer station for shared tools

Measures for break rooms, cafeterias and other common areas

Various measures were taken with common areas to reduce the risk of contagion, such as to stagger mealtimes to thin out crowds, have people not sit across from each other, install partitions and space sterilizers, and prohibit talking without a mask.

Measures for offices and meeting rooms

With conference and meeting rooms, we adjusted room capacity according to the size and the quality of ventilation, and installed space sterilizers, air purifiers and humidifiers to prevent infection. Moreover, wherever social distancing of at least 2 m could not be secured, partitions were used to block sprays.



Partitions installed in a meeting room

Seeking symbiosis with the local community and cooperation with society

As a member of the local community, each business office or plant is deepening its interchange and establishing a positive relationship with community residents while fulfilling its corporate social responsibility through various support initiatives.

Communication with the local community

Keeping the community in focus

In August, we open up a part of the Juso Business Office site in Osaka and DAIHEN Industrial Machinery site in Tottori City to the general public for classic summertime festivals. Our employees man booths and run raffles and other events that give us a fun and entertaining platform for deepening interaction with the residents of the surrounding community and amongst group employees and their families.

On a slightly different note, group company Daihoku Industry joins the local community in Eniwa City, Hokkaido in bringing a little warmth amidst the snow and cold of February via the city's "Candle Night".



Summertime festival at the Juso Business Office site (2019)

Neighborhood schools participate in plant tours

At the Juso Business Office, Rokko Business Office in Kobe and DAIHEN Industrial Machinery, we give tours of our offices and plants to elementary schools, daycare centers and technical colleges from the nearby area, and, as a more in-depth look into what we do, offer internships and shadowing opportunities to junior high school students. Through these activities, we try to convey what it means to work in manufacturing and why we think the DAIHEN Group is so interesting.



Elementary school students touring the showroom at the Juso Business Office (2019)



Tour at DAIHEN Industrial Machinery (2019)

Note: Due to COVID-19, all events, tours and internships were canceled in 2020.

Special STEAM program seminar for Hyogo Prefectural Hyogo High School

As part of the STEAM program at Hyogo Prefectural Hyogo High School (Kobe), we welcomed students for a special seminar and tour of our plant and research facilities at the Rokko Business Office, and taught them a thing or two about robots. In fiscal 2020, sixteen students took part in the program and gave it good reviews like "I was impressed to learn robots perform about 80% of the robot manufacturing processes, while people take care of work only humans can do", and "I discovered just how much studying it takes to become a robot engineer". It was obviously a great experience and interested some as a possible career path in the future.



Special STEAM seminar at our Rokko Plant

Note:

STEAM is a cross-curricular educational program geared for teaching students how to apply what they know about Science, Technology, Engineering, Art and Mathematics to discovering and solving problems in the real world. The objective is to develop "topic setting, design and communication" skills and underlying skills in "language and mathematics" required by Society 5.0. Hyogo High School was selected by the Hyogo Prefectural Board of Education as a model school for the STEAM program in 2020, which will continue for three years.

Supporting social welfare, education, and cultural initiatives

Support for social welfare

The Hakuaisha, a social welfare service corporation that carries out social welfare activities in Yodogawa-ku, Osaka, holds a regular event known as the Hakuaisha Carnival. Employees wishing to make donations provide numerous items for the fundraising bazaar.

Support for scientific education

DAIHEN sponsored an exhibit about "Future Society Portrayed by Wireless Charging" at the OSTECH Exhibition Hall. The exhibit is educating people of all ages from elementary school up about the advantages of wireless charging and our products. DAIHEN is happy to play a role in educating the next generation.



DAIHEN exhibit at the OSTECH Exhibition Hall

Support for art and culture

We participated in initiatives in support of the Osaka Symphony Orchestra, the Osaka Philharmonic Orchestra, the Kansai Philharmonic Orchestra, and Nagashibina Maranic (marathon and picnic) event in Mochigase (Tottori City).

Donations to local communities

DAIHEN donates 1% of its operating income to social welfare, feed-the-children and other organizations in local communities* that host important business sites of the DAIHEN Group, for the purpose of supporting and protecting underprivileged children (protection against abuse, tutoring, financial support, etc.). Last year, the money was used to help buy meals served at children's cafeteria and supplies like uniforms, and to renovate aging facilities in the communities.

* Osaka City, Kobe City, Taki Town (Mie Prefecture), Chitose City and Eniwa City (Hokkaido), Tottori City, Tadotsu Town (Kagawa Prefecture), Kitsuki City (Oita Prefecture)

Cleanup activities surrounding our business offices and plants

Each location of the DAIHEN Group is proactively engaged in cleanup campaigns and is contributing to regional beautification initiatives. Going forward, we intend to participate in future regional beautification and vitalization efforts such as these.



Juso Business Office (Osaka City)



Rokko Business Office (Kobe City, Hyogo)



Mie Business Office (Taki Town, Mie)



Chitose Plant (Chitose City, Hokkaido)

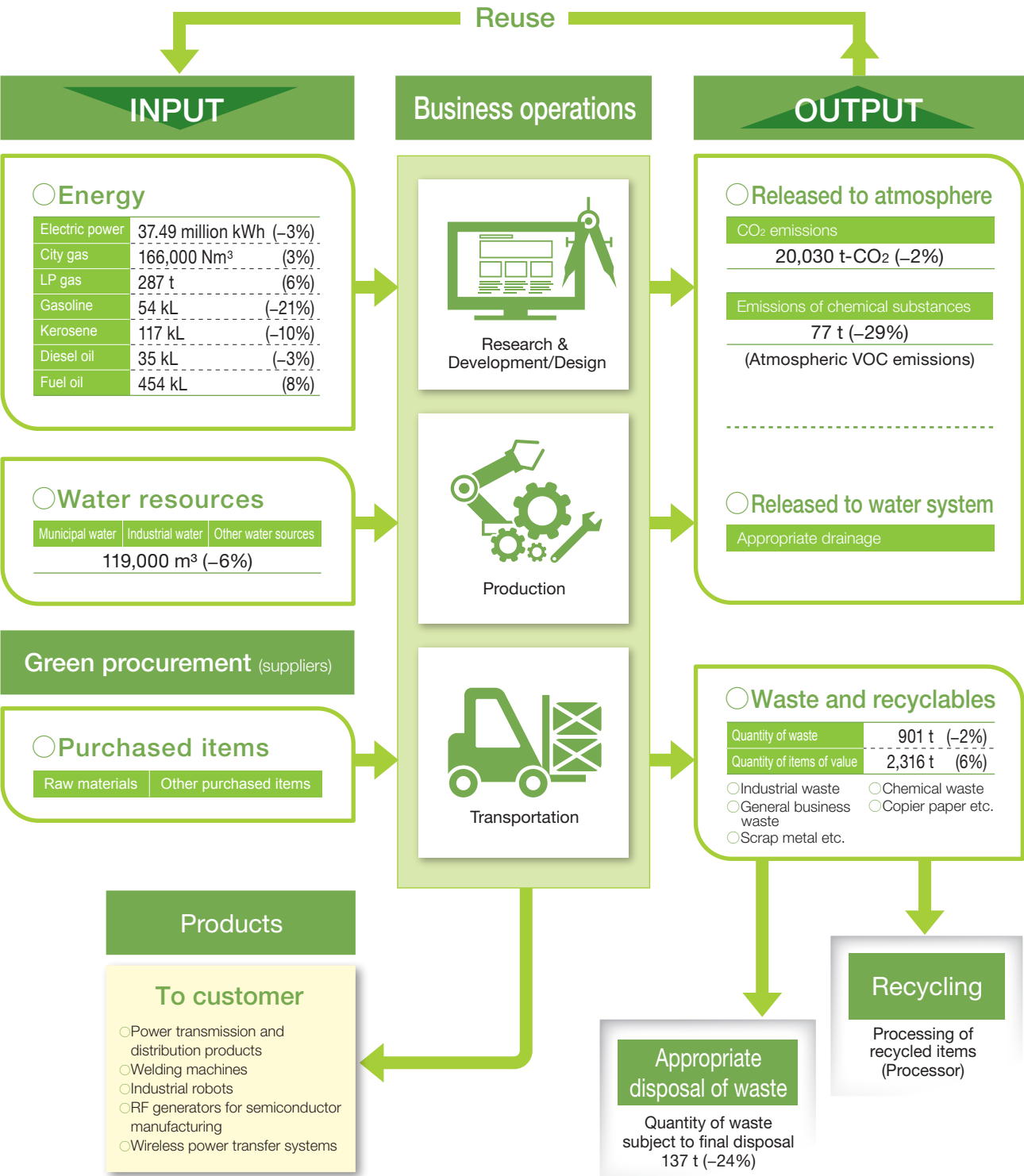


Kanehira Plant (Osaka City)

The environmental impact of our business activities

In addition to determining the environmental impact of our business activities, the DAIHEN Group is working hard to reduce its overall environmental impact from every angle by remaining constantly aware of all phases from planning, development, manufacture and use to discard.

Relation between the DAIHEN Group's environmental impact and business operations



Notes:

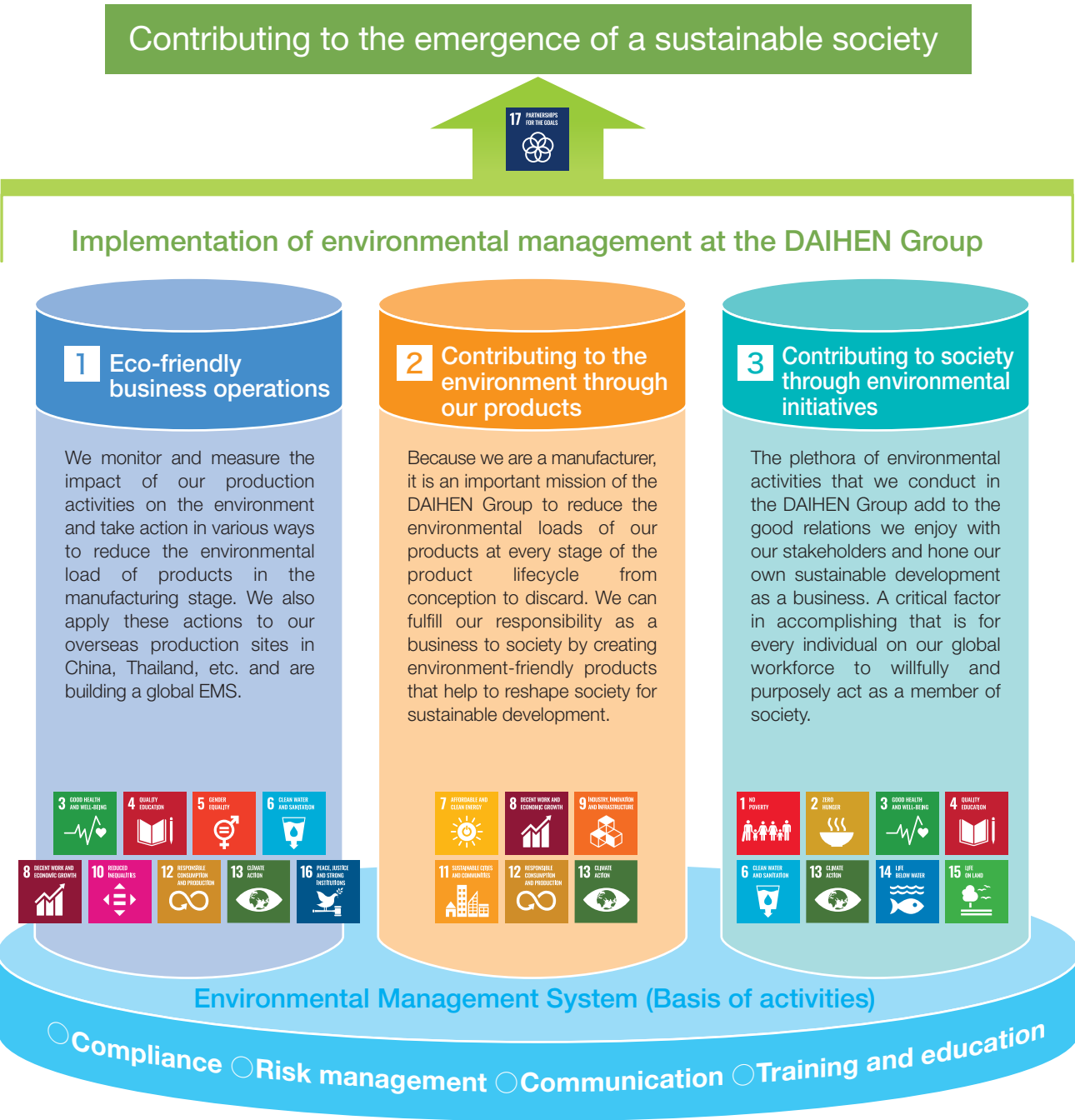
- Scope of data: DAIHEN Corporation (Juso Business Office, Rokko Business Office, Mie Business Office, Chitose Plant, and Kanehira Plant) and Group production bases (Tottori Plant, Oita Plant, Matsudo Plant, Eniwa Plant, Hirosaki Plant, Kagawa Plant, and Izumiotsu Plant), OTC DAIHEN Asia Co., Ltd., DAIHEN Electric Co., Ltd., Mudanjiang OTC Welding Machines Co., Ltd., OTC Industrial (Qingdao) Co., Ltd., DAIHEN OTC (Beijing) Co., Ltd., DAIHEN Advanced Machinery (Changshu) Co., Ltd.
- Figures apply to fiscal 2020. Figures in parentheses are relative to fiscal 2019.

Environmental management at the DAIHEN Group

In the DAIHEN Group, we want to be the “company of choice of many”. We figure that begins by building better relations with stakeholders through our environmental protection activities. So, we treat environmental protection as one of the top priorities in the way we go about business. This “pro-environmental” approach to business management guides us in formulating and implementing strategies and actions that are helping to reshape the world for sustainable development, and protecting the environment from our corner of society.

Contributing to society's sustainable development is, in our view, a social responsibility of the DAIHEN Group. This requires us to develop sustainably as a business as well and makes “pro-environmental” management a key factor in steering us along that path.

Because we are a manufacturer, we recognize how important it is that we reduce the environmental loads of our products at every stage of the product lifecycle from conception to discard and that, by doing so, we can fulfill our responsibility as a business to society. Therefore, within the DAIHEN Group, we want to use the environmental management systems (EMS) we built for the purpose of reshaping society for sustainable development, to hone our own sustainable development, first and foremost in the ways illustrated below.



Environmental initiatives: plans and results

The DAIHEN Group takes an organized approach to environmental protection that begins with a Voluntary Environmental Action Plan where we set medium- to long-range goals and targets. 2020 was the final year of our 6th such plan, which tasked 18 business sites in Japan and abroad with promoting activities under three common objectives — preventing global warming, reducing waste and controlling air pollution.

Targets for fiscal 2020 were based on the achievements we

made in fiscal 2019 and activities were spiritedly implemented on the divisional, office and plant level. All targets set forth in the plan were attained, as we steadfast improved our environmental performance record.

On the management side, we maintained our certifications under ISO 14001:2015 and promoted environmental contributions in cohort with suppliers.

We also continued helping customers reduce their CO₂ emissions by creating and marketing more green products.

Regarding our own CO₂ emissions and water consumption, both increased due to the scorching heat, but not to be beaten, offices and plants still made bold efforts to curb consumption.






















As waste reduction activities, we pushed recycling and recovery of reusable materials, and expanded use of our returnable steel shipping containers overseas.

As part of our efforts to prevent air pollution, we took measures to reduce emissions of harmful substances, such as

to switch to VOC-free paint.

For fiscal 2021, we are setting targets even higher and will be addressing risks and opportunities with an eye to weave environmental activities into our line of business as is required under ISO 14001:2015, and retooling our EMS to stay on top of whatever changes impact the environment.

The DAIHEN Group's 6th Voluntary Environmental Action Plan and fiscal 2020 results of initiatives

Corporate objective	Medium-term plan	Stage	Activities	Targets for fiscal 2020		Results of initiatives in fiscal 2020	Initiatives in fiscal 2020	Evaluated by DAIHEN	Related SDGs
Simultaneous contentment for all	—	Management	Improving environmental management systems (EMS)	Improve the EMS under ISO 14001:2015 requirements.		Maintained ISO 14001:2015 certifications	<ul style="list-style-type: none"> Internal audit: June 3 – July 30 Surveillance Audit: August 20 – October 8 → Registered maintained: November 26 Provided environmental information to employees and raised their awareness of environmental activities. 	○	  
			Green procurement	Promote green procurement with suppliers to broaden our environmental contribution. (Increase reply rate to survey on chemicals contained in products.)		Made ECODUCE a regular practice	<ul style="list-style-type: none"> Expanded scope of ECODUCE survey and made it a regular practice. 	○	
			Reducing environmental risk	Zero environmental accidents* (* An accident that causes environmental damage [soil, water quality, etc.] to DAIHEN or third parties, or seriously impacts the natural environment)		Zero environmental accidents	<ul style="list-style-type: none"> Conducted emergency response drills at all business offices and plants. Treated PCB equipment to render it harmless. 	○	
	Create value with products unique to DAIHEN	Products	Developing green products	Percentage of new products certified as “green” 90% or more		97.3% of new products “green” certified	<ul style="list-style-type: none"> Certified products ... Power Distribution: 8, Power Transformer: 3, Industrial Electric Equipment: 1, Welding Product: 9, FA Robot: 3, Plasma System: 4, Clean Robot: 8 Percentage of green products amongst new products: 97.3% (36 of 37 products) 	○	  
			Expanding green products and businesses	Percentage of all sales accounted for by green products/businesses 75% or more		77.2% of all sales accounted for by green products	<ul style="list-style-type: none"> [Total green products] Super Eco Products: 22, Eco Products: 342 Sales of green products 84,724 million yen / Sales of all products 109,777 million yen = 77.2% 	○	   
			Creating values that customers themselves recognize	Reduce CO ₂ emissions by 60,000 tons/year via green (energy-saving) products.		63,000 tons	<ul style="list-style-type: none"> Expansion of qualifying energy-saving products Contribution to CO₂ reduction 63,429 tons 	○	 
			Conversion of waste to valuable resources	Increase allowable recycled material content of products.		Tracked progress numerically	<ul style="list-style-type: none"> Numerically tracked product environmental impact using scoring sheet 	○	 
	Promote our Loss Cutting Initiative	Processes	Preventing global warming	Reduce CO ₂ emission intensity of business sites and in distribution by 1% from fiscal 2019 levels.		Reduced by 2.1%	<ul style="list-style-type: none"> Automated production and enhanced its efficiency Updated to LED lighting and power-saving equipment. CO₂ emissions intensity result: 0.138 t-CO₂/million yen FY 2020 target: 0.140 t-CO₂/million yen → Compared to FY 2019: 2.1% reduction Reference: Total CO₂ emissions: 20,030 t-CO₂ 	○	
			Preservation of biodiversity	<ul style="list-style-type: none"> Reduce water consumption intensity by 1% from fiscal 2019 levels. Promote efforts to preserve biodiversity at each business site. 		Reduced by 5.7%	<ul style="list-style-type: none"> Introduced cooling water recirculating system for inspections. Conducted cleanup activities around business sites and plants. Water consumption intensity result: 0.82 m³/million yen FY 2020 target: 0.86 m³/million yen → Compared to FY 2019: 5.7% reduction Reference: Water consumption: 118,726 m³ 	○	  
			Waste reduction	Reduce waste disposal intensity (reusable resources excluded) by 1% from fiscal 2019 levels.		Reduced by 3.0%	<ul style="list-style-type: none"> Increased and enforced sorting. Converted waste into valuable resources. Reduced wood waste. Used returnable shipping containers. Waste disposal intensity result: 6.21 kg/million yen FY 2020 target: 6.33 kg/million yen → Compared to FY 2019: 3.0% reduction Reference: Waste discharged (Excluding converted resources): 900.7 t 	○	  
			Air pollution control	Reduce PRTR substance emission intensity by 2% from fiscal 2018 levels.		Reduced by 27.4%	<ul style="list-style-type: none"> Changed to non-PRTR thinner. Use of organic substance dispersal prevention system. PRTR substance emission intensity result: : 0.53 kg/million yen FY 2020 target: 0.71 kg/million yen → Compared to FY 2018: 27.4% reduction Reference: Total atmospheric emissions: 77,380 kg 	◎	

The DAIHEN Group's 7th Voluntary Environmental Action Plan

We formulated our 7th Voluntary Environmental Action Plan with medium-term activity targets for 2021-2023 in the areas of "Management", "Products" and "Processes".

In the "Management" area, we will retool our environmental management systems so as to effectively merge them into business activities under ISO 14001:2015 requirements.

In the "Products" area, we will continue to create and supply environment-friendly products on axes of "Green Solutions" and "Tailored Solutions", and contribute to the fight against global warming and society as a whole with energy-saving (high-efficiency) products.

In the "Processes" area, we will take a global approach to protecting the environment by sharing the environmental and biodiversity conservation activities and results of our business sites in Japan to our overseas production sites.

With regards to prevention of global warming, we set our 2030 target at a 46% reduction in CO₂ emissions from our 2013 level with an eye to becoming carbon-neutral by 2050.

The DAIHEN Group will continue its social contributions to global environmental protection and will further speed up those activities to achieve "simultaneous contentment for all".

Fiscal 2021 targets in the DAIHEN Group's 7th Voluntary Environmental Action Plan

Corporate objective	Medium-term plan	Stage	Activities	Targets for fiscal 2021	Targets for fiscal 2022	Targets for fiscal 2023	Related SDGs
Simultaneous contentment for all	—	Management	Improving environmental management systems (EMS)	•Improve the EMS under ISO 14001:2015 requirements. •Prepare certification for new divisions.	•Improve the EMS under ISO 14001:2015 requirements. •Acquire certification for new divisions.	•Improve the EMS under ISO 14001:2015 requirements.	8, 12, 17
			Green procurement	Promote environmental activities with suppliers. Suppliers shall submit at least 1 improvement proposal to us.	Promote environmental activities with suppliers. Suppliers shall submit at least 1 improvement proposal to us.	Promote environmental activities with suppliers. Suppliers shall submit at least 1 improvement proposal to us.	8, 12, 17
			Reducing environmental risk	•Select employees for environmental education. •Provide training in energy management (e-learning).	•Provide training in industrial waste management (e-learning). •Provide training in environmental pollution prevention (e-learning).	•Provide training in chemical substance management (e-learning). •Provide training in water pollution prevention (e-learning).	8, 12, 17
	Create value with products unique to DAIHEN	Products	Expanding green products and businesses	Percentage of all sales accounted for by green products/businesses 78% or more ... Set environmental design targets for new products.	Percentage of all sales accounted for by green products/businesses 79% or more ... Set environmental design targets for new products.	Percentage of all sales accounted for by green products/businesses 80% or more ... Set environmental design targets for new products.	7, 8, 9, 11, 12, 13, 17
			Preventing global warming in supply chains (Scope 3)	•Identify CO ₂ emissions. •Set reduction target.	•Reduce CO ₂ emissions.	•Reduce CO ₂ emissions.	12, 13, 17
	Promote our Loss Cutting Initiative	Processes	Preventing global warming (Scope1+2)	•Reduce CO ₂ emission intensity by 2% from fiscal 2020 levels.	•Reduce CO ₂ emission intensity by 4% from fiscal 2020 levels.	•Reduce CO ₂ emission intensity by 6% from fiscal 2020 levels.	6, 8, 12, 13, 17
			Preservation of biodiversity	•Reduce water consumption intensity by 1% from fiscal 2020 levels. •Take actions to preserve biodiversity (at each business site).	•Reduce water consumption intensity by 2% from fiscal 2020 levels. •Take actions to preserve biodiversity (at each business site).	•Reduce water consumption intensity by 3% from fiscal 2020 levels. •Take actions to preserve biodiversity (at each business site).	6, 8, 12, 13, 14, 15, 17
			Waste reduction	Reduce waste disposal intensity by 1% from fiscal 2020 levels.	Reduce waste disposal intensity by 2% from fiscal 2020 levels.	Reduce waste disposal intensity by 3% from fiscal 2020 levels.	12, 13, 15, 17
			Air pollution control	Keep emissions of PRTR substances at or below fiscal 2020 levels.	Keep emissions of PRTR substances at or below fiscal 2020 levels.	Keep emissions of PRTR substances at or below fiscal 2020 levels.	17

Environmental preservation initiatives: policies and systems

In the DAIHEN Group, we base our Environmental Policy on a Basic Philosophy and Conduct Policy and implement activities to protect the environment from diverse angles, including building environmental management systems.

Basic Philosophy

Conduct Policy

The DAIHEN Group responds to the trust of society by developing technologies and providing products that place a value on people and resources under the DAIHEN corporate philosophy "Reliability & Creativity". The DAIHEN Group seeks to contribute to an abundant future and a healthy environment as a corporate group that fills a role as the popular choice of society.

In an effort to implement its basic philosophy, the DAIHEN Group will voluntarily adopt proactive global environmental conservation initiatives according to the following guidelines in all our business operations including power transmission and distribution products, welding machines, FA products, semiconductor equipment, dispersed power systems, and other products in the energy and power electronics field.

1 Reduce environmental impacts resulting from business operations.

We shall address the following initiatives by considering all steps encompassing product design, development, procurement, manufacturing, and distribution as well as product use and disposal.

- Promote energy-efficiency initiatives and take steps to help mitigate the risk of global warming.
- Promote resource conservation, waste reduction, and recycling.
- Reduce the environmental impact of the use of chemical substances.
- Offer green products.
- Promote green procurement.

2 Comply with laws and other requirements.

We shall comply with the relevant legal and environmental requirements and other requirements that we decide to adopt. We shall also adopt and administer voluntary management standards and implement pollution controls to prevent any occurrence of environmental pollution.

3 Establish environmental objectives and targets and periodically review them.

Each division of the DAIHEN Group shall establish environmental targets and promote environmental preservation initiatives. Moreover, each division shall periodically review its targets, and continually seek to improve its environmental management system in ways that ultimately enhance its environmental performance.

4 Raising environmental awareness

We shall enrich environmental education and deepen understanding of environmental policy among all who are working for or within organizations and seek to increase environmental awareness through initiatives intended to contribute to society.

5 Enhancing environmental public relations

We shall provide stakeholders with timely environmental information, collect a broad range of environmental data, review our environmental preservation initiatives, and transmit information in a clear manner.

Environmental Management System

The DAIHEN Group has established and implemented the DAIHEN Group Environmental Management System under the President & CEO of DAIHEN Corporation as the EMS Head Director and the Environmental Officer as the General Director Responsible for the Environment. The DAIHEN Group promotes a variety of environmental conservation initiatives through its business operations and according to its environmental policy.

The DAIHEN Group has established a system that supports environmental protection initiatives from two directions; each office and plant implements environmental conservation related to its business operations, and each division develops plans for eco-friendly products and services. The Eco Product Working Group and the DAIHEN Group Environmental Board Meeting, organizations under the auspices of the DAIHEN Group Environmental Committee, have been established in an effort to promote group-wide initiatives.

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Environmental Report

Promoting Environmental Management • Environmental preservation initiatives: policies and systems

Environmental management system

The DAIHEN Group has proactively established an effective environmental management system and continuously improves it in order to strengthen environmental management group-wide. We intend to continue promoting environmental preservation initiatives in the future.

Certification of ISO 14001 registration

We have established and implemented a group-wide environmental management system compatible with the ISO 14001 international standard as part of our environmental preservation initiative under our Environmental Policy. We are committed to continually reducing the impact of our business operations and products on the environment. In fiscal 2017, we transitioned our environmental management system to ISO 14001:2015.

○ Group Company sites that have acquired certification of ISO 14001 registration

Companies in Japan	
Company name	Site
DAIHEN Corporation	Head Office / Juso Business Office
DAIHEN Electric Machine Corporation	Rokko Business Office
DAIHEN System Corporation	Mie Business Office
DAIHEN Engineering Co., Ltd.	Chitose Plant
DAIHEN Techno Support Corporation	Kanehira Plant
DAIHEN Industrial Machinery Corporation	Tottori Plant
DAIHEN Technology Institute	Oita Plant
DAIHEN Stud Co., Ltd.	Matsudo Plant
DAIHOKU Industry Co., Ltd.	Eniwa Plant
Minami Electric Co., Ltd.	Kagawa Plant
DAIHEN Aomori Corporation	Hirosaki Plant
Companies outside Japan	
Company name	Country
OTC DAIHEN Asia Co., Ltd.	Thailand
DAIHEN Electric Co., Ltd.	Thailand
Mudanjiang OTC Welding Machines Co., Ltd.	China
OTC Industrial (Qingdao) Co., Ltd.	China
DAIHEN OTC (Beijing) Co., Ltd.	China
DAIHEN Korea Co., Ltd.	Korea

Environment-related incidents and complaints

We had zero environment-related accidents in fiscal 2020. We did receive the below two complaints, but they have been addressed and measures taken to ensure they do not reoccur.

○ Environment-related complaints received in fiscal 2020

Complaint	Location	Our response
The rooftop billboard on the shipping center was lit late into the night.	Juso Business Office	Changed the timer so as to turn off the billboard lights at 10 pm.
The rooftop ventilator fan on the employee hall was noisy.		Removed the rooftop ventilator fan and installed ventilator fans directly on rooms.

Environmental training and internal awareness initiatives

We provide wide-ranging environmental training in an effort to improve the environmental awareness of all employees, enable them to recognize their responsibilities, and translate their duties into action.

Expansion of environmental training opportunities

We provide varied levels of environmental training targeted at specific groups: all the Group employees; various employee segments such as new hires; and employees requiring specific expertise such as personnel undergoing internal audit training and personnel assigned environmental protection duties. Training materials and the relevant data used for various training courses are published on the company intranet and are used for training and for improvement of knowledge within divisions.

Publication of Eco News

The house journal Eco News is published periodically on the company intranet for all of our employees to read in order to raise the environmental awareness of our workforce.

Environmental cards distributed

We distributed a pocket card to all our Group employees and temporary workers that contains the text of “My Environmental Declaration” and lists our environmental policies and targets.

Internal environmental audits

We conducted internal audits of all 93 departments of the DAIHEN Group in 2020.

- The audits emphasized the following four points.
- 1) Whether or not environmental impacts resulting from changes in business activities or situations are sampled and assessed in a timely manner
 - 2) Whether or not legal requirements are properly understood and proper action has been taken in regards thereto.
 - 3) Whether or not proper training is being provided to successors.
 - 4) Whether or not environmental targets are being set according to one’s situation and with the likelihood of attaining “intended results”, and an environmental management program is being implemented and continuously improved.



2020 internal audit

Results of internal audit for fiscal 2020:
6 items identified (all corrective measures completed)

DAIHEN Group environmental accounting in fiscal 2020

As a group of manufacturers, the DAIHEN Group engages in an extensive range of environmental initiatives. We adopted environmental accounting because we believe that cost-benefit analysis supports effective and appropriate initiatives. We continue to allot sufficient funds where needed and engage in additional environmental initiatives by expanding the scope of application of environmental accounting.

Note: Environmental accounting is a tool that organizations such as businesses use to identify their environmental loads and the costs and effects of their environmental actions, in order to efficiently promote environmental protection actions.

● Elements of environmental accounting

Accounting period: Fiscal 2020 (April 1, 2020 to March 31, 2021)

Reporting workplaces:

Juso Business Office (including the head office), Rokko Business Office, Mie Business Office, Chitose Plant, Kanehira Plant of DAIHEN Corporation, DAIHEN Group production sites (Tottori Plant, Oita Plant, Matsudo Plant, Eniwa Plant, Hirosaki Plant, Kagawa Plant and Izumiotsu Plant)

Note: This report has been compiled according to the DAIHEN Group Environmental Accounting Guidelines. These guidelines are in conformity with the Environmental Reporting Guidelines published by the Ministry of the Environment, Japan.

○ Costs of environmental initiatives

- Costs are calculated by separating investment expenditures and expenses.
- Expenses include labor costs, but do not include depreciation.
- Costs including objectives (combined costs) excluding environmental costs are calculated proportionally by our criteria.

		(Millions of yen)	
Classification	Major initiatives	Investment	Expenses
Business area costs		60	124
Breakdown	1. Pollution control	5	22
	2. Global environmental preservation	55	54
	3. Resource recycling	0	48
Upstream and downstream costs	Green procurement promotion activities, etc.	0	2
Management activities	Management of environmental preservation organizations, environmental education, information disclosure, construction and maintenance of environmental management systems, etc.	1	71
R&D	Promotion of green products R&D, etc.	112	218
Community activities	Community environmental preservation initiatives, donations to environmental organizations, etc.	0	1
Environmental remediation	Environmental remediation cost, etc.	0	0
Miscellaneous	Participation in industry groups, information exchange meetings with affiliated companies, etc.	0	8
Total		173	424

○ Benefits of environmental initiatives

Classification	Item (unit)	FY 2019	FY 2020	Difference
Resource inputs	Total energy input (kL in crude oil equivalent)	7,550	7,782	-232
Global warming prevention	Greenhouse gas emissions (t-CO ₂)	13,509	13,944	-435
Waste reduction	Total waste and other emissions (t)	747	721	26
	Waste final disposal amount (t)	5	5	0
Air pollution control	Atmospheric emissions of VOCs (kg)	20,509	17,451	3,058

Economic benefits of environmental initiatives

○ Monetary benefits (Millions of yen)

Item	Details of effects	Amount
Income	Business income by sale of valuables resulted from business activities	26

○ Estimated effects (Millions of yen)

Item	Details of effects	Amount
Sale of green products	Power products Top-runner transformers, transformers for power companies, PV inverters, and other products	14,799
	Welding & Mechatronics products Energy-efficient, gas-saving, low-spatter welding machines, welding robots, and other products	4,683
	Semiconductor & FPD related products RF/microwave generators and matching units, wafer/glass substrate transfer clean robots and other products	5,502

Note: The above were calculated using the environmental preservation objectives ratio.

○ Estimated major (individual) effects (Thousands of yen)

Item	Details of effects	Amount
Energy conservation	Reduction in power consumption by updating to energy-efficient equipment	13,722
	Automation of fuse production	10,236
	Reduction in power consumption by replacing plant lighting with LEDs	4,741
Waste reduction	Waste reduction by changing the filter replacement procedure of the repair line coating booth	1,032
	Paperless ledgers by introducing RPA	751
	Sawdust reduction by changing forging oil	500
Water consumption reduction	Reduction in water consumption by improving maintenance method for large-class combined cycle tester	480

Note: Estimated benefits from the current year's investment and initiatives are appropriated as a five-year benefit because the benefits are longer term.

International environmental accounting

Accounting period: Fiscal 2020 (April 1, 2020 to March 31, 2021)

Reporting workplaces:

OTC DAIHEN Asia Co., Ltd. (Thailand)
DAIHEN Electric Co., Ltd. (Thailand)
Mudanjiang OTC Welding Machines Co., Ltd. (China)
OTC Industrial (Qingdao) Co., Ltd. (China)

○ Costs of environmental initiatives

Investment	¥0 million
Expenses	¥19 million

Note: Figures exclude labor costs and depreciation.

Prevention of global warming

Controlling CO₂ emissions

Plan

DAIHEN Group
(18 business sites)

Reduce CO₂ emission intensity
by **1%** from fiscal 2019 levels.

Do

We are determined to reduce CO₂ emissions at the 18 sites of the DAIHEN Group, including six plants at production sites outside Japan. For details, see "Introduction to initiatives of our business sites" below.

Introduction to initiatives of our business sites

- Replacing equipment with energy-saving products (LED lighting, air conditioning, reflow oven)
- Automation of production lines, efficient operation of equipment
- Operation of solar power systems
- Management and energy-saving of air conditioning



Solar power systems



Outer cylinder cap welding machine (Automated)

Check/Act

We reduced CO₂ emissions by 2.1% from last year by introducing low-energy equipment, automating production lines and following through with other planned actions. Our emissions are down 40.0% compared to fiscal 2010. In fiscal 2021, we will implement energy-saving measures and take steps in the fight against climate change with a target of reducing emissions by 2% or more from fiscal 2020 levels.

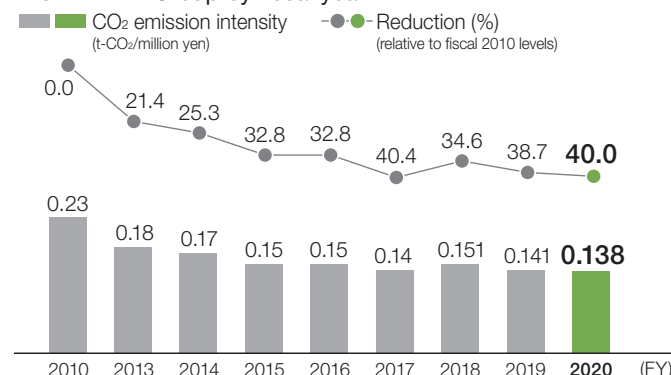
DAIHEN Group (18 business sites)

CO₂ emission intensity relative to fiscal 2019 levels

Reduced by **2.1%**
(Fiscal 2020 result: 0.138 t-CO₂/million yen)

Scope of calculation:
DAIHEN Corporation (Juso Business Office, Rokko Business Office, Mie Business Office, Chitose Plant, Kanehira Plant) and production sites of affiliated companies (Tottori Plant, Oita Plant, Matsudo Plant, Eniwa Plant, Hirosaki Plant, Kagawa Plant, and Izumiotsu Plant), and production sites outside Japan (Mudanjiang OTC Welding Machines Co., Ltd., OTC Industrial (Qingdao) Co., Ltd., OTC DAIHEN Asia Co., Ltd., DAIHEN Electric Co., Ltd., DAIHEN OTC (Beijing) Co., Ltd., DAIHEN Advanced Machinery (Changshu) Co., Ltd.)

CO₂ emission intensity and reduction rate of the DAIHEN Group by fiscal year



Waste reduction

Efficient use of resources

Plan

DAIHEN Group
(12 business sites in Japan)

Reduce waste disposal intensity
(reusable resources excluded)
by **1%** from fiscal 2019 levels.

Do

We are determined to reduce waste and use resources effectively at the 18 sites of the DAIHEN Group, including six plants at production sites outside Japan. For details, see "Introduction to initiatives of our business sites" at right.

Note: Every country overseas looks at waste processing differently, therefore the Plan and Check/Act data tabulated here are just for our 12 business sites in Japan.

Introduction to initiatives of our business sites

- Sorting of waste by material
- Use of steel cases, improvements in packaging methods
- Waste reduction by improving work efficiency and work standardization (Painting work improvement, equipment tuning, outsourcing, etc.)
- Use of returnable shipping containers for exports

Check/Act

We reduced waste by 3.0% from last year by sorting waste and conducting little activities at our business sites. In fiscal 2021, we will continue to address waste reduction with a target of reducing disposal by 1% or more from fiscal 2020 levels.

DAIHEN Group (12 business sites in Japan)

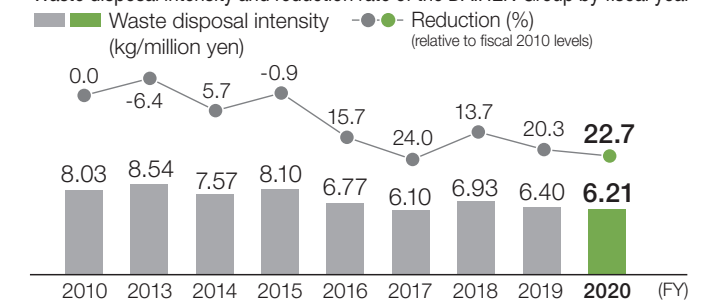
Waste disposal intensity relative to fiscal 2019 levels

Reduced by **3.0%**

(Waste disposal intensity in fiscal 2020: 6.21 kg/million yen)

Scope of calculation:
DAIHEN Corporation (Juso Business Office, Rokko Business Office, Mie Business Office, Chitose Plant, Kanehira Plant) and production sites of affiliated companies (Tottori Plant, Oita Plant, Matsudo Plant, Eniwa Plant, Hirosaki Plant, Kagawa Plant and Izumiotsu Plant)

Waste disposal intensity and reduction rate of the DAIHEN Group by fiscal year



Air pollution control

Management of chemical substances and control of emissions

Plan

DAIHEN Group
(18 business sites)

Reduce PRTR substance emission intensity
by **2%** from fiscal 2018 levels.

Do

We are working to reduce emissions of PRTR substances across the DAIHEN Group in Japan and overseas. For details, see "Introduction to initiatives of our business sites" at right.

Introduction to initiatives of our business sites

- Switched to VOC-free paint and thinner
- Reduced consumption through quality improvement
- Use of organic substance dispersal prevention system

Check/Act

We successfully reduced our emissions of PRTR substances by switching to VOC-free paint and thinner. In fiscal 2021, we will continue efforts with a target of not increasing emissions from fiscal 2020 levels.

DAIHEN Group (18 business sites)

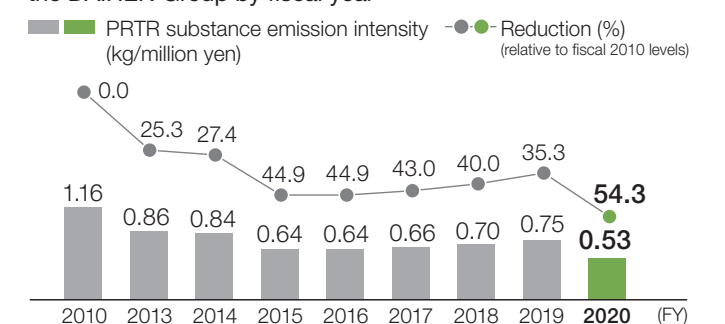
PRTR substance emission intensity relative to fiscal 2018 levels

Reduced by **27.4%**

(PRTR substance emission intensity in fiscal 2020: 0.53 kg/million yen)

Scope of calculation:
DAIHEN Corporation (Juso Business Office, Rokko Business Office, Mie Business Office, Chitose Plant, Kanehira Plant) and production sites of affiliated companies (Tottori Plant, Oita Plant, Matsudo Plant, Eniwa Plant, Hirosaki Plant, Kagawa Plant, and Izumiotsu Plant), and production sites outside Japan (Mudanjiang OTC Welding Machines Co., Ltd., OTC Industrial (Qingdao) Co., Ltd., OTC DAIHEN Asia Co., Ltd., DAIHEN Electric Co., Ltd., DAIHEN OTC (Beijing) Co., Ltd., DAIHEN Advanced Machinery (Changshu) Co., Ltd.)

PRTR substance emission intensity and reduction rate of the DAIHEN Group by fiscal year



The DAIHEN Group will continue to promote green procurement in order to control the use of chemical substances in our purchased parts and materials before we incorporate them in our products. For details, see "Green procurement initiatives" on page 32.

Preservation of biodiversity

Reduction of water consumption

Plan

DAIHEN Group
(18 business sites)

Reduce water consumption intensity
by **1%** from fiscal 2019 levels.

Do

We are engaged in reducing water consumption at 18 business sites of the DAIHEN Group including six plants at production sites outside Japan. For details, see "Introduction to initiatives of our business sites" at right.

Introduction to initiatives of our business sites

- Recycling chilled water for testing using a center chiller and cooling tower
- Adjustments to automatic plant watering systems
- Replacement of faucets

Check/Act

Water consumption was reduced by 5.7% from the previous year by introducing a cooling water recycling system for testing and implementing water-saving activities at each of the business sites. Compared to fiscal 2010 levels, it was a 53.4% reduction. In fiscal 2021, we will continue efforts with a target of reducing water consumption by 1% or more from fiscal 2020 levels.

DAIHEN Group (18 business sites)

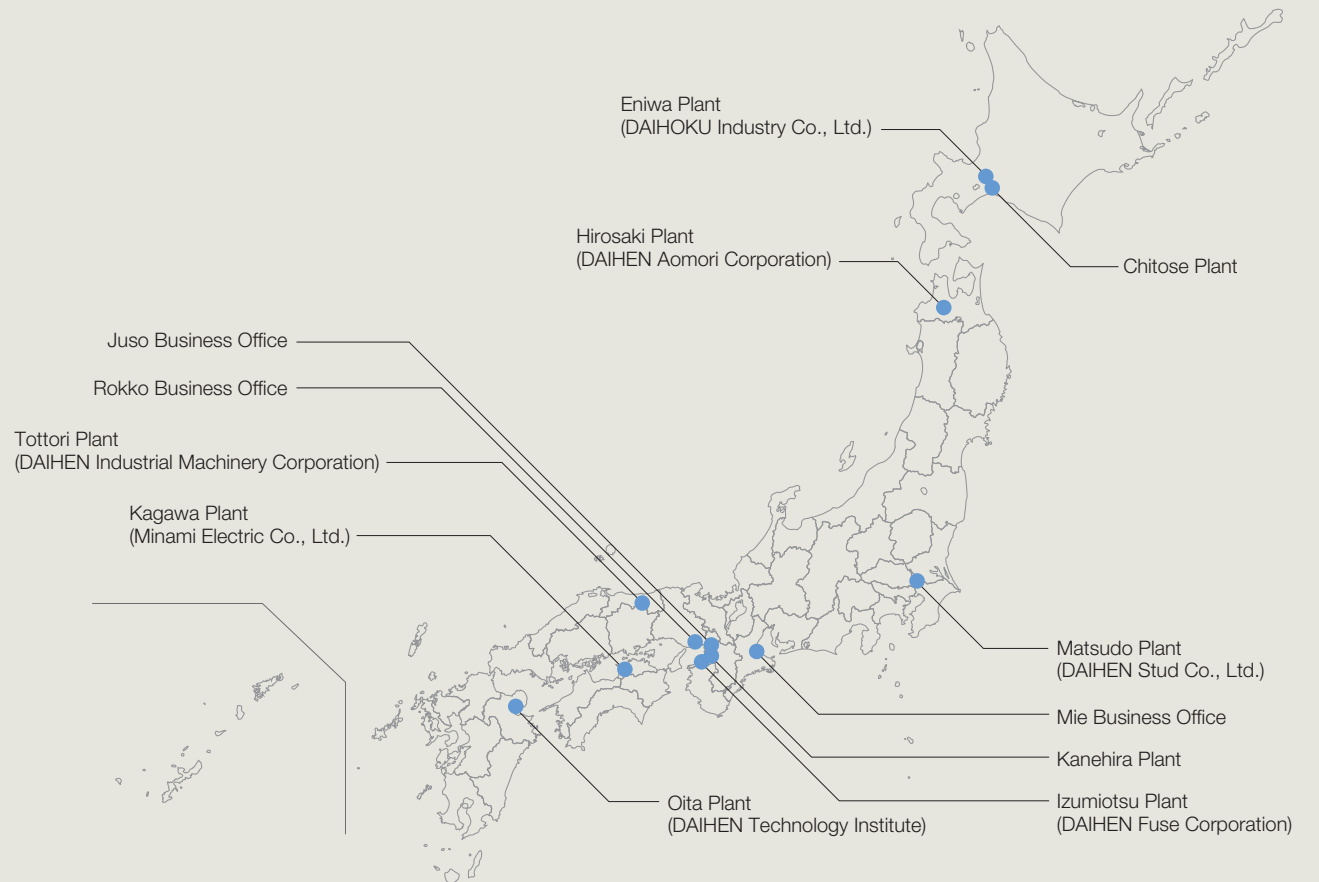
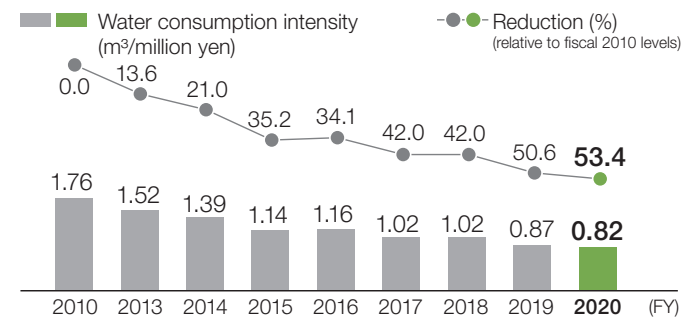
Water consumption intensity
relative to fiscal 2019 levels

Reduced by **5.7%**

(Water consumption intensity in fiscal 2020: 0.82 m³/million yen)

Scope of calculation:
DAIHEN Corporation (Juso Business Office, Rokko Business Office, Mie Business Office, Chitose Plant, Kanehira Plant) and production sites of affiliated companies (Tottori Plant, Oita Plant, Matsudo Plant, Eniwa Plant, Hirosaki Plant, Kagawa Plant, and Izumiotsu Plant), and production sites outside Japan (Mudanjiang OTC Welding Machines Co., Ltd., OTC Industrial (Qingdao) Co., Ltd., OTC DAIHEN Asia Co., Ltd., DAIHEN Electric Co., Ltd., DAIHEN OTC (Beijing) Co., Ltd., DAIHEN Advanced Machinery (Changshu) Co., Ltd.)

Water consumption intensity and reduction rate of the DAIHEN Group by fiscal year



Environmental Preservation Initiatives of Major Business Sites

This section introduces the environmental protection activities of business sites that have acquired ISO 14001 certification.

Environmental Preservation Initiatives of Our Business Offices/Plants Environmental impact data for fiscal 2020 51 – 54

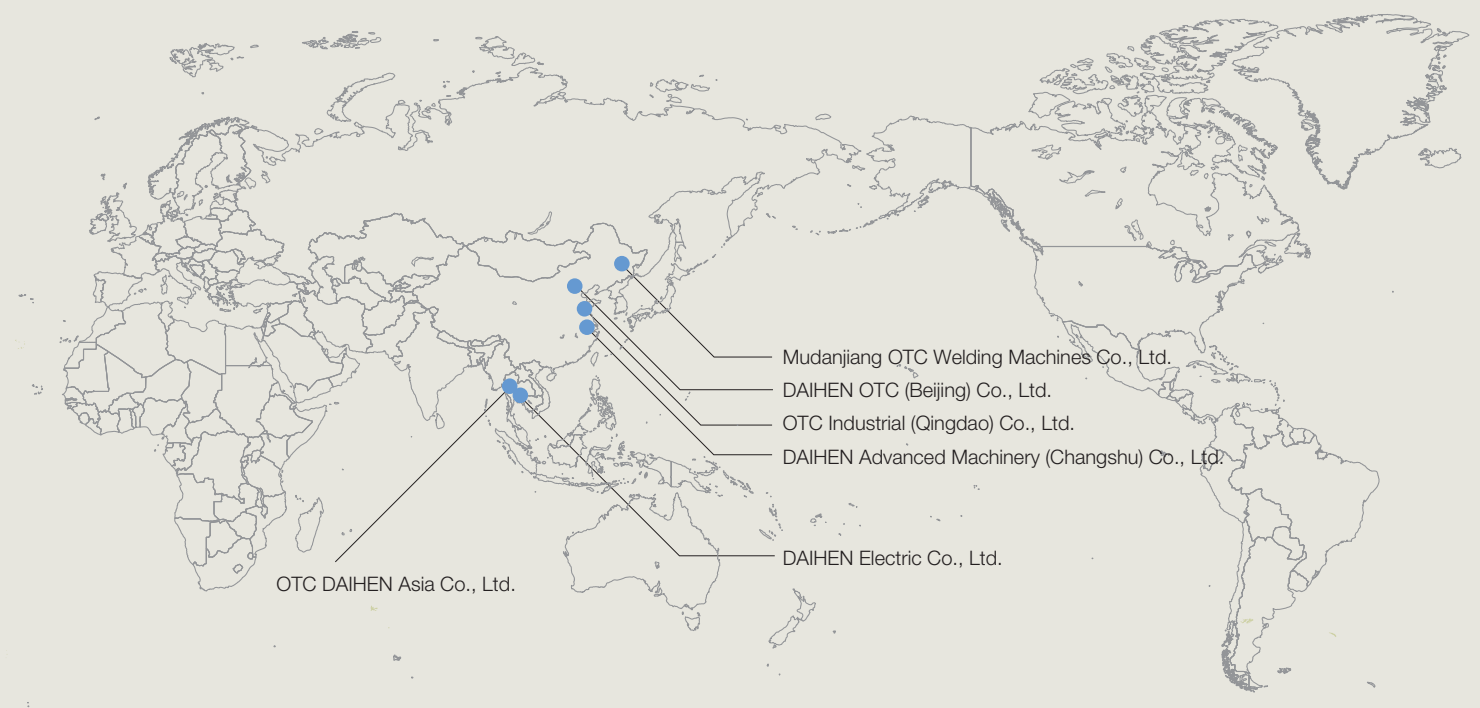
Environmental Preservation Initiatives of Plants Outside Japan Initiatives in fiscal 2020 55 – 56

JHEP* certification for the DAIHEN Forest

When the head office building was built in Juso, we had the green tract next to the main gate certified by JHEP as the "DAIHEN Forest". We renewed our certification in June 2021 and received a "AA" rating. The AA rating was awarded because of the indigenous species of zelkova, blue oak, kurogane holly, bushkiller and lilyturf, and the "tranquility" preserved around the central oak tree on the southern side.



* Short for the Japan Habitat Evaluation and Certification Program, JHEP is the only certification system in Japan to quantitatively evaluate and certify efforts that improve biodiversity value. It was created in 2008 by the Ecosystem Conservation Society, Japan by adapting a similar system developed by the US government to Japan.



Environmental Preservation Initiatives of Our Business Offices/Plants Environmental impact data for fiscal 2020

Juso Business Office

Location: 2-1-11 Tagawa, Yodogawa-ku, Osaka 532-8512 Japan

Principal business: Corporate headquarters; planning, development and production of compact transformers, plasma generators for semiconductor manufacturing, and more

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	8.3	6.3	7.28	20	SS	600	110	<1	12.4	20
BOD	600	100	<1	13.75	20	Oil	Mineral oil: 5, animal & veg. oil: 30	16	<1	7.9	20

Numerical data on discharge of animal and vegetable oils (limited to 30) applies to the Juso Business Office.

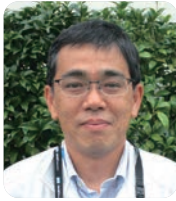
○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released	Amount transferred		
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	53	Ethylbenzene	4.5	4.5	—	—	—
	80	Xylene	8.9	8.9	—	—	—
	186	Dichloromethane	240.8	240.8	—	—	—
	265	Tetrahydromethylphthalic anhydride	9261	—	—	—	9261
	296	1,2,4-trimethylbenzene	3	3	—	—	—
	297	1,3,5-trimethylbenzene	2.6	2.6	—	—	—
	300	Toluene	291	291	—	—	—
	349	Phenol	6.2	6.2	—	—	—
	384	1-Bromopropane	352	35.2	—	316.8	—
Specific Class 1	411	Formaldehyde	1.5	1.5	—	—	—

At the Juso Business Office, we set out to reduce our power consumption, waste disposal and water usage as targets of our environmental management program and attained all targets in 2020.

Regarding power consumption, we achieved our reduction target by efficiently operating our drying ovens, annealing furnaces and other high-usage equipment that consumes a lot of electrical power, and changed office lighting to LEDs. As for water usage, we were able to reroute and reuse cooling water for product development and testing thanks to a chiller unit we introduced in 2019 and, resultingly, reduced our water consumption to well below the targeted level.

For 2021 and beyond, we have set high targets: a 2% reduction in power consumption and 1% reductions in waste disposal and water usage from the previous year's levels. Nonetheless, everyone at the Juso Business Office is committed more than ever to our environmental load reduction activities.



Atsushi Ideue
Manufacturing Dept.
Power Distribution System Div.

Rokko Business Office

Location: 4-1 Koyo-cho-nishi, Higashinada-ku, Kobe-shi, Hyogo 658-0033 Japan

Principal business: Planning, development and production of arc welding machines, resistance welding machines, welding torches, industrial robots, automatic welding systems and clean robots

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	9	6.8	7.55	6	SS	600	429	64	229.2	6
BOD	600	430	96	264.7	6	Oil	Mineral oil: 5, animal & veg. oil: 30	30.8	9.5	20.55	6

Numerical data on discharge of animal and vegetable oils (limited to 30) applies to the Rokko Business Office.

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released	Amount transferred		
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	53	Ethylbenzene	293.3	249.4	—	43.9	—
	80	Xylene	327.9	278.7	—	49.2	—
	300	Toluene	40.4	34.3	—	6.1	—

In 2020, we undertook efforts to reduce our CO₂ emissions and waste disposal.

Regarding our CO₂ emissions, we attained our environmental target by sequentially changing out lighting with LED fixtures, replacing air-conditioning compressors and installing high-efficiency air-conditioning controllers. With waste disposal, we attained our environmental target by introducing steel cases for packaging for overseas plants, which was also intended to stabilize supply, and took steps to reduce large wood packaging materials that came with imports. With regards to air pollution, we greatly reduced our emissions of PRTR substances by using an alternative cleaning agent to HCFC-225 for degreasing and washing prior to painting, and managing that on a daily basis. Therefore, we no longer need to report our PRTR emissions to the Ministry of Economy, Trade and Industry.

In 2021, we will be looking to reduce our power consumption and, in the process, reduce our CO₂ emissions by continuing to replace lighting with LEDs, replacing old air-conditioning equipment, and more.



Eiji Kawai
General & Judicial Affairs Dept.

Mie Business Office

Location: 800 Higashi-ikebe, Taki-cho, Taki-gun, Mie 519-2155 Japan

Principal business: Planning, development, design, production and servicing of large transformers and voltage regulators

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	7.6	6.9	7.2	2	SS	600	35	<0.5	16.35	2
BOD	600	61	10	18.35	2	Oil	Mineral oil: 5, animal & veg. oil: 30	<1	<0.5	<0.5	2

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released	Amount transferred		
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	53	Ethylbenzene	145.2	145.2	—	—	—
	80	Xylene	771.7	771.7	—	—	—
	83	Cumene	2.6	2.6	—	—	—
	296	1,2,4-trimethylbenzene	90.3	90.3	—	—	—
	297	1,3,5-trimethylbenzene	20.1	20.1	—	—	—
	300	Toluene	807.1	807.1	—	—	—
	349	Phenol	48	—	—	—	0.1
	392	n-hexane	9.9	9.9	—	—	—

At the Mie Business Office, we organized ourselves to meet our CO₂ emissions reduction target by cutting back on our power consumption. This included various activities such as choosing energy-efficient models when replacing production equipment and continuing last year's efforts to replace lighting fixtures with LEDs. Moreover, since revisions to transformer standards decreased the number of test items required of customer models, with the cooperation of our customers, we reduced the number of test items by classifying one-off transformers by model, which had the added effect of reducing power consumption.

To reduce VOC emissions, we took steps to cut down on our use of PRTR substances. Using a PRTR-compatible thinner that was introduced last year, we reduced the amount of toluene we use, so in 2020, we saw good results right from the beginning of the year and eventually a 40% reduction from 2018.

Going forward, we will launch new EMS activities while continuing those that are currently effective, as well as create environment-friendly products.



Naoya Yamaguchi
Quality Control Dept.
Power Transformer Div.

Chitose Plant

Location: 770-7 Kitashinano, Chitose-shi, Hokkaido 066-0075 Japan

Principal business: Production and servicing of transformers for power distribution

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	7.6	6.7	7.1	2	SS	600	7	<1	3.5	2
BOD	600	190	<1	49.35	2	Oil	Mineral oil: 5, animal & veg. oil: 30	<1	<1	<1	2

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released	Amount transferred		
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	53	Ethylbenzene	1.74	1.74	—	—	—
	80	Xylene	2.79	2.79	—	—	—
	132	Cobalt and its compounds	1.599	—	—	—	1.599
	186	Dichloromethane	190.65	190.65	—	—	—
	297	1,3,5-trimethylbenzene	9.06	9.06	—	—	—
	300	Toluene	6.86	6.86	—	—	—
	349	Phenol	36	36	—	—	—
	354	Di-n-butyl phthalate	0.59	0.59	—	—	—
	413	Phthalic anhydride	0.043	0.043	—	—	—

At the Chitose Plant, in addition to making power distribution equipment like pole-mounted transformers and SVRs for power companies, we also service pole-mounted transformers.

Within our environmental protection activities for 2020, the Quality Control Department worked on reducing CO₂ and waste.

First of all, to reduce CO₂ emissions, we cut down on product test time and test cycles by testing same model products that could be tested at the same conditions together, which helped to reduce power consumption. And, during the cold weather season, we carefully managed heating temperature in order to use less power, which translated into CO₂ reductions.

With regards to waste, we reduced the amount of paper we use by going paperless where possible and printing documents we keep in-house on both sides, which reduced waste.

In the future, we will look to eliminate any wasteful consumption of power and switch to tablets to further our paperless trajectory, so as to continue to reduce CO₂ and waste.



Susumu Takagi
Chitose Plant, Quality Control Dept.
Power Distribution System Div.

Kanehira Plant

Location: 6-2-10 Noda, Fukushima-ku, Osaka 553-0005 Japan

Principal business: Servicing of pole-mounted transformers for power distribution

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	7.4	6.5	7.09	50	SS	600	4	<1	1.92	12
BOD	600	29	<1	4.42	12	Oil	Mineral oil: 5, animal & veg. oil: 30	5	<1	1.06	72

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released	Amount transferred		
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	53	Ethylbenzene	141.8	101.5	—	—	—
	80	Xylene	747.9	537.7	—	—	—
	300	Toluene	16.1	10.9	—	—	—
	349	Phenol	4	4	—	—	—

At the Kanehira Plant, we service pole-mounted transformers at the request of power companies, or, in other words, we are a transformer refurbishing plant.

In 2020, we started manufacturing transformers for private demand, so we have been reducing waste by reusing the packaging materials and pallets that have come with that. We also have cut down on paper consumption by going paperless with our paperwork.

This year, we are working with customers on building an effective parts and resources recycling program under the theme of “building a pole-mounted transformer recycling business model”. The idea is to select reusable parts from transformers at the end of their service-life and reuse them for refurbished transformers.

Our environmental mission at the Kanehira Plant is to contribute in any way we can.



Kakeru Nakano
Planning Dept.
Power Distribution System Div.

Tottori Plant (DAIHEN Industrial Machinery Corporation)

Location: 1041 Azo, Mochigase-cho, Tottori-shi, Tottori 689-1227 Japan

Principal business: Production of welding machines, control system equipment, RF generators for semiconductor manufacturing, and power conditioners for solar power systems

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	8.2	6.8	7.5	4	SS	600	3.3	<1	1.58	4
BOD	600	2	<0.5	1.3	4	Oil	Mineral oil: 5, animal & veg. oil: 30	<0.5	<0.5	<0.5	4

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released	Amount transferred		
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	53	Ethylbenzene	6.162	6.162	—	—	—
	80	Xylene	6.884	6.884	—	—	—
	82	Silver and its water-soluble compounds	8.4037	—	—	8.4037	—
	151	1,3-dioxolane	2	2	—	—	—
	296	1,2,4-trimethylbenzene	31.1	31.1	—	—	—
	297	1,3,5-trimethylbenzene	12.5	12.5	—	—	—
	300	Toluene	101.36	101.36	—	—	—
	302	Naphthalene	19.9	19.9	—	—	—
	392	n-hexane	0.94	0.94	—	—	—
	Specific Class 1	305	Lead compounds	538.609	—	—	215.4836

At the Tottori Plant, we set a CO₂ reduction target of 1% (9.7 t) of the emission levels in 2019 and worked hard in the Business Department particularly to eliminate all kerosene from the wooden Azo factory building.

The kerosene heaters and hot water heaters had been installed at the Azo factory building decades ago and had been used all this time despite their high environmental load, but we replaced the old heaters with air-conditioners of comparatively low CO₂ emissions. We then replaced the hot water heaters with electric models, ultimately getting rid of all kerosene in the Azo factory building. This reduced our kerosene consumption by about 450 L (1120.05 kg CO₂ emissions) a year.

Moreover, because we stopped using kerosene all together, there have been big benefits in terms of safety and the work environment, as it has eliminated the risk of leaks, fires, etc.

Looking ahead, we want to replace the kerosene coolers that remain, in order to further reduce our CO₂ emissions, and are fully committed to efforts we can make as a company to help wean society off carbon-based fuels.



Kaito Nakashima
Business Dept.

Environmental Preservation Initiatives of Our Business Offices/Plants Environmental impact data for fiscal 2020

Oita Plant (DAIHEN Technology Institute)

Location: 1660-7 Mizoi, Kitsuki-shi, Oita 873-0025 Japan

Principal business:

Development, production and servicing of clean transfer equipment for semiconductor manufacturing; software development for arc welding robots

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.
pH	5.0-9.0	7	6	7	12
BOD	600	9.5	1.2	3.8	12
SS	600	18	<1	6.1	12
Oil	Mineral oil: 5, animal & veg. oil: 30	No measured result for fiscal 2020			

Oita Plant did not handle any substances subject to the PRTR Law.

The Manufacturing Department at the Oita Plant undertook reducing CO₂ emissions as our main environmental protection activity. More specifically, we did the following.

- ① Reduced the number of process steps by introducing an automatic system for inspecting our clean transfer robots.
- ② Reduced power consumption by shutting down clean room systems during long holidays.

By introducing the automatic inspection system in ①, we shortened inspections by two hours per table, while, by shutting down clean room systems as stated in ②, we reduced power consumption by 168 kWh per day. Through these efforts, we attained our environmental target of reducing CO₂ emissions by 1% from the previous year's level.

Going forward, we will continue to make a concerted effort to promote environmental protection activities as we strive to be an environment-friendly plant.



Junji Otsuka
Manufacturing Dept.

Matsudo Plant (DAIHEN Stud Co., Ltd.)

Location: 6-8-12 Minoridai, Matsudo-shi, Chiba 270-2231 Japan

Principal business:

Design, production and sale of welding materials and services

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.
pH	5.0-9.0	7.05	6.7	6.875	2
BOD	600	19.8	18.3	19.05	2
SS	600	28.9	17	22.95	2
Oil	Mineral oil: 5, animal & veg. oil: 30	<1	<1	<1	2

Matsudo Plant did not handle any substances subject to the PRTR Law.

The Matsudo Plant comprises the Eastern Japan Sales Department and a stud bolt manufacturing plant, both of which are engaged in reducing CO₂ emissions.

In 2020, the Eastern Japan Sales Department undertook environmental activities with the target of selling seven large-class, environment-friendly welding machines (MRN-25003 Ⅲ). We pushed the machine's energy efficiency with customers and dealers, and achieved our sales target. Moreover, we tried reducing our power consumption by cutting back on elevator, lighting and air-conditioning use.

At the plant, electricity usage was cut back by introducing a 2D measuring system that reduced the number of process steps, which contributed to a reduction in CO₂. Moreover, by changing former oil, the frequency that sawdust needed replacing was reduced, which reduced waste disposal by about 2 ton/year.

We are very eager to pursue more environmental protection activities going forward.



Tamotsu Higashi
Eastern Japan Sales Dept.

Eniwa Plant (DAIHOKU Industry Co., Ltd.)

Location: 347-11 Toiso, Eniwa-shi, Hokkaido 061-1405 Japan

Principal business: Manufacture, painting and surfacing of transformer casings and sheet metal

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	7	6.6	6.8	3	SS	600	6	2	3	3
BOD	600	34	16	21	3	Oil	Mineral oil: 5, animal & veg. oil: 30	5	2	2.75	3

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released		Amount transferred	
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	1	Water-soluble zinc compounds	480	—	—	480	—
	7	n-butyl acrylate	8.4	8.4	—	—	—
	30	Linear alkylbenzene sulfonic acid	6.8	—	—	6.8	—
	53	Ethylbenzene	294.2	294.2	—	—	—
	71	Ferric chloride	5809.1	—	—	5809.1	—
	80	Xylene	1464.9	1464.9	—	—	—
	132	Cobalt and its compounds	4	—	—	—	4
	239	Organic tin compounds	212	—	—	42.4	169.6
	240	Styrene	10.7	10.7	—	—	—
	275	Sodium dodecyl sulfate	0.9	—	—	0.9	—
	296	1,2,4-trimethylbenzene	1.7	1.7	—	—	—
	297	1,3,5-trimethylbenzene	154.3	154.3	—	—	—
	300	Toluene	387.8	387.8	—	—	—
	302	Naphthalene	10.9	10.9	—	—	—
	349	Phenol	1.7	1.7	—	—	—
	354	Di-n-butyl phthalate	8.4	8.4	—	—	—
	405	Boron compounds	60	—	—	60	—
	407	Poly (oxyethylene) alkyl ether (alkyl C=12-15)	73.7	—	—	73.7	—
	409	Sodium poly (oxyethylene) dodecyl ether sulfate	3.7	—	—	3.7	—
	412	Manganese and its compounds	120	—	—	120	—
	420	Methyl methacrylate	8.4	8.4	—	—	—
	309	Nickel compounds	60	—	—	60	—
Specific Class 1	411	Formaldehyde	28.8	28.8	—	—	—

The Eniwa Plant mainly manufactures and paints the outer casings for pole-mounted transformers. I am in charge of the bushing and tap die assembly area.

As a plant, we set targets to reduce CO₂ and PRTR substance emissions. We achieved our CO₂ emissions reduction target by shortening work time, which we did by introducing synchronized feed welding machines, shortening setup time, optimizing process and material storage layout and replacing molds, and by continuing to turn off unnecessary lighting and limiting use of air-conditioning and heating. Also, with PRTR substances, we attained our emissions reduction target by reducing paint consumption as part of a quality improvement activity.

In my workplace, we do soldering and gluing work, which causes fumes and vapors, but we have been making improvements to the work environment for some time by introducing fume collectors and optimizing ventilators.

Going forward, we will continue to look for ways to reduce CO₂ and PRTR substance emissions, and to separate and reduce waste.



Naoto Ura
Manufacturing Section

Hirosaki Plant (DAIHEN Aomori Corporation)

Location: 1-5-1 Iwaka, Hirosaki-shi, Aomori 036-8073 Japan

Principal business: Manufacture of fuses and power distribution equipment

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	7.6	7.3	7.45	2	SS	600	5	4	4.5	2
BOD	600	4.5	3.9	4.2	2	Oil	Mineral oil: 5, animal & veg. oil: 30	3.4	<0.5	1.525	7

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released		Amount transferred	
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	80	Xylene	0.21	0.21	—	—	—
	134	Vinyl acetate	0.45	0.45	—	—	—
	186	Dichloromethane	55.38	55.38	—	—	—
	300	Toluene	349.87	349.87	—	—	—
	405	Boron compounds	192.2	—	—	0.58	191.62

In 2020, we took various steps to reduce our CO₂ emissions, centered around automating manufacturing processes. This included introducing two sheath wrapping machines in order to increase turnout and remodeling equipment used for water repellant processing and drying in order to improve production capacity, which shortened overtime work and reduced energy consumption of the plant as a whole. We attained our power consumption reduction target by installing double-pane windows in the last remaining locations of plants and offices.

In 2021, we will continue to automate our manufacturing processes and, since our newly built North Factory will commence full-scale operations for the launch of a new optical unit slave station, we will be



watching the work floor and equipment closely after mass-production starts and conducting activities to reduce power consumption and protect the environment in other ways.

Megumi Miura
Administration

Kagawa Plant (Minami Electric Co., Ltd.)

Location: 15 Nishi-minatomachi, Tadotsu-cho, Nakatado-gun, Kagawa 764-0017 Japan

Principal business: Manufacture, painting and surfacing of transformer casings and sheet metal

○ Quality measurements of drainage water (mg/L except pH)

Item	Plant's regulated compliance value	Track record				Item	Plant's regulated compliance value	Track record			
		Max	Min	Average	No. of meas.			Max	Min	Average	No. of meas.
pH	5.0-9.0	7.1	6.4	6.9	12	SS	600	47	3	16	12
BOD	600	170	7.3	79.25	12	Oil	Mineral oil: 5, animal & veg. oil: 30	6.4	1.2	3	12

○ Amounts of substances subject to the PRTR Law handled, released or transferred (kg/year)

Category	Substance number	Substance for inspection	Amount handled	Amount released		Amount transferred	
				Into atmosphere	Into sewage system	As refuse	Used in products etc.
Class 1	1	Water-soluble zinc compounds	722.2	—	—	—	722.2
	53	Ethylbenzene	2502.9	2502.9	—	—	—
	80	Xylene	3004.5	3004.5	—	—	—
	235	Water-soluble salts of bromic acid	18	—	—	18	—
	296	1,2,4-trimethylbenzene	655.1	655.1	—	—	—
	297	1,3,5-trimethylbenzene	127.5	127.5	—	—	—
	300	Toluene	2002.7	2002.7	—	—	—
	302	Naphthalene	154.3	154.3	—	—	—
	354	Di-n-butyl phthalate	0.3	0.3	—	—	—
	405	Boron compounds	120	—	—	25	95
	407	Poly (oxyethylene) alkyl ether (alkyl C=12-15)	195.8	195.8	—	—	—
	410	Poly (oxyethylene) nonylphenol ether	0.9	0.9	—	—	—
	412	Manganese and its compounds	36	—	—	—	36
	309	Nickel compounds	45.7	—	—	—	45.7
	411	Formaldehyde	1.6	1.6	—	—	—

At the Kagawa Plant, we manufacture and paint a variety of transformer casings. Like last year, in 2020, we took steps to reduce CO₂ emissions, VOC emissions and waste, and attained targets for all three.

With VOC emissions, we made a graph of last year's emissions and posted it for all to see. Visualizing it made everyone aware of our target and got everyone involved in reaching it.

To further reduce VOC emissions this year, we plan to use cation paints and switch to spray guns that more efficiently apply paint to casting. Moreover, starting in fiscal 2021, we will be trying to reduce our water consumption and attain targets for that.

Going forward, we will be pursuing environmental protection activities as a workforce so that we can make real contributions to the environment.



Hiroki Fujita
Manufacturing Dept.

Environmental Preservation Initiatives of Plants Outside Japan Initiatives in fiscal 2020

Mudanjiang OTC Welding Machines Co., Ltd.

Location: No.18 Xingye Road, Yangming, Mudanjiang,
Heilongjiang 157013 China

Principal business: Manufacture of welding machines and parts, etc.



Waste water treatment unit

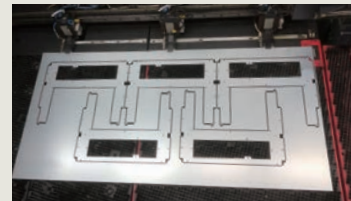


Automatic painting line

Environmental protection is being prioritized around the world as advanced means are being used to prevent pollution in every field. Our pretreatment processing prior to painting products is divided into degreasing, vitrification and washing, all of which generate wastewater, which we filter through a water treatment unit before release. Though not as bad as heavy metals, the large quantity of sludge we generate seriously impacts ecosystems and natural environments, therefore we have it detoxicated by a professional handler. Before, since we did not have a dewatering unit, we had to separately dry the sludge before consigning it to the handler. And, because of the high water content, we generated about 1,300 kg of sludge a year, but, in 2020, we introduced dewatering equipment that compacts the sludge into processable cakes, thus reducing pollutants to about 800 kg. Going forward, we, as a company, will stand by our environmental protection principles and continuously innovate so that the waters nearby are cleaner, the mountains greener and the sky bluer.

**Tan Wujun**
Production Engineering Dept.

OTC Industrial (Qingdao) Co., Ltd.

Location: 588 Sanjiang Road Economic & Technical
Development Area, Qingdao 266555 ChinaPrincipal business: Manufacture of welding machines and parts,
RF generators, etc.Before introducing
software
(Plate size: 1,000 ×
2,000 mm)After introducing software
(Plate size: 1,250 × 2,500 mm)

At OTC Industrial (Qingdao), we introduced automatic work layout software for our turret punching press in September 2020. Before that, we fit one work on one steel sheet, so, depending on the shape of the workpiece, a lot of material was wasted. But, after introducing the software, workpieces of complicated shape were optimally laid out, so we were able to use sheets more efficiently and reduce the amount of wasted material. Moreover, we switched from 1 × 2 m steel sheets to 1.25 × 2.5 m sheets, which was more efficient and allowed us to use less sheets.

By introducing the automatic layout software and switching to a larger sheet, we reduced the amount of steel sheet we used by 30 ton a year (monthly average of 8%). 33.5 ton of CO₂ are generated to produce 30 ton of steel, therefore we are now making a 33.5 ton contribution to our CO₂ emissions reduction every year.

**Huang Zhenzhong**
Manufacturing Dept.

We want to continue searching for more efficient and less environmentally stressful ways to manufacture products.

OTC DAIHEN Asia Co., Ltd.

Location: 60/86 Moo19, Navanakorn Industrial Estate Phase 3, Tambol
Klongnueng Amphur Klongluang, Pathumthani 12120 ThailandPrincipal business: Manufacture and sale of welding machines, cutting
machines and parts in Southeast Asia, Oceania and IndiaNew indoor air-conditioning
unit

New outdoor air-conditioning unit

Our company is located 50 km north of the Thai capital of Bangkok and makes everything from parts to products for welding/plasma cutting torches, robot peripherals and more. The 18 air-conditioners in our factory had been introduced 13 years ago and we figured it was possible to significantly reduce our electricity bill and servicing costs if we would replace them with the latest high-efficiency models. So, this time around, we replaced three of the nine on the south side of the factory where our important production lines are concentrated. This reduced our power consumption by 58,900 kWh a year, which equated to 236,000 THB (approx. 800,000 JPY).

In line with the Environmental Policy of the DAIHEN Group, OTC DAIHEN Asia will strive to raise the environmental awareness of all departments, reduce plant power consumption and improve the workplace environment.

**Benyapa Kanme**
Project Department

DAIHEN Electric Co., Ltd.

Location: 258/259 Moo 6 Thamboon Thasa-an, Bangpakong Chachoengsao,
24130 ThailandPrincipal business: Manufacture and sale of power transformers in
ThailandTransformer casing
during paint drying
processTransformer base during paint drying
process

Sawadee Krap. We are the first company in Thailand to produce large-class power transformers. We are contributing to society by supplying products to power companies in Thailand and other customers around the world. And, since we belong to a corporate group that promotes SDGs, this year, we undertook efforts to reduce emissions of PRTR substances as this prevents air pollution.

At the plant, we paint the steel structural components of transformers. While the paint dries, PRTR substances in the paint volatilize into the atmosphere. Improving the thinner offered the prospect of reducing these emissions, so we launched an improvement activity. Every time we changed the formula, we had to verify the quality, which was a lengthy process, but after lots of trial and



error, we developed a PRTR-free thinner that offered the same, if not better, coating performance as our earlier thinner. Using it, we reduced our PRTR emissions by over 20% from 2018 levels.

As we move forward, we will continue making creative efforts to reduce our environmental loads.

Kawee Jancharoen
Manufacturing Department

DAIHEN OTC (Beijing) Co., Ltd.

Location: No. 5, Leyuan South 2nd Road, Yangi Economic
Development Zone, Beijing 101407 ChinaPrincipal business: Manufacture and sale of pad-mounted transformers
in China

Steam flow regulator



Sprinkler

Concern over climate change and biodiversity loss is rapidly growing in China. That concern set the stage for DAIHEN Beijing to proactively undertake efforts to reduce our power and water consumption.

We reduced our power consumption by 5% from the previous year by continuing to replace lighting fixtures with LEDs, carefully managing air-conditioning temperature settings and operating our drying ovens more efficiently. Also, since we use steam for heating in winter, we adjusted steam supply according to outdoor temperature, improved the sealing of doors and windows, and shortened heating periods, which enabled us to cut back our steam consumption by about 1% from the previous year. This is now the third year in a row that we have reduced our consumption.

As for our water consumption, we lowered the water pressure of non-business-use water, more efficiently used water for water-tightness tests and adjusted the frequency of our sprinkler system that we use for greening, which resulted in about an 8% reduction in water consumption from the same time a year ago.

**Xiao Wei**
General Affairs Dept.

DAIHEN Advanced Machinery (Changshu) Co., Ltd.

Location: No.17 Maqio Factory Area, Riverside Industrial Park, Jiangsu Changshu
Economic Development Zone, Changshu City, Jiangsu 215513 ChinaPrincipal business: Manufacture, sale and aftercare servicing of
semiconductor, LCD and solar battery
manufacturing equipment and welding robots

Box for X-axis frames



Box for aluminum products

Society does not grow by consuming resources but by conserving, recovering and recycling resources. In fact, recovering and recycling wood shipping boxes is in line with the 3R principles of the recycle-oriented economics being preached around the world today.

At the Changshu Plant, we receive large quantities of parts from suppliers for our clean robot assembly operations, but these parts come shipped in large wooden boxes. These boxes pose problems in that they need to be broken apart, which takes time and manpower, and generates waste that has to be treated.

Therefore, in 2020, we asked large parts suppliers to make improvements. The idea was for them to ship products in reusable boxes, recover those boxes during their next delivery and use them again. Looking at the numbers, we chose to address X-axis frames and aluminum parts in 2020; we received 38 X-axis frames (40 kg/box) and 300 boxes of aluminum parts (5 kg/box). As a result, we reduced our consumption of wood by 3 tons total and saved ourselves 50 hours of breakdown work.

We will develop this effort more in 2021, as we want to contribute to society's sustainable development by continuing to promote environmental activities.

**Huang Jianlin**
Manufacturing Dept.



DAIHEN Corporation

2-1-11 Tagawa, Yodogawa-ku, Osaka 532-8512 Japan

Tel: +81-6-6301-1212

Website: www.daihen.co.jp

Published February 2022

● Please direct all inquiries concerning this report to the General & Judicial Affairs Department.