

Environmental and Social Report

Forest-In Office 2019



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■Editorial policy

This content consists mainly of the environmental activities of AMADA CO., LTD. and the AMADA Group in Japan.

This report is intended for the various stakeholders of the company. The report is designed to provide an overview of the environmental activities and social contributions of the AMADA Group.

■Referenced guidelines

Environmental Reporting Guidelines 2012 of the Japanese Ministry of Environment, ISO26000

■Issues

Mar. 2020

■Scope of the content

Reporting period: FY2018 and first half of 2019 (Apr. 2018 ~ Sept. 2019) * Contains content from the second half of fiscal 2019 in part
Relevant organizations: 22 domestic and 69 overseas companies (P27 - Corporate governance)

■About the name "Forest-In Office"

"Forest-in" is a neologism created by AMADA.

AMADA seeks to be an office of the forest, rather than an office in the forest. The term thus refers to AMADA as "an office of the forest" that promotes activities that protects the natural environment.

■ About the name "The AMADA Group"

Due to a merger between AMADA HOLDINGS and AMADA as well as the structural reorganization that took place on April 1, 2020, the names of companies in the AMADA Group have changed as indicated below. In this report, new company names are represented in a uniform manner.

New company names (as of April 1, 2020)

- AMADA CO., LTD. (Merger between AMADA HOLDINGS and AMADA)
- AMADA MACHINERY CO., LTD. (Company name change due to merger between AMADA MACHINE TOOLS, AMADA TECHNICAL SERVICE, AMADA SANWA DAIYA and NICOTEC)
- AMADA WELD TECH CO., LTD. (Company name change from AMADA MIYACHI)

AMADA Group's management philosophy

1. Growing together with our customers

Our company has been sharing this philosophy as a starting point for all of our business activities since its formation. We believe that the creation and provision of new values based on customers' perspectives will strengthen the relationship of mutual trust between our customers and the AMADA Group, and become a source of mutual development.

2. Contribute to the international community through our business

Our company recognizes that contributing to "manufacturing" conducted by our customers throughout the world leads to the development not only of local communities, but also the international community as a whole, and we conduct our business activities with the aim of providing the highest quality of solutions in each market around the world by optimally distributing our group's management resources.

3. Develop human resources who pursue creative and challenging activities

Rather than being content with the present situation, we are constantly in search of new and better ideas to put into action in order to improve and enhance our business activities. This is the AMADA Group's basic philosophy of human resource development, and we believe that AMADA's unique corporate culture will be further developed by continuing to practice this philosophy.

4. Conduct sound corporate activities based on high ethics and fairness

We promote transparency and we comply with regulations in the AMADA Group's management and in all aspects of its business activities, and strive to further enhance its corporate value while conducting sound activities.

5. Take good care of people and the earth's environment

By treating the AMADA Group's stakeholders (such as shareholders, customers, business partners, employees and local residents) and the global environment with respect, we strive to continue to be a good company for both people and the earth.

Environmental policy

◇AMADA Group's environmental principles

AMADA Group thinks that preservation of the earth, a small planet in macrocosmos, for the next generation is the biggest theme for human beings. Based on this idea, AMADA Group positions environmental preservation as one of its important management issues, and is committed to contributing to a prosperous future for people around the world through eco-friendly manufacturing, in order to pass down this beautiful earth to our descendants.

◇AMADA Group's environmental policies

1. Provision of products and services for preservation of the environment

Evaluate environmental load throughout the product life cycle, provide energy-saving and resource-saving products and services which are free of hazardous substances, and contribute to environmental preservation and the economy.

2. Reduction of environmental load in business activities

In every process of business activities, thoroughly pursue reduction of environmental load by promoting energy efficiency improvements, energy saving, resource saving and recycling. Also, aggressively promote green procurement and try to eliminate the use of hazardous substances.

3. Biodiversity activities

Grasp effects of business activities on the natural environment and contribute to building a biodiversity-nurturing society in concert with stakeholders.

4. Compliance with environment-related laws

Comply with environment-related laws and other agreements concluded with stake holders.

5. Continuous improvement of environment management system

Build an environment management system and make continuous improvement of it. Grasp the effects of business activities, products and services on the environment. Set environmental goals and targets and reduce environmental load as well as prevent contamination.

6. Enhancement of education about environment

Provide education aimed at environment preservation to improve employees' sense of responsibility as a member of the company and also boost awareness of environment preservation.

AMADA Group Environmental Declaration

AMADA Group aggressively promotes environmental activities to its management in order to realize sustainable development of its business and society. AMADA will help to build a bright and prosperous future for people around the world by optimally utilizing the engineering capabilities we have cultivated, and by providing environmentally-friendly, energy-saving products as a general manufacturer of metalworking machinery.

"Linkage through Eco-conscious Manufacturing"

AMADA Group aspires to become a business enterprise to link with customers, society and the world through eco-conscious manufacturing.

Producing eco-friendly machine at eco-friendly business establishment

All AMADA Group's operations are carried out with the aim of achieving optimal compatibility between environmental preservation and business activities through promotion of energy -and resource- saving efforts.

Our eco-friendly merchandise assists customers' to manufacture eco-friendly products

AMADA Group's eco-friendly products enable customers to manufacture energy savings and highly efficient products at their plants.

Creating eco-friendly environment at customers' plants

AMADA Group contributes to the creation of eco-friendly environments at customers' plants by utilizing its accumulated environmental know-how.

Top Message

We aim to make proactive contributions to the achievement of international targets through the pursuit of eco-minded *monozukuri* (product creation).



**Representative Director, President
ISOBE Tsutomu**

Since our founding in 1946, we have conducted corporate activities with a mission to contribute to society through *monozukuri* (product creation). We recognize that our *monozukuri* manufacturing activity contributes to the product creation of our customers around the world, leading to the development of regional communities and the international community.

At the same time, the environmental problems seen at a global scale due to recent years' climate change, as well as social issues including poverty, hunger and depopulation, will bring about changes in needs and lifestyles throughout society as a whole with the massive scale of their influence. We can easily imagine those issues and changes will have impacts on companies' modes of being and orientations, and will in turn be a factor in limiting sustainable corporate growth.

Under such circumstances, with the Paris Agreement and the Sustainable Development Goals (SDGs), the international community has demonstrated goals that the world needs to address, in order to realize a sustainable society. Companies are expected to play increasingly important roles as individual members of society, while at the same time fulfill their growing responsibilities as corporations.

What is of particular importance in responding to climate change for us as manufacturers of machinery is reducing CO₂ emissions during times of use by customers, which accounts for a substantial portion of CO₂ emitted during the machinery's lifecycle. While increasing productivity traditionally necessitated the raising of energy inputs, to us CO₂ reduction means satisfying two conflicting measures of performance: reducing energy consumption, which governs the productivity of machinery, and at the same time increasing productivity. Our position is that technology-based innovation is indispensable in realizing increases in measures of performance such as these two that comprise tradeoffs.

As outlined above, we are of the position that, for us as manufacturers of machinery, the transition to a low-carbon economy due to climate change is both a major operational risk in our aim for sustainable growth and an opportunity for linking efforts to a new growth strategy through technological innovation.

We at the AMADA Group have formulated "TASK 3-2-1," a medium-term management plan leading up through fiscal 2021, in order to tackle reforms with a view toward the business of the next 10 years, and the 100 years ahead. As far as specific policies to lay out here, we have proactively worked out policies meant to link our efforts to a new growth strategy: expanding our laser business, which was facilitated by the enhanced product appeal of fiber laser machines that offer both productivity and energy-saving performance, and promoting the design and development of the eco-conscious line of AMADA Eco Products as an ESG initiative.

As the world undergoes rapid environmental and social change, we are committed to adopting a long-term perspective, turning to face society, offer our contributions and pursue growth hand in hand with all stakeholders, including our customers. Our position is that we have entered an era in which adopting this sort of stance will be of great importance in maintaining sustainable business growth in the years ahead.

The AMADA Group is deeply aware of our responsibilities and roles in solving social issues in the future. Recognizing that environmental protection and social contribution are key issues of management, through ecofriendly manufacturing, which is the strength of the AMADA Group, we will actively contribute to reaching international targets.

AMADA Group's Key Objectives Subjects for SDGs solutions

AMADA Group's Key Objectives	Subjects for SDGs solutions
Preventing global warming • Reducing CO ₂ emissions in the product life cycle • Reducing CO ₂ emissions by saving energy and resources in business processes	Goal 7: Affordable and clean energy Goal 9: Industry, Innovation, and Infrastructure Goal 13: Climate action Effective utilization of resources
Effective utilization of resources	Goal 11: Sustainable cities and communities Goal 12: Responsible consumption and production
Regulated chemicals control	Goal 3: Good health and well-being for people Goal 11: Sustainable cities and communities Goal 12: Responsible consumption and production
Biodiversity	Goal 15: Life on land

AMADA Group promotes Sustainable Development Goals (SDGs) initiatives.

In September 2015, the 2030 Agenda for Sustainable Development was adopted at the United Nations General Assembly held at the UN Headquarters in New York. This agenda raised 17 Sustainable Development Goals and 169 targets as action plans for humanity, the earth, and prosperity. Every nation that is a member of the UN is required to work hard to resolve the goals for sustainable development between 2015 and 2030, as shown in the figure on the right. The AMADA Group will promote efforts to achieve these goals for sustainable development.



The “TASK 3-2-1” medium-term management plan

The 3 benchmarks targeted in “TASK 3-2-1” are as laid out below (formulated based on Japanese criteria.)

- 30% sales increase (in comparison with fiscal 2015; ¥ 400 billion JPY)
- Ordinary income ratio of 20% (¥ 80 billion JPY)
- ROE10%

In working toward realization of this “TASK 3-2-1” plan, we will enact proactive strategic investment and aim to expand sales networks, enhance product appeal, implement a growth strategy through establishment of a new business model, promote *monozukuri* (product creation) reforms with integrated development and production, raise profitability and efficiency further through supply chain management (SCM) using IoT and increase capital productivity through balance sheet reorganization.

We will also proactively engage in environmental and social contribution activities, including enhancements to our corporate governance system.

Medium-term management plan in order to realize “TASK 3-2-1”

—Taking new steps with 100 years of business in mind —

Fiscal -2015	
Sales	¥ 304 billion JPY
Ordinary income ratio	14%
ROE	6.5%



Fiscal -2021	
Aiming to leverage our growth strategy for an enlarged market share	
Sales	¥ 400 billion JPY
Strengthening profitability through revenue enhancement measures	
Ordinary income ratio	20%
Building a management base grounded in investment strategy	
ROE	10%

Introduction

Our Works

AMADA Group is a comprehensive manufacturer of metalworking machinery, a “total solution” company that contributes to the creation of products for global customers.

◆ Isehara Works (AMADA and others)

AMADA's Isehara Works, located near the center of Kanagawa Prefecture, is home to our head office as well as the AMADA Solution Center and manufacturing plants for punching, bending, set tools and their peripheral equipment. Since 2010, the Isehara Works has implemented a variety of policies for reducing CO₂ emissions. In 2017 there were also put into operation new facilities and a Disaster Management Energy Center with central roles regarding BCP measures equipped with photovoltaic and micro-generation power generation systems.



Isehara Works

◆ Fujinomiya Works (AMADA)

AMADA's Fujinomiya Works (Fujinomiya City, Shizuoka Pref.), situated at a scenic location to the southwest of Mount Fuji, handles the development and production of sheet metal and presses for the AMADA Group. Approximately 60% of the Fujinomiya Works' grounds, or about 106 acres, has been preserved as forest land. The AMADA Group continually promotes efforts to preserve proactively maintained forests with abundant flora and fauna.



Fujinomiya Works

◆ Toki Works (AMADA / AMADA MACHINERY / AMADA TOOL PRECISION)

AMADA's Toki Works (Toki City, Gifu Pref.) handles the development and manufacture of cutting machines and mechanisms as well as grinding machines and the manufacture of sheet metal machinery. In September 2017, the T876 plant was established and put into service here as a secondary base for tooling manufacturing. Natural energy sources such as solar power supply the energy consumed by technical centers within the Works, which promotes combined efforts matched with energy conservation initiatives such as switching to all-LED lighting. In addition, the energy consumed in the Technical Center is renewable energy from solar power generation and other natural sources (energy creation), and with energy conservation such as using LED for all lighting, we have achieved zero carbon emissions.



Toki Works

◆ Ono Plant (AMADA MACHINERY)

Ono Plant is located in Ono City, Hyōgo Prefecture, at the center of the Higashi-Harima region, and this area is known for its metal industry from the old days as the manufacturer of blades. Here the AMADA Group has located its band saw blade production base, handling everything from development through manufacture, as a key plant for our business in consumable goods. The Ono Plant puts effort into biodiversity initiatives as well, organizing volunteer-conducted activities such as the establishment of “green curtains,” or living walls, and the cultivation and distribution of rhinoceros beetles.



Ono Plant

◆ Fukushima Plant (AMADA AUTOMATION SYSTEMS)

Since it began operations, Fukushima Plant (Nihonmatsu City, Fukushima Pref.) has handled automated equipment for systems, and in the sheet metal system sector it has grown into a pioneering manufacturer of sheet metal system equipment, backed up by a wealth of experience and achievement.

In addition to activities to limit greenhouse gas emissions such as switching to LED lighting, the Fukushima Plant implements initiatives for the effective use of resources, such as the reduction of packaging material, river cleanup activities conducted in cooperation with local organizations and more.



Fukushima Plant

◆ Miki Plant (AMADA MACHINERY)

The Miki Works (Miki City, Hyōgo Pref.) manufacture cutting tools, cutting machines, cutting lubricants and so on.

The Miki Plant, located in the city of Miki which has a long history being known as the “city of hardware,” primarily handles the development and manufacture of cutting tools such as band saw blades, hole saws and coils.



Miki Plant

◆ Noda Works (AMADA WELD TECH)

The Noda Works (Noda City, Chiba Pref.) handles the manufacture, sales and maintenance of laser welding and processing machinery and fine spot welders as a key base for AMADA WELD TECH, which deals with the global development of joining and processing solutions in minute detail- and precision-oriented fields. As the one-and-only company handling both laser and fine spot welding technology, AMADA WELD TECH has operational bases in 16 countries, with aims to make sales and service expansions. The Noda Works strive to proactively develop environmental activities, including donating used workwear as a part of resource recycling efforts and participation in local river cleanup activities.



Noda Works

Introducing AMADA Eco Products



SDE-2017 (GORIKI) Digital AC Servo Press

“GORIKI” is a press machine featuring high rigidity. It takes its name from Japanese words alluding to the enhanced composition and powerful strength it offers as a servo press.



SDE-2017 (GORIKI)



* ECO PRODUCTS Mark (See P13)

◆ Feature ①: High-rigidity frame for strengthened longitudinal rigidity

With the adoption of a new solid-column frame structure featuring a chevron-shaped structure on the upper part of the front frame and reduced cutout in the bed front plate, the press offers reduced frame expansion during stamping as well as strengthened longitudinal rigidity. With its reduction of breakthrough volume in comparison with conventional models, the press realizes support for high-precision, high-quality manufacturing (*monozukuri*).



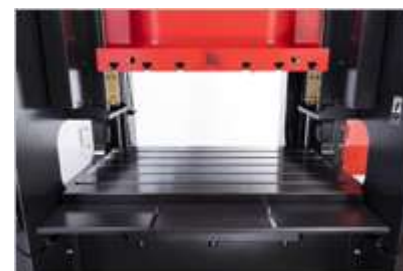
◆ Feature ②: High-rigidity guide structure for strengthened lateral rigidity

By making the slide gib structure into a center-gib full-guide structure, lateral rigidity has been strengthened in comparison with conventional models. With the improved eccentric load resistance characteristics, stable processing accuracy at the time of production is maintained.



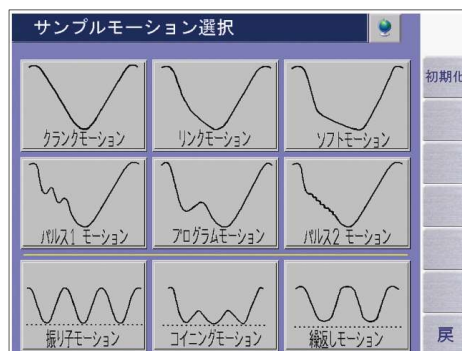
◆ Feature ③: Enlargement of the slide area

In addition to the high-rigidity structure, enlargement of the slide area has enabled the loading of multiple-stage dies. This makes the model able to handle high-value-added molding, such as plate forging and steel plates with high tensile strength to meet a wide range of processing demands.



◆ Feature ④: Diverse motion patterns

Compiling a database of our voluminous processing expertise enables selection of the optimal type of motion for each category of processing. We seek to offer ease of use with our servo press.



◆ SDE-2017 energy-saving performance

	Rate of improvement	AMADA Eco Products eligibility criteria (In the case of Stamping press machinery)
Energy-saving performance (Rate of electrical consumption reduction)	15.2%	≥ 10%
Productivity (Rate of production cost reduction)	29.6%	≥ 10%

※Comparison with AMADA's TPL-200 (SH)

Interview with relevant department ①

AMADA PRESS SYSTEM CO., LTD. HORIE Kimio, President

“AMADA for servo technology” – Aiming for market penetration

We developed the SDE-GORIKI series targeting the cold forging progressive press and on-vehicle terminal connector markets. The actual product has lived up to the “GORIKI” model name and has been well received by all our customers in the new market as well. Furthermore, we would like to achieve market penetration as “AMADA for servo technology.”



Interview with relevant department ②

**AMADA PRESS SYSTEM CO., LTD.
YOKOCHI Katsumi, Business Administration Section Head
Winning the Machine Industry “Nippon-ryoku (Japan Brand) Award”**

The SDE-GORIKI series achieves high rigidity with balanced new frame types. That we were able to win the “Nippon-ryoku (Japan Brand) Award”^{*1} in the 48th Machine Design Awards attests to this.

“Our wish is for our customers to get a true feel for what stability in processing is like” – It is with that kind of sentiment that we have been given the opportunity to make our proposals.



*1: Received under former company names of AMADA HOLDINGS CO., LTD. / AMADA MACHINE TOOLS CO., LTD.

AMADA Eco Products at our customers

SUGIYAMA Co., Ltd.

ENSIS-3015AJ (6kW)+AS-3015G
Fiber Laser Machine

Substantially reducing the burden of machinery amortization by cutting running costs – Great satisfaction with 5x productivity and enhanced cutting quality –

SUGIYAMA Co., Ltd. was founded by SUGIYAMA Taichi, uncle of the current president, in the town of Mieji, located in Gifu Prefecture's Motosu district in 1927. In 1943 the company incorporated as SUGIYAMA Works, Ltd. and came to deal with the manufacture and sales of luggage carrier stands for bicycles. Starting in 1947 the company began manufacturing agricultural machinery and equipment (such as weeding machines) as well. From about 1965, they began taking orders related to seating for buses. With the installation of a 200-ton single-shot press machine, jobs related to Shinkansen seating increased as well.

After graduating from high school, President ŌNO Fumio joined the company and was transferred to a new plant in the city of Kakamigahara. At the tender age of 20 he was entrusted with starting up the plant. Since equipment and jobs were nowhere to be found at the time, he pursued business activities with vigor to collect needed equipment and in 1973 assumed the positions of company director and plant manager.

With the installation of a punching machine in 1985 and subsequently a laser machine and welding robot, they were able to meet clients' QCD (quality, cost and delivery) demands. Attending the expansion of business, the company renovated their facilities, constructing a warehouse, production plant and office building.

In 2006 the company changed their name to SUGIYAMA Co., Ltd. With a highly corrosion-resistant hot-dip zinc alloy coated steel sheet called ZAM being used for residential building components, it was from about that time the company began taking orders for beams and frames used as residential building components as well as residential earthquake resistance fittings, support anchors and more. In order to meet new demands for ZAM to be processed in plate thicknesses of 4.5, 6.0 and 9.0 mm, the company acquired an AMADA FO-2412NT (4kW) laser machine.

The FO came installed with a high-output 4kW laser oscillator, but in order to process ZAM, the cutting speed needed to be slowed down, running costs such as gas charges increased in conjunction with the oxygen cutting process, and cutting plane quality was low. There were many issues to deal with. Nonetheless, job orders proliferated, and in 2014 the company added an assembly plant to their site.

Company director and plant manager ŌNO Masanao, in his 14th year with the company, was instrumental in dealing with the various issues. After joining the company, plant manager ŌNO attended lectures in the 100th class at the AMADA SCHOOL OF VOCATIONAL TRAINING CORPORATION's Junior Management College. While honing his managerial sense, he has also worked to acquire practical expertise.



President ŌNO Fumio (L) and plant manager ŌNO Masanao (R)

Company profile

Company Name: SUGIYAMA Co., Ltd.
 President and CEO: ŌNO Fumio
 Address: 112 Kinzoku-danchi, Kakamigahara City, Gifu Prefecture
 Phone: +81-(0)58-383-8181
 Established: 1943 (Founded 1927)
 Number of employees: 30
 Main business: Manufacture of components for residential steel framings, bus seats, and machine tools
 URL <http://www.sugi-yama.jp/>

Main equipment

- Fiber Laser Machine: ENSIS-3015AJ(6kW) + AS-3015G
- Bending Machine: HD-5020NT, FMBII-3613NT +1 more
- Stamping Press Machine: TP-60FX, TP80, TPL-200 +1 more
- 2D CAD/CAM: AP100 ●V-factory Connecting Box

"Sheetmetal Machine & Soft" August 2019 Machinist Publishing

Dissatisfaction with maintenance of existing laser machines

President ÔNO explains, "The Nagoya plant of a home builder who is one of our chief clients had taken on steel-framed housing, and there was a contraction of that market. That resulted in a major change in the content of the components the company was producing, and orders for work using ZAM came to increase. Also, sales from home builders comprised 80% of all sales, and it was getting to be hard to cope with the existing equipment we had. While the FO-2412NT used a shuttle table system, 12 years had gone by since we acquired it, and the level of degradation was starting to become noticeable. With soft steel, a thickness of 12 mm was the limit for us in processing the plates."

"Maintenance had gotten costly too. We perform mirror cleaning twice a year, and we were dissatisfied with the maintenance costs, as it costs us several hundred thousand yen each time."



Processing hot-dip zinc alloy coated steel sheets with the ENSIS-3015AJ

Installing an ENSIS-AJ (6kW) with multistage stocker

The company needed to look into later FO models, but fiber lasers of the time had 2-3KW specifications, so there were issues with their capacity to handle thick plates as well as with cutting plane quality.

There was the problem that, in the case of fiber laser machinery, while they did feature lower running costs with things like gas and electricity expenses and the cost of optical components, initial costs were expensive. Furthermore, the shuttle table the FO was equipped with couldn't handle long automated operation times, so they needed to resolve issues with their production plant space in order to install a multistage stocker and handle long, successive automated operation times, including nighttime work. It was in that context that they received a proposal from AMADA for the ENSIS-3015AJ+AS-3015G outfitted with a 6kW fiber laser oscillator. The ENSIS-AJ expanded their scope of processing to handle everything from thin to thick plates. It did away with the need to replace lenses as they originally had to do and made them able to handle work with flexibility. The equipment excelled in its ability to efficiently handle v-mix v-lot production while offering energy conservation benefits to the fullest degree. In order to handle the processing of ZAM, which used to be problematic, they mounted an apparatus to extract the nitrogen component from the compressor's air. By processing with the "EZ-Cut" system using it, they were able to achieve an improvement of productivity and reduction of running costs in comparison with conventional processing using oxygen gas. Also, installation of the multistage stocker is expected to lead to improvements to work preparation and a higher operating ratio through its offering of long operation times including nighttime work.

Results of ENSIS-AJ acquisition

The ENSIS-AJ was put into full-scale operation in April this year, and the word (from plant manager ÔNO) is, "It's putting on a stronger-than-expected showing."

Plant manager ÔNO says, "We process ZAM, which used to be problematic for us, using the 'EZ-Cut' system with thick plates of up to 9 mm. Our processing speed is 4 times what it used to be. We used to go through 9 oxygen gas cylinders a month, and now that's dropped to 1 a month, plus we no longer have a need for mixed gas. Up until now we were incurring monthly gas expenses of around ¥300,000, and now we have pretty much curtailed that."

"Also, until now we had to outsource orders to process thick plates of 12 mm and up, and that would cost us ¥100,000-200,000 every month. Now with the ENSIS-AJ, we have obtained the ability to do that processing in-house. In addition to that, since we hardly use any optical components like lenses and mirrors, we don't even need to do any mirror cleaning except for the protective lens. Since there's automatic nozzle replacement too, we can carry out successive operations without swapping out lenses even if there's a change with our processing materials—the thick plates—and that has made it possible for us to considerably raise our rate of operation."

"Even with the aspect of user-friendliness, with its incorporation of a user-centric design using a multi-touch LCD panel, the AMNC 3i, a numerical control (NC) device, attains intuitive screen operation, like using a smartphone. That makes it useful for offering enhanced usability to operators. In particular, it has been a help to us that, with the 18.5-inch wide display, the editing screen and processing screen can both be used independently of each other. Expenses for electricity and so on are things we haven't really seen appear in the results as of yet, but since the energy conservation effects are high, in addition to the fact that our former 4-unit setup has been reduced to 1, I think electricity costs will go down significantly and we will be able to achieve a reduction of our basic rate as well."

"If I can just include a list of various other things, our productivity is 5 times what it used to be, we've been able to cut expenses for gas, electricity and outsourcing, we've achieved the automation of nighttime operation with the use of the multistage stocker, we are aiming to reduce costs by a considerable degree by improving work preparation, and the issue of machinery amortization has been made easier for us. Also, since we have achieved an improved processing yield, we look forward to the days ahead. So far we have been able to achieve problem-free quality processing cutting planes of 25 mm with mill-scale and 9mm with ZAM," he explains with regard to the results of acquiring the ENSIS-AJ.

【AMADA Eco Products in use】



ENSIS-3015AJ Fiber Laser Machine



ENSIS-3015AJ (3kW/6kW/9kW)

The ENSIS-AJ series is equipped with an AMADA-original fiber laser oscillator and the latest original beam control technology. It contributes to the optimization of v-mix v-lot production while at the same time offering maximum energy conservation benefits.

- Feature ① Thin-to-thick plate cutting with a single machine
- Feature ② Improvement of energy efficiency with energy-saving effects
- Feature ③ Pursuit of small footprint by oscillator downsizing and built in machine
- Feature ④ Flexible layout

※The ENSIS-AJ series was highly regarded for its superior energy saving performance and was awarded the Agency for Natural Resources and Energy Director's Award at the 36th Energy-Efficient Machinery Awards.

Mid-term environmental plan

	Themes of activities	Targets for fiscal 2019 (final year of term)
Preventing global warming	<p>【Product Development】 Contribute to the prevention of global warming by reducing CO₂ emissions*¹ throughout the entire lifecycle of a product</p>	<ul style="list-style-type: none"> Reduce average CO₂ emissions of all products sold annually by 25% by 2020 (Benchmark year: 2009) Goal for 2019: 25% reduction
	<p>【Business Activities】 Reduce CO₂ emissions by reducing consumption of energy and resources</p>	<ul style="list-style-type: none"> We will cut CO₂ emission of our plants and offices by 25% in intensity target value by 2020. Compliance with the Revised Energy Conservation Act: 1% reduction/year (5%/5 years) (Isehara / Fujinomiya / Toki / Ono / Fukushima) Goal for 2019: 25% reduction (Intensity)²
Effective utilization of resources	Contribute to our recycle-base society by promoting the efficient use of limited resources	<p>Achievement of zero emissions at plants</p> <ul style="list-style-type: none"> “Achievement of zero-emission ratio of 1% or less for the entire group by 2020” (1% or less of annual landfilled waste, by waste material weight) Goal for FY2019: zero-emission ratio of 1% or less across the entire AMADA Group <p>Initiatives aimed at creating a clean factory</p> <ul style="list-style-type: none"> Reduction of waste materials generated during the manufacturing process
Regulated chemicals control	Bolster initiatives regarding management of regulated substances	<p>Product development with green procurement (Reduce the use of RoHS directive³ chemicals)</p> <ul style="list-style-type: none"> RoHS compliance rate for all models of new products 100% RoHS compliance in all products: 100% Completion of Category 11 compliance based on voluntary standards (RoHS compliance for electrical and electronic components)
		<p>Reduce the use of regulated chemicals “Appropriately control chemical substances, and reduce their use within the manufacturing process” (PRTR⁴, VOC⁵)</p>
Biodiversity	Preserve and regenerate biodiversity to pass on this country, which is rich in the blessings of nature, in good shape to future generations.	<p>Initiatives that contribute to biodiversity conservation “Maintenance and protection for richer biodiversity than current state by 2020”</p> <ul style="list-style-type: none"> Quantitative evaluation of each site Activation of regional collaboration
Environmental management	Respond faithfully to voices of stakeholders, particularly customers, to fulfill social responsibility as a company	<p>Enhancing group environmental administration</p> <ul style="list-style-type: none"> ISO14001: 2015 group certification <p>Promoting CSR initiatives</p> <ul style="list-style-type: none"> Active fulfillment of accountability Enhancement of communication with stakeholders

*1: CO₂ emissions data is calculated based on the calculation manual for the “Act on Promotion of Global Warming Countermeasures”

*2: Benchmark year: FY2007

*3: RoHS : Stands for “Restriction of Hazardous Substances.” A directive that specifies hazardous substances contained in electrical equipment and electronics and prohibits their use.

*4 : PRTR :Stands for “Pollutant Release and Transfer Register,” in which the emissions and movements of environmental pollutants are registered. A system for compiling and announcing the emission volumes and travel distances of hazardous chemicals.

*5 : VOC: Stands for volatile organic compounds. Regarded as a cause for chemical sensitivity syndrome and sick building syndrome.

Goals for FY 2018	2018 Performance
<p>Reduction of CO₂ through the release and sales promotion of eco-friendly products (Reduction rate: Overall: -21.6%, sheet metal machine: -39.6%, stamping press: -21.5%, metal cutting / machine tool: -13.8%, grinding: -11.7%)</p>	<p>Reduction of CO₂ through the release and sales promotion of eco-friendly products (Reduction rate: Overall: -18.6%, sheet metal machine: -37.7%, stamping press: -16.5%, metal cutting / machine tool: -13.1%, grinding: -7.2%, achievement rate: 96.3%)</p>
<ul style="list-style-type: none"> Reduce the AMADA Group's CO₂ emissions intensity by 23.7% compared to benchmark year Comply with the Revised Energy Conservation Law (reduce intensity by 1%/year) (Isehara / Fujinomiya / Toki / Ono / Fukushima) 	<ul style="list-style-type: none"> Reduce the AMADA Group's CO₂ emissions intensity: 0.852 (-14.8% compared to benchmark year) Comply with the Revised Energy Conservation Law: reduce intensity by 1%/year (Isehara / Fujinomiya / Toki / Ono / Fukushima)
<ul style="list-style-type: none"> Maintaining of zero emission plants (Fujinomiya, Isehara ATP, Toki) Initiatives aimed at achieving zero emissions at 4 plants (Ono, Miki, Noda, Fukushima) Zero emission rate in the AMADA Group's plants: 1.0% or less (Isehara Works / Fujinomiya Works / Toki Works) Continuous improvement of IN-OUT measures 	<ul style="list-style-type: none"> Maintaining of zero emission plants (Fujinomiya: 0.01%, Isehara ATP: 0.00%, Toki: 0.03%) AMADA Group's zero-emission ratio 0.95%
<p>Product development with green procurement (Reduce the use of RoHS directive chemicals) Initiative toward eliminating RoHS directive materials</p> <ul style="list-style-type: none"> RoHS compliance rate for all models of new products 100% RoHS compliance in all products: 90% 	<p>Product development with green procurement (Reduce the use of RoHS directive chemicals) Initiative toward eliminating RoHS directive materials</p> <ul style="list-style-type: none"> RoHS compliance rate for all models of new products 100% RoHS compliance in all products: 99.8%
<p>Initiatives towards reducing PRTR substances in paints</p> <ul style="list-style-type: none"> TX-free paints use spreading across the group (Fukushima) Reduction of solvent consumption (Toki) Reduction of PRTR substances (Miki) 	<ul style="list-style-type: none"> Reduction of specific chemical substances: 6.9t, whereas target was 11.9t [195% achievement rate] (Toki) Verification of status of specific chemical substances content through acquisition of latest version of safety data sheet (Ono) Changed parts cleaning thinner to PRTR substance-free (Miki) VOC reduction for solvent paints (Fukushima)
<ul style="list-style-type: none"> Implemented quantitative evaluation in line with JBIB's Ikimono Symbiosis Office guidelines (Fujinomiya) Activation of regional collaboration 	<ul style="list-style-type: none"> Implemented quantitative evaluation in line with JBIB's Ikimono Symbiosis Office guidelines (Toki) Implementation of periodic thinning (Fujinomiya) Activities to cultivate endangered species for "tree cultivation and acorn forestation" (Toki) Video observation of small animals in order to achieve creation of an environment meant to attract wild birds and insects (Toki) Removal activities for specific nonindigenous species (Noda)
<p>Implemented CSR communication</p> <ul style="list-style-type: none"> Issue the environmental and social report "Forest-In Office 2018" (Japanese, English and Chinese) Responded to CDP climate change survey Conducted environmental management survey responses 	<p>Implemented CSR communication</p> <ul style="list-style-type: none"> Issue the environmental and social report "Forest-In Office 2018" (Japanese, English and Chinese) Responded to CDP climate change survey Conducted environmental management survey responses

Addressing Priority Issues



Preventing global warming (Reducing CO₂ emissions associated with our products)

The AMADA Group works to reduce CO₂ emissions in our products' life cycles and contributes to the prevention of global warming. As the AMADA Group products are industrial goods, the reduction of CO₂ emissions in our products' life cycles during times of use by our customers is of particular importance. We will continue to promote the development of environmental technology and create products that achieve high environmental performance (AMADA Eco Products) and offer both productivity and energy-saving performance.

◆ Product assessment system

The AMADA Group has put in place two systems for evaluating product environmental performance: the product environmental assessment system and the AMADA Eco Products certification system.

Carried out as part of the design review (DR)^{*1} at each step of the development process, the product assessment aims to ensure that we do not supply products with a severe environmental impact. The assessment of product environmental performance consists of 25 assessment items in 8 categories, including energy consumption during customer use (CO₂ emissions) and non-usage of restricted chemical substances.

All new products in development undergo this assessment, and our rule is that, in principle, any product failing to meet the assessment criteria must not be marketed.

◆ AMADA Eco Products certification system

Like the product environmental assessment, the AMADA Eco Products certification system is part of the Design Review and is intended to appeal to customers as an evaluation of our products' environmental performance (energy efficiency) and improved productivity.

Certified products are granted the AMADA Eco Products mark.

From the time planning and design is conducted for new products, AMADA Eco Products take into consideration new technologies meant to improve environmental performance, including resource conservation, noise reduction and energy-saving performance. The AMADA Eco Products certification system examines the effectiveness of these efforts.

The following 4 items provide the definition of AMADA Eco Products:

- ① Achieves energy conservation at the time of use compared with conventional models.
- ② Achieves not only increased environmental performance but increased productivity as well compared with conventional models.
- ③ Lowers running costs for product processing and reduces manufacturing costs through energy conservation, resource conservation and increased productivity, enabling the product to generate profit.
- ④ Enables provision of proposals for new product processing methods through the use of new processing technology.

① and ② are evaluated using processing samples from actual processing carried out by customers.

The assessment method involves actually processing the processing samples with both conventional models and new products and evaluating their improvements of environmental performance based on their rates of energy-saving performance improvement and productivity improvement.

ECO PRODUCTS Mark



Trademark
#4631897

The green color symbolizes the protection of the environment, while the mark depicts a new leaf bud formed from the letters 'E' and 'P' (standing for 'eco products').



Resource-Saving Machine: Indicates a machine that saves natural resources by consuming less oil, gas etc. than conventional models.



Low-Noise Machine: Indicates a machine that produces less noise during use than conventional models.



Energy-Saving Machine: Indicates a machine that saves energy by consuming less power than conventional models.

^{*1} Design Review (DR): A review of the design proposal created by the design department that all of the departments involved in the product evaluate from their own standpoint and give opinions and request improvements as needed, in order to develop products that satisfy our customers.

Preventing global warming (Reducing CO₂ emissions associated with our business activities)



The AMADA Group works to promote the conservation of energy and resources in business processes to reduce CO₂ emissions. We will work to further promote efforts to optimize the use of energy and to conserve energy and resources at all our operation sites. As we go forward, the works in our group will continue to further promote operation process efficiency and energy/resource-saving strategies.

◆ Achieving environmentally responsible workplaces

The main manufacturing facilities of the AMADA Group pursue efficiency in business and production processes, implementing energy and resource saving and making constant and drastic improvements to reduce the environmental impact of our factories. Furthermore, we regard the use of renewable energy to be an important theme, and we incorporate it actively in the design of new operation sites and plants.



Solar panels on the Disaster Management Energy Center rooftop (Isehara Works)



All-LED lighting: winner of 2012 "Lighting Design Award" (Toki Works)

Effective use of resources



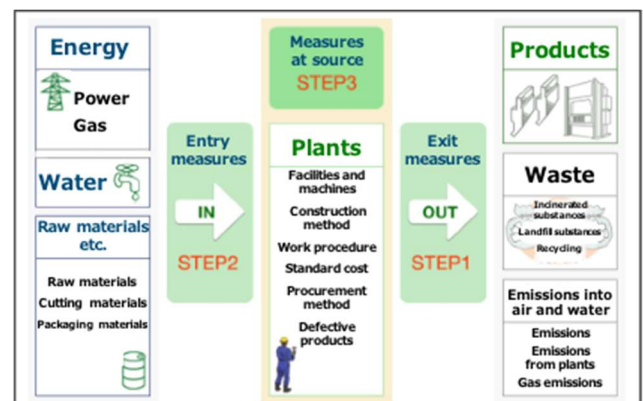
The AMADA Group promotes the effective use of limited resources to make contributions to realizing a recycling-oriented society. AMADA Group's Japan manufacturers prioritize the shift to a sustainable society by achieving and maintaining zero emissions at plants.

◆ Zero-emission factories

Three of AMADA Group's manufacturing bases in Japan have achieved zero emission factories: Isehara Works (AMADA TOOL PRECISION), Fujinomiya Works, and Toki Works.

We have stipulated our achievement standard for a zero emissions at plants to be, "less than 1% (zero emission rate) of all waste used as landfill for a continuation of at least one year," through efforts according to three steps of activity.

The AMADA Group achieved a Group-wide zero-emission rate of under 1% (0.95%) for fiscal 2018.





Regulated chemicals control

The AMADA Group has bolstered initiatives regarding regulated chemical substances in order to give our customers peace of mind in using our products. We will implement suitable information management for chemical substances to promote initiatives enabling customers to use safe machinery utilizing safe materials.

◆ Green Procurement

AMADA Group positions “green procurement,” procuring materials with small environmental loads, as one of its important environmental preservation activities for providing environmentally-friendly products to customers.

We request our suppliers for chemical substance analysis and information on materials being used in parts based on the “AMADA Group Green Procurement Guidelines”^{*1} that we established in April 2004.

◆ Chromate Treatments

With regard to surface treatment of in-house design mechanical parts, we have shifted from hexavalent chromium, which has a large environmental burden, to the more environmentally-friendly trivalent chromate.

◆ Oils

All oils marketed by the AMADA Group, including hydraulic fluid, lubricants and cutting oil, are RoHS compliant. Information on their GHS^{*2} physical and health/environmental hazard classifications is stated on the SDS^{*3}.

◆ RoHS^{*4} Compliance

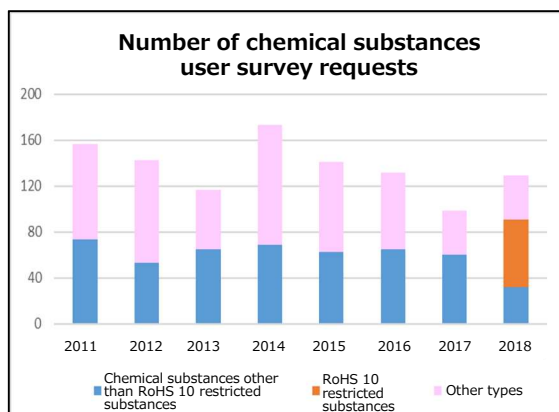
The AMADA Group’s principal products are classified in the Exempted Product Category of LSSIT (large-scale stationary industrial tools) in RoHS directives. Still, in order to give our customers peace of mind in using our equipment, as an initiative of our own we have completed compliance with the standards laid out in Category 11, as published on July 22, 2019, for parts of our equipment with which customers come in direct contact.

◆ Safety management and control of chemical substance use in the manufacturing process

In addition to products supplied to customers, all of the AMADA Group’s manufacturing plants are working to reduce the amount of regulated chemical substances during the manufacturing process, based on the company-wide medium term plan.

◆ Number of chemical substances user survey requests

The graph below aggregates trends in the number of customer survey requests concerning chemical substance content and other matters.



- Chemical substances other than RoHS 10 restricted substances
An itemization of survey requests includes user-specified chemical substance content, date/time of PCB disposal, requests for issuance of certificates of non-use for PFOA, etc.
- RoHS 10 restricted substances
Since the list of restricted substances has been expanded to 10 as of July 22, 2019, an increase was seen in inquiries in the previous year of fiscal 2018 concerning 4 appended substances. These are 4 phthalate esters: DEHP, BBP, DBP and DIBP.
- Other types:
Social environment surveys, questions concerning CSR, ISO 14001 certification, etc.

*1 The AMADA Group Green Procurement Guidelines are revised according to amendments in the laws.

*2 GHS: abbreviation for “Globally Harmonized System of Classification and Labeling of Chemicals”

*3 SDS: A Material Safety Data Sheet (SDS) is a document mentioning the hazardous and harmful chemical substances of a product, and is delivered when the product is given or provided to another company.

*4 RoHS directive: Directive2011/65/EU

Activities, Fiscal 2018

Preventing global warming (Reducing CO₂ emissions associated with our products)



Introducing new AMADA Eco Products (added in 2018)

◆ VC-500II

The VC-500 II features automatic welding current and torch speed settings through the selection of four elements from its pull-down menu: material, thickness, joint geometry and welding method. The model also seeks to offer user-friendliness with a back gauge that can be moved up and down (by electrical operation) and have its angle adjusted (manually) to suit the height and joint geometry of the workpiece to ensure user-friendliness. Achieving an 11.6% improvement to power-saving performance and 20.7% increase in productivity compared with the conventional AMADA model (VC-700W used as basis of comparison), the VC-500II has been certified as an AMADA Eco Product.



VC-500II



◆ VENTIS-3015AJ

The VENTIS-3015AJ is equipped with LBC technology, which controls the laser beam to ensure it is at the optimum locus to suit the material and plate thickness. The model operates with three processing modes that realize revolutionary processing (Productivity Mode, Quality Mode and Kerf Control Mode) from infinite laser beam locus patterns. Achieving a 33.6% improvement to power-saving performance and 38.8% increase in productivity compared with the conventional AMADA model (LCG-3015AJ used as basis of comparison), the VENTIS-3015AJ has been certified as an AMADA Eco Product.



VENTIS-3015AJ



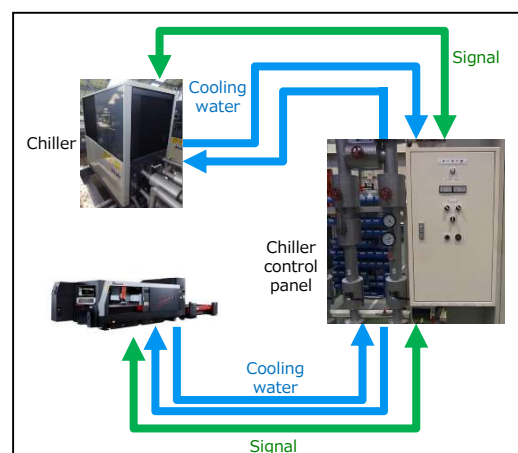
Preventing global warming (Reducing CO₂ emissions associated with our business activities)



Toki Works (AMADA / AMADA MACHINERY / AMADA TOOL PRECISION)

At the Toki Works, efforts are underway to reduce the amount of electricity consumed by cooling equipment (chillers) used in the manufacture of laser processing machinery. The facilities have worked to reduce unnecessary consumption of electricity by introducing a function to automatically suspend the operation of chillers when processing work using a chiller comes to an end during night hours. This has reduced electrical power consumption about 25% per unit produced.

Also, in wintertime, during long periods of disuse, the chiller's water temperature sometimes falls below the appropriate temperature. When restarting the chiller, it would need to be kept in operation in order to maintain its water temperature even when the chiller did not need to be used, due to the amount of time needed for warmup. This led to wasteful consumption of electricity. With new improvements to equipment settings, a function for intermittent operation has now been implemented. With this, temperature sensors with which the laser processing machinery is equipped monitors the water temperature and automatically maintains the water temperature according to temperature settings. This feature has enabled the appropriate water temperature to be maintained with minimal operations and has reduced the amount of electricity consumption, which had been about 18% more per unit produced than in summertime.



Linking the chiller control panel and laser processing machinery for automatic control of chiller operation

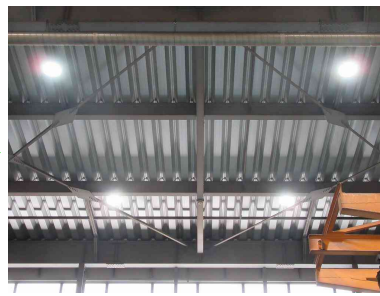
Fukushima Plant (AMADA AUTOMATION SYSTEMS)

At the Fukushima Plant, lighting in production facilities was previously provided by mercury lamps. This meant the accumulation of maintenance costs as well as a short lifespan, and electricity fees were trending upwards as well. There were also calls at the site to improve the work environment by increasing illuminance. Accordingly, in August 2018 the lighting in production facilities as well as on ceiling cranes was switched to LED lighting. As a result, fees for electrical power, in conversion to yearly figures, have gone down 2.6% in comparison with the preceding fiscal year. A 3.4% annual reduction in CO₂ emissions has been achieved as well.

In addition, it has led to workload reduction and quality enhancement through improving workability at the plant, with factors such as the fact that illuminance (measured in lx) is now 2-3 times brighter while using the same number of electric bulbs as with the mercury lamps.



Original mercury lamps



LED lighting after switch



Switch to LED bulbs made for ceiling cranes as well

Effective use of resources



• Fukushima Plant

Shipment packaging work at the Fukushima Plant always incurred an additional workload with incidental tasks such as measuring and cutting the rolls of bubble wrap packing material rolls, the scraps of which were then discarded. For assembly, the plant moved forward with standardizing the form of packaging and began trial production of plastic packaging bags, which they then made into ready-made packages. This led to a 677 kg reduction in the volume of plastic packing material purchased compared to the preceding fiscal year, a 28% rate of reduction.



The new ready-made product packaging (Fukushima Plant)

Regulated chemicals control



• Miki Plant

A re-examination of the alternative to cleaning thinner (containing toluene) was conducted and the switch to toluene-free completed. A 15% reduction in PRTR substance emissions compared with the previous year was attained.

• Fukushima Plant

An improvised wintertime deposition rate was achieved by installing a heater in the paint mixing room to reduce waste oils from paint, lowering the viscosity of mixed paints and providing stability. With emissions of paint waste oils at 10.2 tons, waste oils from paint accounted for 15% of the amount purchased in fiscal 2018, compared with 18% in the preceding fiscal year.



Solvent paint mixing room (Fukushima Plant)

Assessment of water-related risks

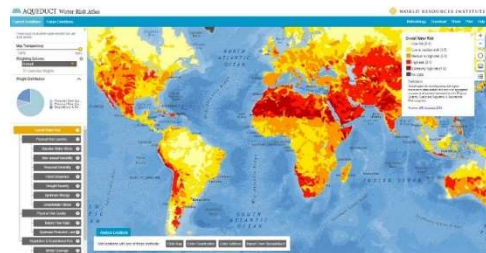


◆ The necessity of disclosing the impact of business activities on water resources

Water is an indispensable resource that forms the basis for our lives and livelihoods, economic prosperity, health, development and sustainability. According to the United Nations, however, the response by world governments has been slow in working to achieve goals ensuring appropriate management of resources to make water and sanitation available to all people in a sustainable manner. Reports regarding climate change by the Intergovernmental Panel on Climate Change (IPCC) say that by limiting the rise in temperature to 1.5°C we could be able to reduce the share of the population exposed to water-related risks 50% compared to a scenario with a 2°C rise. Yet, the world is on course to surpass that benchmark. As Japan is a country where forestland accounts for two thirds of the territory and abundant rivers and lakes are found, we understand that awareness of water-related risks may not be particularly high. There are, however, great risks with regard to water and climate change to which the country is exposed, including recent natural disasters such as typhoons and flooding that have occurred. It is our position that we should move forward with the disclosure of risk impact regarding “water-related issues”, which will be indispensable to AMADA’s plans for sustainable growth as well.

◆ Leveraging global tools to assess water-related risks

The AMADA Group has 19 operational bases¹ spread widely throughout Japan and overseas, located in a diverse range of regions, where the water-related risks they face are considered to vary widely as well. We believe it is necessary to conduct risk analysis and response with regard to water resources attending our business activities and to provide announcements on the status of our responses.



Our first step was to conduct water-related risk assessment. Carrying out a summary assessment of water-related risks using the World Resources Institute’s global water-related risk assessment tool “Aqueduct” for the AMADA Group’s 19 operational bases, we were able to attain a grasp of water-related risks as related to our production bases.

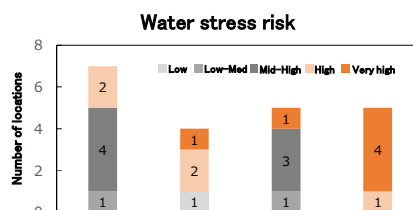
Aqueduct, a water-related risk assessment tool
 * We adopted the use of Aqueduct, a tool used by many of the countries responding to the CDP Water Security Questionnaire, due to its ability to offer comprehensive, side-by-side assessment of water-related risks for our production bases, which are scattered throughout the world.

◆ Results of water-related risk assessment

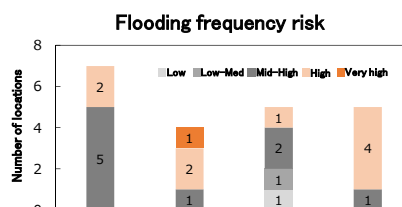
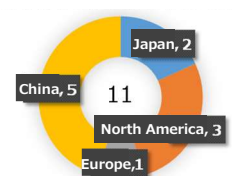
As the result of our assessment of water-related risks, we identified a high risk for “water stress” and “flooding frequency” at our locations in Japan, North America and China.

Water stress, calculated as the level of demand for water considered against the level of available water resources, indicates a region’s degree of water shortage, and some AMADA Group production bases were found to be located in regions at high risk. We identified a particularly high level of risk for water stress in China.

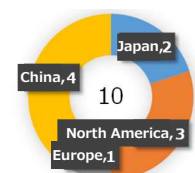
As with water stress, some regions were found to be at high risk with regard to the frequency of flooding. We identified particularly high levels of risk for water stress in North America and China. As precipitation patterns are forecast to undergo changes due to climate change, we will continue to pay attention to these regional risks of flooding frequency in the future.



Locations with high water stress risk



Locations with high flooding frequency risk



◆ Water-related risk countermeasures for the future

In the current fiscal year, we carried out a summary assessment of external factors using global tools. In the future, we will advance the analysis of risk factors (factors dependent on water usage) with regard to each operational base’s water environment as internal factor analysis, and we hope to link such analysis to relevant countermeasures. First, we will work to clarify the status of risk at individual operational bases located within Japan.

¹ 19 AMADA Group operational bases: Group operational bases dealing with production (7 within Japan, 12 overseas)

Winning the Kanagawa Global Environmental Award

Evaluating the ENSIS-3015AJ's environmental performance



AMADA received the “2018 Kanagawa Global Environmental Award” promoted by Kanagawa Prefecture. AMADA received an award in the Global Warming Countermeasure Division (for the development of technology to reduce greenhouse gases) for “ECO PRODUCTS development: the ENSIS-AJ series of fiber laser machinery”.

Reasons for receipt of the award can be summarized as follows:

- ① Being equipped with AMADA's proprietary “Variable Beam Control Unit” has enabled the cutting of thick plates that previously required use of a 4kW-equivalent oscillator at outputs of now 2kW
- ② Has shortened processing times by achieving a full range of successive automatic processing work from thin to thick plates without lens replacement
- ③ Has reduced electrical power consumption approximately 39% compared with conventional fiber laser machinery due to the details described above

The details described above were highly appraised, earning the AMADA Group its second award since 2013.

* Kanagawa Global Environmental Award

The “Kanagawa Global Environmental Award” exists to extol the achievements of, and give public recognition to, organizations (corporate, governmental and academic organizations, NPOs, etc.) and individuals who have made outstanding efforts contributing to the following in working toward global environmental conservation: practical activities aligned with specific initiatives outlined in Kanagawa Prefecture's declarations of environmental actions, the reduction of greenhouse gas emissions as laid out in “Kanagawa Prefecture's Ordinance to Promote Global Warming Measures”, the promotion of energy planning as laid out in “Kanagawa Prefecture's Ordinance to Promote Renewable Energy Introduction and similar efforts.

Strongpoints of the ENSIS-3015AJ

The ENSIS-AJ series is a piece of equipment optimized for high efficiency and economical use of energy achieving further evolution of fiber laser machinery—already considered to be highly efficient—with proprietary technology featuring a combined offering of a proprietary fiber oscillator and Variable Beam Control Unit.

■ Thick-plate processing facilitated by high beam quality and 2kW oscillator

The ENSIS-3015AJ is equipped with the world-first Variable Beam Control Unit, made with original optical components. Through this, the model has achieved high-efficiency beam quality optimal for sheet metal processing. In addition, in the processing of thick sheets, it has enabled cutting at 2kW by changing the form of the beam, whereas a 4kW-equivalent oscillator was previously required. This has enabled cutting with greater speed for thin sheets and stability for thick ones.

■ Able to offer a full range of cutting without lens replacement (achievement of successive automatic operation with everything from thin to thick plates)

The Variable Beam Control Unit has enabled processing with a fiber laser beam form when performing high-speed cutting of thin sheets and automatic variance to a beam form optimal for thick sheets when cutting thick sheets. Furthermore, it achieves successive automatic operation with everything from thin to thick plates without lens replacement.

■ Improved energy efficiency through energy conservation benefits

Compared with CO₂ lasers, fiber laser machinery offers approximately three times higher energy efficiency and extremely high energy conservation benefits. On top of this, with its ability to perform processing work at 2kW that originally required cutting with 4kW fiber lasers, the ENSIS-3015AJ offers considerable energy conservation benefits such as the further reduction of electrical power consumption.



ENSIS-3015AJ



The Kanagawa Global Environmental Award ceremony, fiscal 2018

※ The ENSIS-AJ series is awarded the Agency of Natural Resources and Energy Director's Award at the 36th Energy-Efficient Machinery Awards hosted by the Japan Machinery Federation (JMF) for its excellent energy-saving performance.

Communication



With our customers

The AMADA Group conducts activities within Japan and worldwide in order to offer industry support and social contributions.

Europe



Assisting FRENCH WORLD SKILL
AMADA S.A. (France)



Receiving students on a factory tour
AMADA EUROPE S.A. (France)

Asia



Donating equipment to neighborhood elementary school
AMADA INDIA (India)



Holding a job fair for local jobseekers
AMADA THAILAND (Thailand)

America



Co-sponsoring Genesee Community College Tech Wars
AMADA TOOL AMERICA, INC. (US)



Cooperating with the Woodfield Area Children's Organization
AMADA AMERICA, INC. (USA)

With our customers

AMADA SCHOOL

The AMADA SCHOOL was established in 1978 as Japan's first vocational training corporation dedicated to metalworking machinery and education that takes advantage of the wealth of technology and cutting-edge facilities available. The school is built upon the two pillars of skills education (manufacturing) and support education (personnel development) and teaches students about machines, CAD/CAM operation, and the fundamentals of sheet metal processing. In addition, the school offers preparatory courses for the National Trade Skill Test (factory sheet metal work) theory and practical examinations. The school also provides courses with the goal of supporting human resource development for new employees, administrative staff, and supervisory staff at small- and medium-sized businesses and offers lectures on education courses, for managerial successors.



Subsidized JMC educational course for managerial successors (JMC)

Support for Sheet Metal Industry Associations

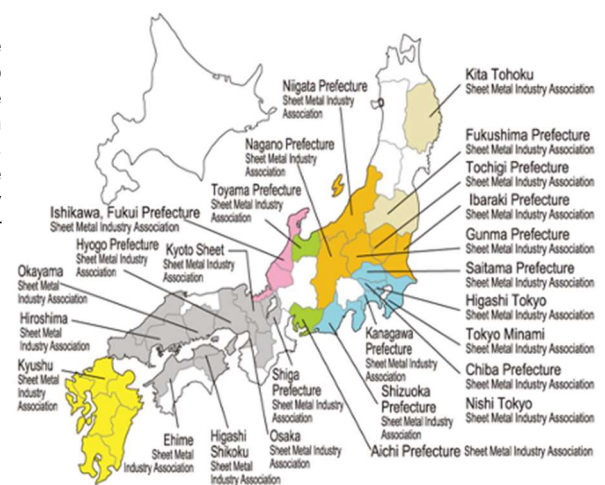
Sheet metal industry associations are groups of companies involved in the sheet metal processing industry established in each region of Japan by to promote the planning, proposal, implementation, and research of activities for the prosperity and global expansion of member companies. To date, 26 such industry associations have been established in Japan. To help improve the skills of all association member companies, train human resources, and promote industry development, AMADA provides assistance through the industry association secretariats and takes such measures as dispatching lecturers for workshops.



We hold seminars and various other events



Skill Examination



The Precision Sheet Metal Technology Fair

The Precision Sheet Metal Technology Fair is a competition established in 1989 by the AMADA SCHOOL to promote the improvement of sheet metal processing technology and skills. Currently, the school starts soliciting products from five categories in around May each year and, following judgment, holds an award ceremony the following March. The 31th Precision Sheet Metal Technology Fair awards ceremony was held in March 2019. 263 entries were submitted, of which 104 were submissions from overseas, with 32 submissions from students. Outstanding works received the Minister of Labour, Health and Welfare Award, the Minister of Economy, Trade and Industry Award, the Kanagawa Prefecture Governor's Award, the Japan Vocational Ability Development Association Chairman's Award, the Nikkan Kogyo Shimbun Award, the Japan Society for Technology of Plasticity President's Award, the Overseas Best Award, the Judging Committee's Special Award and the AMADA Award. Additionally, superior works in the Sheet Metal Parts, Sheet Metal Assembly Parts, Welding Fabrication and Formative Arts Fabrication categories were awarded the Grand Prix, and, in the Student's Fabrication category, Gold, Silver and Bronze prizes.



The 31st Precision Sheet Metal Technology Fair awards ceremony

The Main Award Winners



Winner of the Minister of Labour, Health and Welfare Award



Winner of the Minister of Economy, Trade and Industry Award

With our employees



AMADA Group's Human Resource Strategy

The practice of “Growing together with our customers” forms the mainstay of the AMADA Group’s corporate philosophy. For the sake of being able to contribute to the international community, including the *monozukuri* “creation of things” for our customers, we consider *hitozukuri*—the “creation of people”, or personnel cultivation, in order to bring creations and challenges to fruition—to be a matter of vital importance in growing together with our customers. We also aim to cultivate a climate in which each employee is respected, even while being an organization ourselves and are working to develop a variety of initiatives with the belief that this will lead to the power of those individuals growing together with our customers as well.

Human resource cultivation

Based on the belief that our employees themselves constitute the key to sustainable development for the AMADA Group, we are working to cultivate human resources with the aim that each individual employee is able to take a lively, energetic approach to work as they create value for customers while enjoying a true experience of growth and development themselves. We have incorporated programs for learning teaching AMADA Group values into training provided upon entry to the company as well as training provided separately for all levels of employees, with the aim of facilitating the experience of our corporate philosophy of “Growing together with our customers.”

In training provided when employees join the company, activities are pursued to discover appealing local attractions and proposals are made to increase the number of visitors to the city through local fieldwork carried out in cooperation with the city of Isehara, contributing to local revitalization.

Such training aims to enhance problem resolution skills while broadening the horizons of employees.



FY2019 new employee training (Mount Ōyama climbing)

Promoting diversity

■ Employment of persons with disabilities

The AMADA Group maintains the special subsidiary AMADA PLANTECH CO., LTD. as a location for working together with our employees with disabilities. Primary jobs undertaken include cleanup work, on-site greening efforts at plants and mail delivery. We hold promotion committee meetings for employment of persons with disabilities bimonthly, and discuss the ways of having our employees approach work as well as promoting their employment. What is more, in order to make our commitment to meet the legally mandated ratio of persons with disabilities, with the external organization in cooperation, we promote the employment of persons with disabilities, not only those with physical or intellectual disabilities but also mental disorders.

* For trends in the employment ratio of persons with disabilities, see the “Data” volume.

■ Woman's career support

We recognize the current scarcity of female leaders as an issue to address. For that reason, we are moving forward with the proactive cultivation and appointment of female leaders to shoulder the responsibility of the next generation. With regard to the aspect of training, we have organized female career training for female employees who have joined the company within the past five years. We are progressing with the proactive hiring of female employees from science and technology backgrounds in our hiring of new graduates and moving forward with the application of female personnel to planning and development fields. Our many female employees with linguistic proficiency are also demonstrating their prowess in various fields, from domestic and international presentations to communication with overseas customers.

Going forward, we will continue to maintain an environment where people can work around life events such as marriage and childbirth, thereby fostering a corporate culture to motivate female employees to play active roles without having to put out the extra effort.

Promoting work-life balance

The AMADA Group is promoting efforts to ensure that each and every employee is able to face their work with peace of mind.

■ Extension of shortened work hours for childcare provision

As an initiative geared toward the childrearing generation, we have expanded the shortening of work hours for childcare provision coverage from the legally-mandated age of three to include children up through their graduation from elementary school.

■ Initiatives concerning male employees' parental leave

We are working to promote access to parental leave for male employees. By creating a climate in which male employees take leave for childcare purposes with our original establishment of work-leave options, we are working to facilitate legally mandated parental leave.

■ Initiatives concerning the taking of annual paid leave

In addition to the legally mandated 5 days of annual paid leave, we are promoting the taking of 2 days of paid leave as days of encouraged holidays and 4 days to be scheduled individually. We are also having superiors provide follow ups concerning the taking of paid holidays by referencing records of annual paid leave status.

■ Return-to-work system

For employees who have resigned from their positions due to personal circumstances not limited to childcare, we have established a return-to-work system. This system has made us able to once again enjoy the work efforts of personnel who had left their positions for reasons including childrearing, caretaking or increasing their own skills.

■ Harassment countermeasures

The AMADA Group has established both internal and external consultation services. Consultations can be provided on an anonymous basis as well. 29 consultations have been made externally and 12 internally. We conduct careful reviews and responses regarding the details of consultations that have been made.

Health-Oriented Management

By developing an industrial health and hygiene system and through collaboration with the health insurance union, the AMADA Group pours great effort into ensuring that our employees are provided with various mental and physical healthcare. We strive to enhance our employees' mental and physical health as it is the foundation that supports each one of them to work eagerly and with vitality.

As an initiative to deal with preventable cancer, we conduct gastric cancer risk assessments (*Helicobacter pylori* examinations) for all employees and promote the elimination of *H. pylori*. We also offer smoking-cessation clinics internally as efforts to help employees with nicotine dependence and, at the same time, lessen their risk of developing lung cancer. In addition, we hold cancer risk management seminars conducted by industrial physicians, particularly for employees over the age of 50, when the risk of cancer increases.

With regard to mental health, public health nurses offer support for employees on leave with mental health-related issues, providing post-examination checkups in the form of periodic follow ups with the employees, checking up on their lifestyle habits during their time of leave, offering them advice and so on. In addition to these efforts, we also conduct stress checks for employees and hold anger management seminars for those in managerial positions.



Cancer risk management seminar

Safety Management

With regard to occupational health and safety in the AMADA Group, a General Safety and Health Committee is jointly formed with group companies within the Works. A Safety Committee, Health Committee, Disaster Prevention Committee and Transportation Committee have been established as specialized organizations, working to systematically promote the resolution of issues regarding safety and health throughout the entire Group, including its business offices.

In fiscal 2018, we focused efforts on service engineers' workplace accident prevention. Through workplace safety meetings held monthly, we made thorough reexaminations of the fundamentals of safety management, including efforts such as having clients wear helmets when visiting production plants and holding meetings on pre-work hazard prediction. Through such activities we aim to achieve zero accidents.



A meeting on pre-work hazard prediction



With our local community

Community cleanup activities at the various operation sites

Our works located in Japan are involved in social contribution activities in cooperation with local organizations. Noda Works participated in fundraising activities of the Chiba Environment Revitalization Fund sponsored by the Chiba Environment Foundation. The fund is used as a grant for environmental activities to protect Chiba's nature. The Works also participates in river cleanup activities in cooperation with local organizations. In addition, locations including the Isehara Works (Isehara City, Kanagawa Pref.), Fujinomiya Works (Fujinomiya City, Shizuoka Pref.), Ono Plant (Ono City, Hyōgo Pref.), Miki Plant (Miki City, Hyōgo Pref.) and Fukushima Plant (Nihonmatsu City, Fukushima Pref.) carry out regional cleanup activities as well.



Participating in the "Edogawa Clean Up" campaign (Noda Works)

Co-sponsoring the Nikkei Hoshi Shinichi Award

The AMADA Group is a co-sponsor of the Nikkei Hoshi Shinichi Award organized by Nikkei Inc. "Demonstrate the full extent of your scientific inventiveness and write a story that will stimulate readers' hearts and minds"—This is the concept behind the Nikkei Hoshi Shinichi Award. As a company engaging in *monozukuri* (product creation), we have continually co-sponsored the award since its inception in order to spread awareness of AMADA's business activities to a great number of people, including those possessed of scientific understanding.



Hoshi Shinichi Award ceremony

Co-sponsored local sports competitions

The AMADA Group actively co-sponsors local sports competitions. We have co-sponsored the Yokohama Marathon from when it was first held in 2015. Many of our employees support the tournament by participating as operational volunteers. We also co-sponsor the Ōyama Hiking Marathon held each year in Isehara City, Kanagawa Pref., where AMADA's head office is located, as well as a number of sports competitions, such as a local ekiden road relay race.



YOKOHAMA MARATHON

Co-sponsored and held local events

The Ono Plant (Ono City, Hyōgo Pref.) hosts a local social exchange called the "Hanami-cation" for blossom viewing every April, hosting their 9th such event in fiscal 2018.

In addition, the AMADA Group co-sponsors events such as the Isehara Tourism Dōkan Festival (Isehara City, Fukushima Pref.) held each October, the Ōiso Nagisa Festival (Nakagun Ōiso-machi, Naka-gun, Kanagawa Pref.) and the National Tree-planting Festival (Sōma City, Fukushima Pref.) as well.



The 9th annual Hanami-cation (Ono Plant)

Factory tour

The Fujinomiya Works (Fujinomiya City, Shizuoka Prefecture) cooperated with the "Summer vacation environment expedition for parents and kids" sponsored by Fujinomiya City and held a plant tour. The theme of this tour was, "Tour of a plant that cares about air pollution prevention." The tour that targeted mainly lower elementary grade students introduced the environmental activities of Fujinomiya Works and showed the actual processes of a coating booth, in-factory machine processing, and laser factory.



"Summer vacation environment expedition for parents and kids" factory tour

Corporate Governance

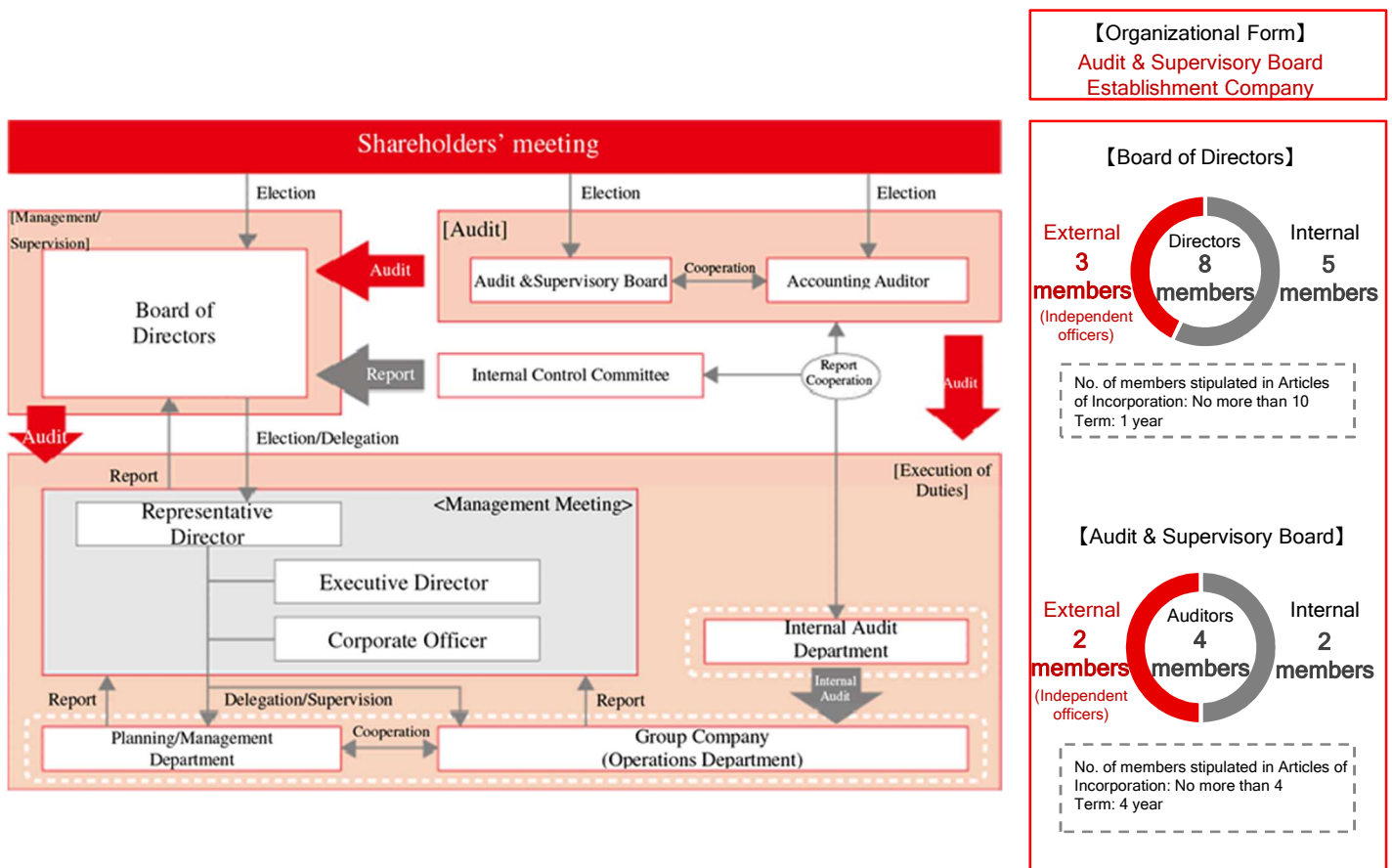
The AMADA Group believes that sound activities based on high ethical standards and fairness are crucial. AMADA Group will work to enhance corporate governance built on ensured transparency and thorough compliance with laws and regulations throughout management and operations, in line with the following philosophy.

Basic concept of corporate governance

- (1) Strive to ensure the rights and equitable treatment of shareholders.
- (2) Strive to engage in appropriate collaboration with stakeholders other than shareholders.
- (3) Strive to ensure appropriate disclosure and transparency of information.
- (4) Strive to have the Board of Directors appropriately fulfill their roles and responsibilities with a clear understanding of fiduciary duty and accountability to shareholders.
- (5) Strive to engage in constructive dialogue with shareholders.

Structure of corporate governance

Employing the services of an audit & supervisory board establishment company, we have established a Board of Directors and Audit & Supervisory Board as well as a Management Meeting as an advisory committee for major issues with regard to the execution of business. Also, in order to clarify the separation between executive and supervisory bodies and enhance maneuverability of business execution, we have adopted an executive officer system.



AMADA has adopted this system with the aim of realizing optimal corporate governance in order for the AMADA Group to maintain sustainable growth, increase the Group's long-term corporate value and thereby enable all stockholders to maintain long-term holding of AMADA shares.

Board of Directors

With its number of members stipulated in the Articles of Incorporation to be no more than 10, the Board of Directors is currently made up of 8 directors, including 3 external directors who are independent officers. We have a policy of maintaining 2 or more independent external directors who have independence and neutrality on the Board of Directors in order to link external viewpoints to strengthened decision-making and supervisory functions. Out of a viewpoint based in making effective use of independent external directors, we have adopted a system featuring the inclusion of 3 independent external directors as of the 78th Ordinary General Meeting of Shareholders held on June 28, 2016.

The Board of Directors makes determinations on items stipulated by laws and regulations as well as other important business matters. With its role as a body supervising the execution of business operations as well, the Board of Directors convenes as necessary and is structured so as to be able to make administrative judgments with speed and flexibility.

Audit & Supervisory Board

AMADA has adopted a corporate audit system, with the number of auditors stipulated in the Articles of Incorporation to be no more than 4. We have a policy of maintaining a number of independent external auditors who have independence and neutrality equal to at least half of directors on the Audit & Supervisory Board. Currently the Board is made up of 4 members, of whom 2 are independent external auditors. The Audit & Supervisory Board is structured so as to be independent from company management. It performs the auditing of business execution by company directors and employees, including operating officers, as well as of the internal control system, accounting and so on.

Also, in order to ensure the independence and quality of auditing of financial auditors, we have formulated criteria for the proper assessment of financial auditor candidates or of presently appointed financial auditors, and we make periodic reviews to determine whether such criteria are being satisfied or not.

Management Meeting

AMADA holds management meetings on a timely basis in order to further strengthen the Board of Directors' function and increase managerial efficiency. At these management meetings, deliberations on important matters with regard to business execution are carried out and time is taken to conduct discussions on a narrowed-down list of themes.

Assessment of the Board of Directors' Effectiveness

AMADA conducts assessments of the entire Board of Directors on a yearly basis based on our "Corporate Governance Guidelines." At the Board of Directors' meeting held on August 9, 2019, the effectiveness of the entire Board of Directors in fiscal 2018 was analyzed and assessed, and discussions were carried out on present issues and policies to be developed.

As a result, it could be confirmed that the AMADA Board of Directors is functioning properly in general. The following assessments informed this view: "From the viewpoints of the scale of the Board, the diversity of its members and the independence of its independent external directors, the Board is properly organized and has been set up with a system through which it is able to properly carry out important managerial decision-making and supervision of business execution," and "An environment in which members are able to freely and openly state their opinions is being maintained, and in addition to the fact that advance explanatory meetings for Board of Directors' meetings with external officers in mind have been made a regular practice, the provision of preparatory information necessary for deliberations such as holding advance explanatory meetings has progressed and is contributing to the further activation of discussions."

At the same time, the review also encompassed the finding that "With regard to what form the company should take viewed from a mid- to long-term perspective, and issues that ought to be taken up in the future, further activation of discussions will be required. Also, with regard to issues concerning officers, including their remuneration, evaluation system, appointment and dismissal, and the cultivation of the next generation of managers based on the succession plan, it is desired that continual reviews such as reconsiderations of the remuneration system and the establishment of voluntary advisory committees."

Taking into account the current results of assessment, AMADA's Board of Directors will advance examinations on the construction of a system aimed at strengthening supervisory functions, with the goal of increasing the effectiveness of the Board of Directors as a whole. They will also work to conduct expanded discussions contributing to increased medium- to long-term corporate value, including examinations of responses to ESG, risk management and so on, officers' remuneration and their evaluation system, plans for the succession plan and more.

Voluntary Advisory Committees

At the Board of Directors' meeting held on November 7, 2019, AMADA resolved to establish a Nomination Committee and Remuneration Committee as voluntary advisory committees for the Board of Directors on April 1, 2020. We made repeated considerations concerning a system that would leverage independent external officers' expertise and advice in the appointment and dismissal of Board of Director candidates, the determination of remunerations and so on, with the aim of constructing a governance system with a higher degree of effectiveness. Through this, we came to the realization that, in order to further strengthen the Board of Directors' independence, objectivity and accountability, the establishment of voluntary advisory committees would be appropriate. Each of these committees is projected to be made up of the 3 or more members selected by the Board of Directors' vote, with independent external directors forming the majority.

Comparative Table ISO26000 / SDGs response chart

ISO26000 Comparative Table

The below table was created for this report to verify that we are engaging in activities and information disclosure in line with the core subjects of the international standard ISO26000 (guidance on social responsibility), which was published in November 2010.

Core subjects of ISO26000	Subjects	Mention in this report	Page number
Organizational governance	Organizational governance	·Foreword ·Corporate Governance	P03 P26-27
Human rights	1. Due Diligence 2. Crisis regarding human rights 3. Avoidance of complicity 4. Complaint resolution 5. Discrimination and the socially vulnerable 6. Civil and political rights 7. Economic, social, and cultural rights 8. Basic principles and rights at work	·With our employees ·With our local community	P23-24 P25
Labor practices	1. Employment and employment relationship 2. Working conditions and social protection 3. Social dialogue 4. Health and safety at work 5. Human resource development and training in the workplace	·With our employees	P23-24
Environment	1. Prevention of pollution 2. Use of sustainable resources 3. Climate change mitigation and adaptation 4. Environmental protection, biodiversity, and restoration of natural habitats	·Reducing CO ₂ emissions associated with our products ·Reducing CO ₂ emissions associated with our business activities ·Effective use of resources ·Regulated chemicals control ·Biodiversity ·Activities, Fiscal 2018 ·Assessment of water-related risks ·Data	P13 P14 P14 P15 P16 P17 P18 *Separate volume, "Data"
Fair operating practices	1. Prevention of corruption 2. Responsible political involvement 3. Fair competition 4. Promotion of social responsibility in the value chain 5. Respect for property rights	·AMADA Group Our Management Philosophy, Environmental Policy and Declaration	P02
Consumer issues	1. Fair marketing 2. Protection of consumers' health and safety 3. Sustainable consumption 4. Consumer service and support/resolution of complaints and disputes 5. Consumer data protection and privacy 6. Access to essential services 7. Education and raising awareness	·Reducing CO ₂ emissions associated with our products ·With our customers	P13 P21-22
Community involvement and development	1. Participation in the community 2. Education and culture 3. Job creation and income creation 4. Technology development and access to technology 5. Creation of wealth and income 6. Health 7. Social investment	·With our customers ·With our employees ·With our local community	P21-22 P23-24 P25

SDGs response chart

Content	Page	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
AMADA Group Environmental Declaration and Policy, Our Management Philosophy	P02																		
Top Message / AMADA Group's Key Objectives Subjects for SDGs solutions	P03-04																		●
Our Works	P05																		
Special Feature No.1: Introducing AMADA Eco Product SDE-2017 (GORIKI)	P07-08							●		●					●				
Special Feature No.2: AMADA Eco Products at our customers	P09-10							●		●					●				
Mid-term environmental plan	P11-12																		
Preventing global warming (Reducing CO ₂ emissions associated with our products)	P13							●		●					●				
Preventing global warming (Reducing CO ₂ emissions associated with our products)	P14							●		●					●				
Effective use of resources	P14											●	●						
Regulated chemicals control	P15			●								●	●						
Biodiversity	P16															●			
Activities, Fiscal 2018	P17-18			●				●		●		●	●	●					
Assessment of water-related risks	P19							●				●	●						
Special Feature No.3: Winning the Kanagawa Global Environmental Award	P20							●		●					●				
Communication: With our customers	P21-22				●					●									●
Communication: With our employees	P23-24			●		●			●		●								
Communication: With our local community	P25											●				●			
Corporate Governance	P26-27																		

Third party opinion



AMITA CORPORATION
Senior Consultant, Smart Eco Group
INOMATA Yōichi

Graduated 1994 from Faculty of Science and Engineering, Waseda University and joined Benesse Corporation the same year. Went on to successfully launch new businesses including a foreign internet venture and recruiting agency, then started at his current position in 2009. Specializes in strategy and implementation, communication, and education in areas of environment and CSR. Produced websites including the Ministry of the Environment's Ryuyo Sanpai Navi ("Superior industrial waste navigation"), Corporate Web Grand prix winning site Oshiete! Amita-san ("Tell us, Amita!"), and CSR JAPAN. Served on external committees including the Eco Certification examination committee for the Tokyo Chamber of Commerce and Industry. Written publications include Introduction to SCR Digital Communication (co-authored), CSR no Hikari to Kage ("The Light and Shadow of CSR"), a series in Kankyo Shimbun, and third-party opinions to corporations.

This is the fourth year for me to provide a third-party opinion for AMADA. Last year, I offered the following points as my recommendation: (1) establish top priority issues (materiality), a mid-to-long-term CSR plan, and organizational goals for environmental and social issues that consider the influence of the company and stakeholders, (2) work on global issues by actively participating in international initiatives, and (3) reorganize the company business and further enhance sustainability operations by back-casting from the perspective of long-term vision through 2050. I would like to start by verifying, through this year's report, how AMADA has evolved over the last year in response to the above recommendations.

My first impression was that by separating the report into the main text portion and data portion, the information was divided according to what the stakeholders would be interested in learning, and this likely made for better understanding for readers. With regard to the content, I felt that while the company's business practices are steadily becoming one that is sustainable and keeps ESG in mind than last year, compared to two years ago when ISO26000 and SDGs were incorporated in to the management, it leaves something to be desired. For environmental issues, the report explicitly summarizes the following as "Addressing Priority Issues" (P13-16): (1) global warming prevention (reducing CO₂ emissions in business activities), (2) effective use of resources, (3) chemicals control, and (4) biodiversity. And regarding efforts related to global issues that I pointed out last year, AMADA conducted a water risk evaluation for various locations around the world (P19), which will serve as a factor in the future in fulfilling its responsibility to the local community as a global company. Furthermore, as part of the effort to reduce CO₂ emissions, which is currently the number-one concern in environmental issues, knowing and reducing not only the amount of CO₂ emissions by AMADA as indicated in Scope 3 (Data portion P4, P5), but also that of the entire supply chain including the end users would help the company contribute as a member of society to the international community.

Moreover, starting this year, the number of external board members is clearly stated in the Governance page, indicating that the company is implementing thorough corporate governance (P26, P27). Regarding social matters, I was able to see that, through efforts to promote work-life balance, the company is working to ensure that each employee is able to work with a sense of well-being (P23, P24). To give an overall assessment based on the above-listed points, I feel that progress is steadily being made toward sustainable management.

The top page, in particular, claims that social contribution through manufacturing (*monozukuri*) is one of the company's missions and it drives a powerful message that it aims to contribute to the development of regional and international communities (P3), and this gave me the sense that the SDGs are incorporated deeply into its business management and are not being carried out merely as a superficial performance. Additionally, for machinery manufacturers, resolving issues through their products, which are their main business, is a way to reduce CO₂. To this end, the two contradicting capabilities of reducing energy input and CO₂ emissions must be satisfied, but I believe AMADA can make full use of the experiences and technologies for *monozukuri* accumulated over many years. By resolving such challenging issues and as more and more of AMADA's products become available in the world, the global environment will improve, and if economic value can be simultaneously fulfilled, the company will come a step closer to becoming a sustainable corporation. I would very much hope to see technological innovations being developed through a long-term perspective.

It was stated that AMADA Group is formulating a medium-term plan "TASK 3-2-1" for the period through FY2021. The next business plan, however, should be formulated with a long-term view that looks ahead at 50-100 years in the future, involving such efforts as enhancing fiber laser machine products that provide both productivity and energy efficiency, and designing and developing eco-friendly products while staying conscious of ESG.

In doing so, it is my hope that goals are set with perspectives not only on reducing CO₂, but also on how much of the materials thrown out during the machine manufacturing process was reduced, how much of the discarded fiber laser machines are being recycled, and how much of the employees' production time for manufacturing those products have been cut. Doing so will likely bring the company one step closer to a more ESG-conscious *monozukuri* manufacturing.

One sign that indicates this is happening is an article about the development of AMADA's eco-friendly product, the *ENSIS-AJ Series: Fiber Laser Machine*, which won the 2018 Kanagawa Global Environment Award (P20) promoted by Kanagawa Prefecture. It was a topic that precisely indicates the direction of AMADA's future business. To use such strengths in *monozukuri* to resolve environmental and social issues through the company business leads to the attainment of SDGs and that, in turn, becomes the company's valuation which will attract ESG investments. I hope AMADA will aim to develop many projects like this in the future.

As explained thus far, I felt the past year has been one in which AMADA made forward progress one step at a time. That said, I would like to offer two points of advice in order for the company to gain even greater trust of many stakeholders and to further increase corporate value.

First is to make use of your strength in *monozukuri* more than ever to further accelerate efforts to resolve social issues. Our society will become more and more uncertain as we go forward. Due to the novel coronavirus that broke out in Wuhan, China in 2019, Japan has undergone a state of emergency since March 2020 which involves such changes as closing elementary, junior high, and high schools and cancelling various events. This time last year, who could have predicted that we would be facing this kind of a situation? In the future, we may experience more unexpected events due to air temperature rises and water shortages caused by global warming.

AMADA reported, starting this year, that it has begun working on global issues including Scope 3 and water risk evaluation. However, I believe explanation should again be offered to the stakeholders about why these particular efforts were started and how such efforts will become relevant to business.

By engaging in dialog with stakeholders, priority issues (materiality) will likely get polished up and allow AMADA to work on issues that are aligned with the times.

For the second point, which is something I have repeatedly stated as third-party opinions in the past, I believe it is time to switch from the current report to a sustainability or integrative report. In Europe and the United States, ESG investments are receiving increased recognition by institutional investors, and in thinking about companies' sustainability, those which actively engage in environmental sustainability issues are evaluated highly. For companies involved in coal, petroleum, and natural gas with low ESG evaluation, over 1,000 financial agencies around the world have announced their intention for divestment. Such trends will likely increase at a greater speed in the future. AMADA should proactively reveal how it will make use of *monozukuri*, which is its strength, to resolve environmental and social issues. As a way to organize such activities, as I said in the opening message, you must envision a long-term future blueprint that looks ahead over the next 100 years for the company.

Going forward, we will see greater numbers of unpredictable environmental and social issues. Such issues might increase risks that will prevent the continuation of current projects, or conversely, they might develop into business opportunities. You should be able to use the issues as starting points for reorganizing your business and products. That will likely lead to the building of a sustainable society and help AMADA evolve into a sustainable corporation. I look forward to seeing next year's report.

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