

# Environmental and Social Report

Forest-In Office 2020



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# Editorial Policy

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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.

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## ■ Referenced guidelines

Environmental Reporting Guidelines 2018 of the Japanese Ministry of Environment, ISO26000

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## ■ Issues

Dec. 2020

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## ■ Scope of the content

Reporting period: FY 2019 and first half of 2020 (Apr. 2019 - Sept. 2020)

Relevant organizations: 21 domestic and 71 overseas companies

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## ■ 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.

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## ■ About the “AMADA Group” Company Names

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. (the company name changed from AMADA HOLDINGS CO., LTD., merging the former AMADA CO., LTD.)
  - AMADA MACHINERY CO., LTD. (Company name change from AMADA MACHINE TOOLS CO., LTD.)
  - AMADA WELD TECH CO., LTD. (Company name change from AMADA MIYACHI CO., LTD.)
  - AMADA PRESS SYSTEM CO., LTD. (Company name change from AMADA ORII CO., LTD.)
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## ■ An overview of disclosed information

The company’s financial and non-financial information, including information not regarding the environment, are as follows.

### ◆ Financial information

- IR information (website)
- Securities report
- Quarterly report
- Annual report

### ◆ Governance

- A Report Regarding Corporate Governance

### ◆ Non-financial information

- Environmental and Social Report (*this* edition / the *Data* edition)
- Environmental and Social Contribution Activities (website)

# AMADA Group Our Management Philosophy / Environmental Principles and Policy / Environmental Declaration

## 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. 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 Principles and Policy

### ◇ 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.

### ◇ Environmental policy

#### 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.

## Environmental Declaration

AMADA Group aggressively promotes environmental preservation 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.

# Risks and Opportunities

## Response to the TCFD (Task Force on Climate-Related Financial Disclosures)

Based on the recommendation of the TCFD (Task Force on Climate-Related Financial Disclosures), the AMADA Group is evaluating the effect of risks and opportunities related to climate on the management of the companies (scenario analysis) since FY2019. Henceforth, while utilizing the knowledge obtained hitherto, the company will work on scenario analysis and establishing its response plan, and is planning to disclose information compliant with the framework of the TCFD.

The AMADA Group's risks from climate change (representative examples)		
Type	Sector	Content
Risks accompanied by the "transition" to a low-carbon society (transition risk)	Machinery	By the reinforcement of energy regulation(s), etc. applied to products, insufficiency in product design and development may lead to opportunity losses and/or a decrease in sales
		As environmental tax, etc. are newly introduced, raw costs of products will rise, and could affect its sales.
		Depending on the environmental regulation(s) of each country, the use of parts in current products or the sales of the products themselves may become difficult, leading to an increase in costs required for design change and/or research and development, subsequently affecting the corporate group's performance.
Risks caused by the physical effects of future climate change (physical risk)	Manufacturing	If the company's manufacturing or supply-chain centers are affected by extreme weather such as floods and natural disasters, it may affect the continuation of production and/or sales, and may further require tremendous expenses to recover the facility(ies) for operation.

The AMADA Group's opportunities from climate change (representative examples)		
Type	Sector	Content
Business operations	Manufacturing	Cutting costs from production by enhancing energy efficiency will improve the competitiveness of products.
Products and services	Machinery	Continuing to innovate technologies for products with new alternative energy and/or energy saving features, the highly competitive AMADA Eco Products with higher energy-efficiency and productivity will be developed, enhancing the products' competitiveness.
	Services	In case of a natural disaster, etc., the quick response of fully prepared service center(s) in recovering machines and delivering consumables will demonstrate the company's fulfilled services, resulting in an increase of trust, attracting further sales opportunities.



## Top Message

# Through ecological *monozukuri* (manufacturing), we will proactively contribute in achieving international goals



**Representative Director,  
President; Executive Officer  
ISOBE Tsutomu**

I would like to send my deepest sympathies to every individual and their families who contracted the COVID-19 virus. I would also like to express my most sincere appreciation and respect to every individual at medical sites and those who are fighting for its cure and infection-prevention.

Since the foundation in 1946, the AMADA Group has conducted business in contribution to the customers, local society and international society through *monozukuri* (manufacturing), and to always remain the top option for “customers ambitious for *monozukuri* .”

On the otherhand, the recent environmental issues such as climate change and losses in biodiversity, and social issues such as poverty and disparity, disputes and invasion of human rights, stand as a severe burden for the next generation as a compensation for economic growth.

To resolve these issues and to actualize a sustainable world, the international society has indicated the goal which the whole world must work towards, whereas the “Paris Agreement” was adopted at COP21 and “SDGs (Sustainable Development Goals)” were established by the United Nations Summit. I believe the roles of corporations, as members of society, are being further anticipated, and at the same time, the responsibilities for what must be addressed by each corporation is growing.

As a response to climate change, one of the biggest issues we must address as a machine manufacturer is the reduction of CO<sub>2</sub> emissions within the products’ life cycle. Notably, the CO<sub>2</sub> emitted during the customers’ use of machines make up the majority. Customers always demand for both increased productivity (higher speed, quality and precision) and energy-efficiency when purchasing a new product. To improve these two trade-off functions simultaneously, I believe a never before seen innovation(s) and/or a new partnership(s) must be implemented in the development, designing and/or production stages, or it will not be actualized.

For machine manufacturers like us, transitioning to a low-carbon society due to climate change is a grave managerial “risk” for achieving sustainable growth, but I also believe that it is equally an “opportunity” for creating and obtaining the future market by technological innovation(s), etc.

To work on corporate reform for the next decade and for the 100th anniversary milestone that is within our sights, the AMADA Group has put effort into increasing the sales of “Fiber Laser Machines” which equip the newly internally developed laser oscillator. The “Fiber Laser Machine” performs with a high light absorption with excellent beaming quality, therefore can be used for high-speed, high quality and highly precise fabrication, enabling the fabrication of bronze and titanium that was difficult to do with conventional CO<sub>2</sub> laser machines. Furthermore, it is attracting attention from growing markets in the field of aerospace, healthcare, etc. for its feature that facilitates energy-saving due to its high energy efficiency.

As a response to the COVID-19 global pandemic, it is realistic to think that manufacturing will change dramatically worldwide. It is predictable that the metalworking industry will be required to shift to an automated and/or remote operation of their plants, for example controlling the physical attendance of workers by automation, being able to check the operation status from home, remote machine maintenance, etc. For *monozukuri* sites that are facing dramatic changes, I am convinced that the AMADA Group’s services and support structure strengthened by IoT, including the “V-factory”, will become a powerful tool for our customers’ *monozukuri*. By pushing further with these efforts, we will continue to improve the quality of our services.

From a long-term perspective for solving environmental issues on a global scale and social issues the whole human race is facing, we have come to an age where it is more important for corporate management to be navigated by the philosophy that one should look at the bigger picture of how the world “should be” first to decide what they “should do” next -all in the equation built towards the goal-, always questioning the current condition.

Being a global corporation, the AMADA Group will continue to deeply acknowledge its responsibility and role for addressing the issues faced by the society, including the global environment; and will proactively contribute in achieving international goals such as the Paris Agreement and SDGs through ecological *monozukuri*, which is the group’s strength.

## Implementation of “Double-Wing Management Structure”: Offense and Defense










### Offensive Management Strategies

Developing the laser business  
Promoting automation and its strategies  
Strengthening customer support after sales

### Defensive Management Strategies

Reform towards “BEP: 200 billion yen” philosophy  
Effects of integration / center reorganization  
by organizational reforms

Considering the external environment, a downturn in economic growth is predictable worldwide due to the spread of COVID-19. Under this circumstance, our group marked the next two years as a period to strengthen the corporate quality as a defensive management strategy, including structural reform; and at the same time, will build consistency in the currently on-going mid-term management plan’s key strategy and the post-COVID-19 product strategy, as an offensive management strategy. We will promote management that adapts to the environment.

AMADA Group’s Key Objectives	Subjects for SDGs solutions
<b>Preventing global warming</b> <ul style="list-style-type: none"> <li>Reducing CO<sub>2</sub> emissions in the product life cycle</li> <li>Reducing CO<sub>2</sub> emissions by saving energy and resources in business processes</li> </ul>	 Goal 7: Affordable and clean energy  Goal 9: Industry, Innovation, and Infrastructure  Goal 13: Climate action Effective utilization of resources
<b>Effective utilization of resources</b>	 Goal 11: Sustainable cities and communities  Goal 12: Responsible consumption and production
<b>Regulated chemicals control</b>	 Goal 3: Good health and well-being for people  Goal 11: Sustainable cities and communities  Goal 12: Responsible consumption and production
<b>Biodiversity</b>	 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.



# Businesses of AMADA Group

## We contribute to the future of manufacturing industry with the strength of our group.

As global manufacturer of metalworking machinery, the AMADA Group is mainly operating in the sheet metal fabrication machine business, metal cutting machine, grinding machine business, precision welding machine business, and press automation solution business. On April 1<sup>st</sup>, 2020, businesses of our group were reconstructed; businesses were centralized, allowing for the development of differentiated products and supported services, aiming to contribute to the future of our customers who are ambitious for their manufacturing business.

- Sheet metal fabrication machine business  
AMADA CO., LTD.

- Metal cutting and grinding machine business  
AMADA MACHINERY CO., LTD.

- Precision welding machine business  
AMADA WELD TECH CO., LTD.

- Press automation solution business  
AMADA PRESS SYSTEM CO., LTD.

- Overseas AMADA Group companies
  - Local affiliates in North America
  - Local affiliates in Europe
  - Local affiliates in other regions
- Domestic Group companies

## CUT / BEND / OPEN / ATTACH

### Sheet metal fabrication machine business

Sheet metal parts are used not only in cell phones, smartphones, clips and mechanical pencils we use every day, but also in traffic signals, elevators, an aircraft and rockets. AMADA's sheet metal fabrication machine business offers all solutions from machines through control software and peripheral devices to maintenance.

- Blanking machines
- Bending machines
- Welding machines
- Software
- Automation equipment





## CUT / OPEN / GRIND

### Metal cutting and grinding machine business

The machines of AMADA MACHINERY are at work in many and varied fabrication applications from minute precision parts for "medical equipment to large steel frames for high-rise buildings, bridges and other structures.

- Band saw machines
- Steel fabrication machines
- Blades
- New material fabrication machines
- Grinding machines
- Electrical discharge machines
- Shearing Machine:
- Tapping machines
- Ironworkers
- Products for distribution (NCC brand)



## DRAW / ATTACH

### Precision welding machine business

AMADA WELD TECH is providing throughout the world welding and processing solutions for automotive body panels and electrical equipment, LCD displays, personal computers, medical devices, and other familiar products.

- Laser welders
- Fine spot welders
- Laser markers
- Systems



## FORM

### Press automation solution business

Pressed parts that are fabricated from thin sheets of metal are used for items that surround our life, such as bikes, home appliances and electronics.

- Stamping press machines
- Press peripherals
- Spring formers



# 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 / AMADA TOOL PRECISION 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 CO<sub>2</sub> 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-cogeneration power generation systems.



Isehara Works

### ◆ Fujinomiya Works (AMADA / AMADA PRESS SYSTEM)

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 a 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.

The Miki Plant, located in Miki City—a place long known as “the city of hardware”—is mainly in charge of developing and manufacturing metal cutting tools such as bandsaw 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.

Noda Works is actively involved in environment preservation activities, for example recycling tape cores and joining riverbank cleaning activities.



Noda Works

## ◆ Isehara-suzukawa Works (AMADA PRESS SYSTEM)

Isehara-suzukawa Works (Isehara City, Kanagawa Pref.), being the main center of the AMADA Group’s press automation solution business since October 2018, develops and manufactures robot lines and large coil line systems for press automation systems. *Monozukuri* (manufacturing) here commits to high-precision and high-efficiency using the state of the art facilities, under thorough management.



Isehara-suzukawa Works

## ◆ Kawaguchi Works (AMADA PRESS SYSTEM)

Kawaguchi Works (Kawaguchi City, Saitama Pref.) is in charge of development, manufacturing and sales for the spring formers business of the AMADA Group. Spring formers of Amada Press System is beloved worldwide as the “MEC” brand, which is a top brand with the one and only technology in the field of precision spring.



Kawaguchi Works

# Introducing AMADA ECO PRODUCTS

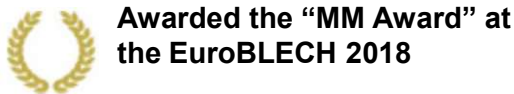


## The LBC Technology Equipped Fiber Laser Machine VENTIS-3015AJ



※VENTIS is Latin for “wind,” whereas this machine is named in hope of “creating a new trend (wind) by introducing a laser cutting machine equipped with a new technology into the market, leading the world.”

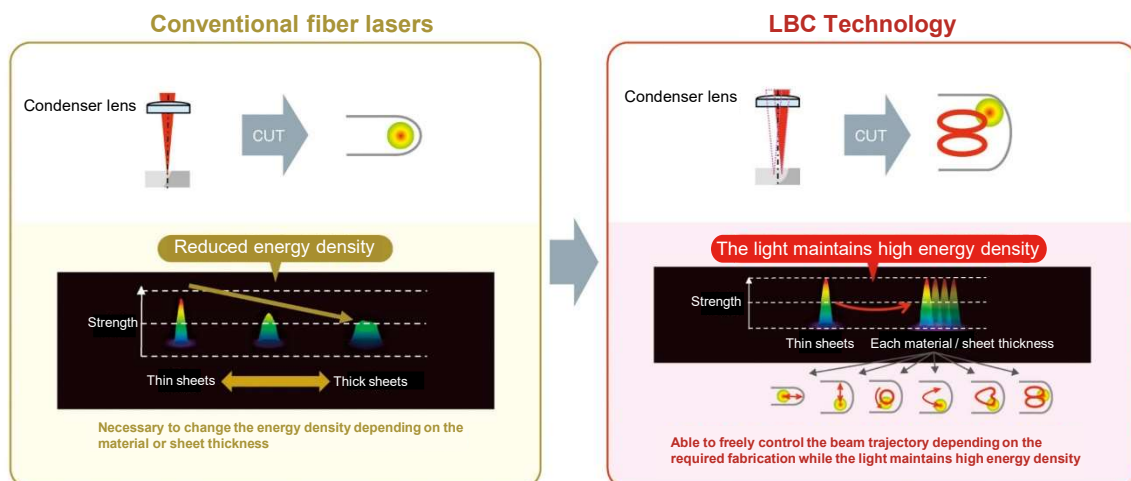
\* ECO PRODUCTS Mark (See P19)



The VENTIS-3015AJ is the world’s first fiber laser machine equipped with a new innovative “Locus Beam Control (LBC) Technology.” Awarded the MM Award in Germany at the “EuroBLECH 2018” in October 2018. The machine was awarded the “Main Award” of “the 62nd Top Ten New Product Award” sponsored by Nikkan Kogyo Shimibun in FY2019.

### ◆Feature ① the “LBC Technology”

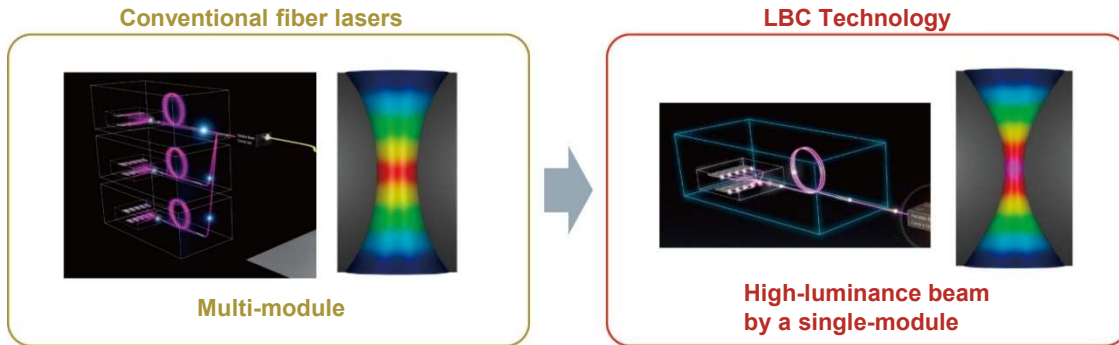
The “LBC Technology” is the world’s first technology that can freely control the most appropriate laser beam trajectory depending on the material or thickness of what is being fabricated. It can largely increase the productivity, responding to fabrication needs such as high-speed and high-class.



# Introducing AMADA ECO PRODUCTS

## ◆Feature ② a “high-brightness oscillator: the advantageous single-module”

For the VENTIS-AJ, a single-module oscillator that uses only one optical engine was adopted, therefore, it can secure a 4kW output without coupling optical engines, enabling the creation of the world’s top level high-brightness beam with high energy density.



By combining the LBC technology and single-module high-brightness beam, the VENTIS-AJ maximizes the ability of the 4kW fiber laser, actualizing the best performance in the class, enabling cutting with even higher efficiency.

## ◆VENTIS-3015AJ energy-saving performance

	Rate of improvement	AMADA Eco Products eligibility criteria (In the case of Laser machines)
Energy-saving performance (Rate of electrical consumption reduction)	33.6%	≥ 30%
Productivity (Rate of production cost reduction)	38.8%	≥ 10%

※Comparison with AMADA’s LCG-3015AJ

### Interview with the Production Sector Personnel ①

**Director MIYABUCHI Shiroyuki, Dept. of Blanking Technology, AMADA Head Dept. of Sheet Metal Development**

With years of evaluating fabrication, we were able to present the “VENTIS-3015AJ”, equipped with the world’s first, innovative, “LBC Technology.”

I am confident that a VENTIS machine can compete well in the race for low cost and high quality which is likely to further intensify.

AMADA will accelerate the further evolution of fabrication technology differentiated from others, flowing with new trends and winds, or in other words: *VENTIS*.



### Interview with the Production Sector Personnel ②

**ADACHI Masaki, Leader, Laser Development Group 1, Dept. of Blanking Technology, AMADA Head Dept. of Sheet Metal Development**

We recently developed the VENTIS-3015AJ as the first machine to equip the LBC Technology. Being able to freely control the beam trajectory, it allows various conditions that were never possible. I believe this can help further develop many fabrication scenarios for our customers.



## AMADA Eco Products at our Customers

## LASER TECHNO Co., Ltd.



ENSIS-3015AJ (9kW), a fiber laser machine installed in June 2019

## Installed four machines over the past five years —“a laser machine, completed with the highest quality”—

LASER TECHNO Co., Ltd. moved and centralized their factory and office to their new current factory from Tagami Town, Niigata Pref. in May 2019. Their total investment was approximately 450million yen. The area of their new factory is approx. 10,000m<sup>2</sup>, with their two-storey office being approx. 265m<sup>2</sup> and one-storey factory being 1,820m<sup>2</sup>. The surface of the factory floor is now twice their previous one.

The new factory transferred four of their conventional laser machines, but also installed a new 9kW fiber laser machine: ENSIS-3015AJ+LST-3015G.

As orders increased, LASER TECHNO suffered with their efficiency, where their previous factory's material storage space was far from their fabrication machine which consumed more time for carrying with a crane. The new factory changed the layout, centering the laser machines. By increasing the space for processes after laser fabrication such as bending and machine fabrications, they are aiming to improve their productivity by 15 ~ 20%.

"Sheetmetal Machine & Soft" February 2020 Machinist Publishing



President and CEO: MATSUI Hiroshi

### Four Laser Machines Installed from 2015

This company installed three different newest model fiber laser machines in a short period of time: a CO<sub>2</sub> laser machine FO-M II 4222NT (6kW) in 2015 for fabricating large and thick sheet metals, a fiber laser machine FLC-3015AJ (4kW) in 2016, and a fiber laser machine FLC-3015AJ (9kW) in 2018. This led to the improvement of productivity, but also gave them the ability to work with a wider range of sheet thickness, expanding the extent of fabrication.

Moving to their new factory at this timing allowed them to also introduce the ENSIS-AJ (9KW) by utilizing the large space; and as they increased their capability to respond to market needs, they are also considering mid and long-term staff reinforcement.

President Matsui says “in the new factory, we will visualize the production processes, aiming to massively reduce waiting time, for example waiting time during the fabrication process and preparation time. By improving the capacity utilization, we are aiming to enhance the productivity.”

#### Company profile

Company Name: LASER TECHNO Co., Ltd.  
 President: MATSUI Hiroshi  
 Address: 125-29 Ōaza Tagami, Tagami-machi ,  
 Minamikanbara-gun, Niigata  
 Phone: +81-(0)256-57-2633  
 Established in 1996  
 Number of employees: 33  
 Main business: Specialized flat plate laser fabrication  
 URL: <http://www.lasertechno.co.jp/>

#### Main equipment

- Fiber Laser Machine: ENSIS-3015AJ (9kW)+LST-3015G, FLC-3015AJ (9kW)+LST-3015F1, FLC-3015AJ(4kW)+LST-3015F1
- Laser Machine: FOL-3015NT(4.5kW)+LST-3015FOL, FO-M II 4222NT(6kW)+LST-4222FM II
- Bending Machine: HYB-12525, HYB-6013
- Nitrogen-gas Generator: 3 in total, including the PSA-10002HT
- 2D CAD/CAM: AP100ax 7 and 3 others
- Machining center x 3

## High Energy-Saving Performance: the “ENSIS-3015AJ” at work

The company's revenue from the financial results of September 2018 was 550 million yen, a 20% increase from their previous term, marking their highest record. The result from September 2019 showed that their revenue was almost equal due to the deterioration in the market, but they are striving for a sales increase by factory relocation and installing the ENSIS-AJ (9kW).

### The ENSIS-AJ (9kW) Installed to work with Thicker Plates

President Matsui has a unique idea about cutting thick plates with lasers, his comments about the fiber machine ENSIS-AJ (9kW), installed at LASER TECHNO in June 2019, are as follows:

“With the 9kW model introduced in the ENSIS-AJ series, the beam quality enhanced with the variable beam controllability. The cutting surface of a 25mm thick plate had been fabricated in a quality nearly equivalent to the FO-M II (6kW) CO<sub>2</sub> laser machine when I saw the actual machine's performance at the AMADA Solution Center; it made me think “this will work” and decided to install it as a machine for thicker plates.”

“Today, we are able to fabricate holes that wouldn't punctuate the plate, for example drilling Φ20mm or Φ14mm deep holes on a 25 mm material. With this fabrication ability, parts that conventionally required the cutting by heat of 25 mm sheets, a finish, followed by drilling, can now be fabricated in just a laser fabrication process, which can then be delivered as soon as the painting is done. The advantage of this replacement of method is big.”

He adds “however, if it exceeds the thickness, for example 32 mm, cutting may be possible, but it would require a finish using machines, giving it no chance in price competition against cutting by heat. That is why I limit plate fabrication to 25mm in thickness, which makes 9kW machines sufficient. Nonetheless, in the sense that it could provide extra room and give high-speed performance, I am interested in high-output machines that exceed 9kW as well.”

Currently LASER TECHNO uses the ENSIS-AJ mainly for the fabrication of plates that are 6.0 – 16 mm thick. Although it is sometimes used for 19 mm, 22 mm and 25 mm with its “remaining capacity”, the FO-M II (6kW) is mostly used for thicker plates.

### A Fiber Laser Machine with high Energy-Saving Performance

Materials fabricated by this company are 90% ferrous metals, mainly SS, SPC and SPH. Non-ferrous metals such as aluminium and brass makes up 1% of the whole, and the final 9% are stainless materials. The total volume of fabrication is 220 to 250 tons per month.

The maximum thickness of ferrous metals is 25 mm, and 22 mm for stainless materials. Also, considering the effect on the quality from the oxidized layer at later processes, the clean-cut method is frequently used with nitrogen gas as the assisting gas. For this, three 1,000 liter nitrogen gas generators (PSAs) are connected together, providing nitrogen gas to five laser machines.

“We considered installing CE tanks too, but we decided PSAs were advantageous considering the running cost. They also reduce the pressure difference from rising in the compressor” (President Matsui).

Due to these efforts, the financial results from September 2019 showed that the use of electricity throughout the year had barely changed from the previous term. Although the number of laser machines increased to five, the factory space had doubled, and more lighting equipment was installed, the electricity usage did not change. President Matsui commented that the big factor for this “is largely because the electricity consumption of fiber laser machines declined to under 50% of CO<sub>2</sub> laser machines.”



Three fiber laser machines and two CO<sub>2</sub> laser machines in line



The CO<sub>2</sub> laser machine, the FO-M II 4222 NT (6kW), is mostly used for thick plate fabrication

[AMADA Eco Products in use]



Fiber Laser Machine

**ENSIS 3015 AJ**

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

The ENSIS-AJ series is equipped with AMADA's original fiber laser oscillator and the latest proprietary beam control technology, and contributes to the efficiency of v-mix v-lot production while maximizing energy-saving effects.

- 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 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.

## AMADA Eco Products at our customers

## Mizuno Kogyosho Y.K.



The EML-2512AJ  
A Fiber laser combination machine, installed in 2019

## Practicing a top-down work style reform

— Blanking process ability doubles by installing the EML-AJ —

Mizuno Kogyosho Y.K. is a sheet metal fabrication enterprise founded by the Chairman MIZUNO Susumu in 1989. For 20 years after its foundation, Mizuno Kogyosho took orders of sheet metal parts related to food processing machines and transport machineries from three to four business partners, however, they were forced to find new business partners due to their management crisis following the financial crisis of 2008.

Since 2014, they have been investing in large equipment almost every year, establishing their position as the “go-to place for sheet metal fabrication emergencies” with their assets: reliable fabrication skills, flexibility with varieties / small lots / short-term delivery and the adaptability to respond to the customers’ needs as far in as possible. With a management style that is not dependent on any particular industry, their business is growing while industries that perform strongly have continued to change over the years.

President WADA Hayato, who took his seat in 2012 as the company’s second president at the age of 30, says “our biggest strength is the adaptability of the workers. Our main battleground is “troublesome work” that other companies wouldn’t want to do, for example fabricating complicated shapes, working with an extremely short deadline, delivering in small lots and working with special materials. Dealings with our customers are done not only by me or the executives, but also by the workers in charge of CAD/CAM, and even new recruits, but there is no one who will say “we can’t do it.” The growth of a company is up to how much the workers can support the company. I cannot look at our workers without a sense of appreciation.”

### Installation of the EML-AJ— practicing work style reform

In 2019, Mizuno Kogyosho opened a second factory, transferring stations for the EMZ and welding processes. They installed a fiber laser combination machine EML-2512AJ with full-options, equipped with a PDC (automatic tool changer), eight shelves for materials, eight shelves for products and a TK (takeout loader), taking steps toward automatization. President Wada says “there are three reasons why we installed the EML-2512AJ. One, just like the time we purchased the FLC-AJ, to widen the scope of our working capabilities. Two, to enhance the production capability of combinations of fabrications, as the LC-C1NT’s workload was increasing while seeing more cases of having to work on laser fabrication with the FLC-AJ first, then having to transfer the item for fabrication with the EMZ and the LC-C1NT. And three, to work on work style reform.”

“Sheetmetal Machine & Soft” April 2020 Machinist Publishing



CEO WADA Hayato

#### Company profile

Company Name: Mizuno Kogyosho Y.K.  
President: WADA Hayato  
Address: 3-4-6 Torikai-naka, Settsu, Osaka  
Phone: +81-(0)72-654-8340  
Established in 1989  
Number of employees: 20  
Business content: fiber laser fabrication, laser fabrication, punching, bending, and pressing / stainless steel welding, argon welding, spot welding, YAG laser welding and plating  
URL: <http://www.mizuno-kg.co.jp/>

#### Main equipment

- Fiber Laser Combination Machine: EML-2512AJ-PDC+AS-2512NTK
- Fiber Laser Machine: FLC-3015AJ(4kW)+ASF-3015F1
- Punch and Laser Combination Machine: LC-2012C1NT ●Punching Machine: EMZ-3610NT ●Bending Machine: HG-2204, HDS-1303NT, FMB-3613NT ●YAG Laser Welder: YLM-500P ●Inverter Spot Welder: ID40IVHP-NT, ID40ST ●Deburring Machine: IBT-610 II
- 2D CAD/CAM: AP100 ●Full Automatic CAM for blank processing data creation: VPSS 3i Blank



## Useful even for Work Style Reforms: the “EML-AJ Series” at Work

In 2016, this company -before social cries for work style reforms began to be expressed- started to work towards reducing overtime working hours, resonating with the Act on Advancement of Measures to Support Raising Next-Generation Children which was a measure to counter the declining birth rate. However, as their business grew, overtime hours were to grow. With this concern in mind, he declared in 2017 to all workers that they must “keep overtime work within two hours a day, as a general rule” as work style reforms were starting to be called for.

“I believe the only way to reduce the workers’ overtime hours is for the CEO to say “no more overtime work.” The corporate structures will never change if these rules aren’t forced onto their workers, and a top-down ruling is one of these methods. But actually taking a step into these changes did require me some courage.” “The workers tell me “we won’t be able to make it on time this way” thinking about the company and commitment to their work. I appreciate these words and I do need to take them seriously, but it doesn’t mean we don’t need to reduce the overtime working hours.

I asked the workers “I need you to understand that I’m not trying to pay you less. If you can all help us reduce overtime hours while increasing the profit, I promise that your annual salary will increase from last year. That’s why I ask all of you for your cooperation.”” Mr. Wada strongly said “in return, as the CEO, I must continue to think about how to invest in the facility and build an environment to maintain the production rate even with less total man-hours, negotiate and coordinate the delivering date with our customers and apologize if we don’t make it on time: I believe this is the role of who is standing at the top of the company. To maintain the production rate, to maintain the sales / profit / workers’ income, while giving the workers more free time – the installment of the EML-AJ with full options could make this possible.” Now that three years have passed since President Wada’s “declaration”, the corporate performance is continuing to grow, while the workers’ total overtime hours have declined by over 50%. Other than inevitable cases such as handling complaints, the workers still comply with the policy: “overtime work within two hours a day.” The worker retention rate is high with generations in the age range of 20’s to 60’s, and this has benefited the company in the sense of securing human resources and balancing age groups of workers; possibly owing to the efforts above.

### Blanking Capacity Doubled by Installing the EML-AJ

“I just feel that the production ability of the EML-AJ is equivalent to using three of the past models. Without exaggeration, I have an impression that the blanking capability has more than doubled by installing this machine. Products that had to be fabricated with combinations of different processes can now be done with just the EML-AJ, and the LC-C1NT is specialized for fabricating single items. The PDC and TK also work smoothly, and it hardly ever stops. I’ve heard that it did stop once in a while when we first installed it, but after our factory manager, a specialist in sheet metal fabrication, adjusted the program and its operation method, it is rare to see errors now.”

Talking about their future perspective, President Wada told us “I have many goals.”

“It’s about time to facilitate the systems to smoothen the workflow. The production management system to start with. I especially want to consider installing a system for calculating an estimate. I am still in charge of giving estimates, but as we get more customers and more of our workers are being put in charge of communication, the digitization of calculating estimates isn’t something we can ignore”. “For the fabrication equipment, I am considering a bending robot system and fiber laser welding system (FLW). The work we have for food processing machine makers are generally repeated orders, dealing mainly with five machines. The average lots are “15 to 30”, but there are machines that require a total of about 100 per month. The number of sheet metal parts used for one machine is about 10, therefore if you include child parts, we are fabricating thousands of parts a month. If the bending can be robotized for these parts, we should be able to take a massive load off of the bending process.” “I think the FLW can widen the range of our business, fitting our original concept. We are capable of TIG and YAG laser welding, but I’m sure there will be more projects that the FLW can be applied to. Ultimately, I also want to consider putting the two current production centers at one location. While employing more young workers to prepare for the retirement of workers in their 60s, I would like to strive to build a structure where both the company and workers can benefit” (President Wada).



To work on work style reforms, they installed the EML-2512AJ with full-options, equipped with a PDC (automatic tool changer ), eight shelves for materials and a TK (takeout loader).

[AMADA Eco Products in use]



High-speed punch and fiber laser combination machine

**EML AJ** SERIES

### EML-AJ Series (EML-2512AJ/EML-2515AJ)

This “EML”, the best seller combination machine series, equips a fiber laser oscillator that actualizes a “50% running cost” and “200% productivity” compared to the past CO<sub>2</sub> oscillator models. Equipped with many automatic operation functions that can address issues such as work style reforms and the shortage of workers, it is the machine of the Next Standard, that will expand the production rate and profitability.

- New technology ①: high production rate / low running cost and fabrication of highly reflective materials
- New technology ②: high-speed punching / high-quality fabrication
- New technology ③: tooling set-up without stopping the machine and automatization solutions

※The EML-AJ series has been highly evaluated for the total balance of their design, features, functions, safety, coloring, etc., and was awarded the grand prize (the Minister of Economy, Trade and Industry Award) at the “The 49th Machine Design Award” sponsored by Nikkan Kogyo Shimbun.

# Mid-term environmental plan

	Themes of activities	Goals for FY 2020
Preventing global warming	<p><b>【Product Development】</b> Contribute to the prevention of global warming by reducing CO<sub>2</sub> emissions throughout the entire lifecycle of a product</p>	<ul style="list-style-type: none"> <li>Reduce average CO<sub>2</sub> emissions of all products sold annually by 25% by 2020 (Benchmark year: 2009)</li> <li>Goal for 2020: 25% reduction</li> </ul>
	<p><b>【Business Activities】</b> Reduce CO<sub>2</sub> emissions by reducing consumption of energy and resources</p>	<ul style="list-style-type: none"> <li>We will cut CO<sub>2</sub> emission of our plants and offices by 25% in intensity target value by March 2020.</li> <li>Compliance with the Revised Energy Conservation Act: 1% reduction/year (5%/5 years) (Isehara / Fujinomiya / Toki / Ono / Fukushima)</li> <li>Goal for 2020: 25% reduction (Intensity: Benchmark year 2009) Reducing the total emission volume of CO<sub>2</sub> to 10,000t-CO<sub>2</sub><sup>*1</sup></li> </ul>
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"> <li>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) (2009 standard value: 6.78%)</li> </ul> <p>Initiatives aimed at creating a clean factory</p> <ul style="list-style-type: none"> <li>Reduction of waste materials generated during the manufacturing process</li> </ul>
Regulated chemicals control	Bolster initiatives regarding management of regulated substances	<p>Product development with green procurement (Reduce the use of RoHS directive<sup>*2</sup> chemicals)</p> <ul style="list-style-type: none"> <li>RoHS compliance rate for all models of new products: 100%</li> <li>RoHS compliance in all products: 100%<sup>*3</sup></li> <li>Completion of Category 11 compliance based on voluntary standards (RoHS compliance for electrical and electronic components)</li> </ul>
		<p>Reduce the use of regulated chemicals "Appropriately control chemical substances, and reduce their use within the manufacturing process" (PRTR<sup>*4</sup>, VOC<sup>*5</sup>)</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"> <li>Quantitative evaluation of each site</li> <li>Activation of regional collaboration</li> </ul>
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"> <li>ISO14001: 2015 group certification</li> </ul> <p>Promoting CSR initiatives</p> <ul style="list-style-type: none"> <li>Active fulfillment of accountability</li> <li>Enhancement of communication with stakeholders</li> </ul>

\*1: Benchmark year: FY2007

\*2: RoHS : Stands for "Restriction of Hazardous Substances." A directive that specifies hazardous substances contained in electrical equipment and electronics and prohibits their use.

\*3: RoHS compliance in all products: 100%: for machine parts of AMADA that may come into contact with our customers' product.

\*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.

## Mid-term environmental plan

Goals for FY 2019	2019 Performance
<p>Reduction of CO<sub>2</sub> through the release and sales promotion of eco-friendly products (Reduction rate: Overall:-23.3%, sheet metal machine: -41.6%, stamping press:-28.4%, metal cutting / machine tool: -13.2%, grinding: -10.0%)</p>	<p>Reduction of CO<sub>2</sub> through the release and sales promotion of eco-friendly products (Reduction rate: Overall:-19.5%, sheet metal machine: -38.2%, stamping press:-17.3%, metal cutting / machine tool: -12.6%, grinding: -10.0%, achievement rate: 83.7%)</p>
<ul style="list-style-type: none"> <li>• Comply with the Revised Energy Conservation Law (reduce intensity by 1%/year) (Isehara / Fujinomiya / Toki / Ono / Fukushima)</li> <li>• Reduce the AMADA Group's CO<sub>2</sub> emissions intensity by 25.0% compared to benchmark year Reducing the total emission volume of CO<sub>2</sub> to 10,000t-CO<sub>2</sub></li> </ul>	<ul style="list-style-type: none"> <li>• Comply with the Revised Energy Conservation Law (reduce intensity by 1%/year) (Isehara / Fujinomiya / Toki / Ono / Fukushima)</li> <li>• Reduce the AMADA Group's CO<sub>2</sub> emissions intensity: 0.891 (-10.9% compared to benchmark year) Reducing the total emission volume of CO<sub>2</sub> to 6,402t-CO<sub>2</sub></li> </ul>
<ul style="list-style-type: none"> <li>• Maintaining of zero emission plants (Fujinomiya, Isehara ATP, Toki, Fukushima)</li> <li>• Initiatives towards achieving zero emission plants (Ono, Miki, Noda)</li> <li>• Zero emission rate in the AMADA Group's plants: 1% or less (Isehara Works / Fujinomiya Works / Toki Works)</li> <li>• Continuous improvement of IN-OUT measures</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining of zero emission plants (Fujinomiya: 0.01%, Isehara ATP: 0.05%, Toki: 0.00%, Fukushima: 0.84%)</li> <li>• Initiatives towards achieving zero emission plants (Ono: 2.04%, Miki: 4.62%, Noda: 0.77%)</li> <li>• AMADA Group's zero-emission ratio: 0.81%</li> </ul>
<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"> <li>• RoHS compliance rate for all models of new products: 100%</li> <li>• RoHS compliance in all products: 90%</li> </ul>	<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"> <li>• RoHS compliance rate for all models of new products: 100%</li> <li>• RoHS compliance in all products: 100%</li> </ul>
<p>Initiatives towards reducing PRTR substances in paints</p> <ul style="list-style-type: none"> <li>• Continuing the initiative for TX-free paint / reducing thinner consumption (Toki)</li> <li>• Application of TX-free paint in more items / transition to powder coating (Fukushima)</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction of specific chemical substances: 0.34kg/million yen for 0.81kg/million yen target (Toki)</li> <li>• Reduced the VOC in solvent paint by 7%, compared to the previous year (Fukushima)</li> </ul>
<ul style="list-style-type: none"> <li>• Implemented quantitative evaluation in line with JBIB's Ikimono Symbiosis Office guidelines (Toki)</li> <li>• Vitalizing linkage with local communities</li> </ul>	<ul style="list-style-type: none"> <li>• Implemented quantitative evaluation in line with JBIB's Ikimono Symbiosis Office guidelines (Toki)</li> <li>• Activities to cultivate endangered species for "tree cultivation and acorn forestation" (Toki)</li> <li>• Promoted wild birds preservation activities (Fukushima)</li> </ul>
<p>Implemented CSR communication</p> <ul style="list-style-type: none"> <li>• Issue the environmental and social report "Forest-In Office 2019" (Japanese and English)</li> <li>• Responded to CDP climate change survey</li> </ul>	<p>Implemented CSR communication</p> <ul style="list-style-type: none"> <li>• Issue the environmental and social report "Forest-In Office 2019" (Japanese and English)</li> <li>• Responded to CDP climate change survey</li> </ul>

# Addressing Prioritized Issues

## Preventing global warming (Reducing CO<sub>2</sub> emissions associated with our products)



The AMADA Group works to reduce CO<sub>2</sub> 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 CO<sub>2</sub> emissions in our products' life cycles during times of use by our customers is of particular importance. We will promote product development with high technological skills, and will create highly ecological products that are productive but can also conserve energy (AMADA Eco Products).

The AMADA Group operates with two systems to evaluate the ecological features of its products, which are product assessment and AMADA Eco Products certification.

### ◆ Product assessment system

The product assessment system conducts design reviews (DR)<sup>\*1</sup> in every development stage, in order to make an evaluation to prevent providing items with a heavier environmental load compared to past models to our customers. A total of 25 evaluation items are set from eight different criteria for the product assessment to evaluate ecological features of products, such as energy consumption (the amount of CO<sub>2</sub> emission) when using the product.

This evaluation is applied in the development of every new product, and a rule is established so that a product that does not fulfill this standard cannot, principally, be released.

### ◆ AMADA Eco Products certification system

The AMADA Eco Products certification is a system that certifies a product as one of the AMADA Eco Products if it passes the company's "energy-saving improvement rate" and "productivity improvement rate" standards compared to a comparative machine (or a past model), examined after the completion of product assessment conducted after the final design review (DR). 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 increased productivity as well compared with conventional models.**
- ③ **Lowers running costs for product processing and reduces manufacturing costs through energy 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.**

#### (Recommended requirements)

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.

<sup>\*1</sup> 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.

### 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.

### Preventing global warming (Reducing CO<sub>2</sub> emissions associated with our business activities)



The AMADA Group works to promote the conservation of energy and resources in business processes to reduce CO<sub>2</sub> 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

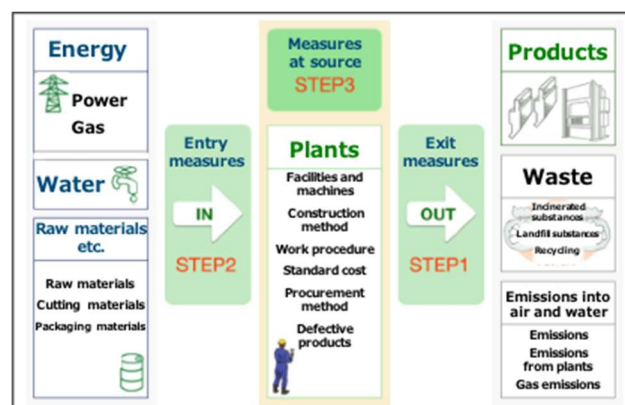


The AMADA Group promotes the effective use of limited resources to make contributions to realizing a recycling-oriented society. Regarding domestic production centers, we are promoting activities to actualize zero-emission factories taking the transition to a sustainable society seriously, aiming to make them clean factories.

#### ◆ Zero-emission factories

Five of AMADA Group's manufacturing bases in Japan have achieved zero emission factories: Isehara Works (AMADA TOOL PRECISION), Fujinomiya Works, Toki Works, Noda Works, and Fukushima Plant. 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% (0.81%) for fiscal 2019.





## 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”<sup>\*1</sup> 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<sup>\*2</sup> physical and health/environmental hazard classifications is stated on the SDS<sup>\*3</sup>.

### ◆ RoHS<sup>\*4</sup> Compliance

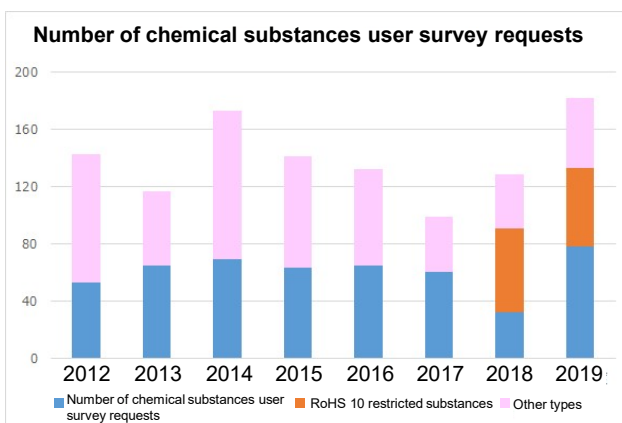
The AMADA Group’s principal products are classified in the Exempted Product Category of LSSIT (large-scale stationary industrial tools) in RoHS directives. Still, in order to give our customers peace of mind in using our equipment, as an initiative of our own we have completed compliance with the standards 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 mid-term environmental 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 and requests for issuance of certificates of non-use for PCB, 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.
- Others  
Investigation regarding CSR, questions regarding the ISO14001 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: RoHS II (Directive2011/65/EU) RoHS directive is an EU law regarding the limited use of specific toxic substances, such as electric and electronic equipment (EEE).



## Biodiversity

The AMADA Group works to promote “AMADA Forest Creation” efforts contributing to the preservation of biodiversity.

We are proceeding with biodiversity-targeting initiatives at each of our operations bases within Japan.

### ◆ Fujinomiya Works / AMADA's Forest

Approximately 60% of the Fujinomiya Works premises, or roughly 43 hectares is left as forest. About 80% of that is man-made cypress forest. It has already been 40 to 50 years since reforestation and AMADA is making positive improvements, proceeding systematically in order to transform it into a forest rich in animals and plants.



Forestland at Fujinomiya Works (Fujinomiya, Shizuoka Prefecture)



Rhacophorus arboreus  
(forest green treefrog)



Euhadra quaesita  
(land snail)



Calanthe discolor  
(orchid)



Ranatra  
(water scorpion)

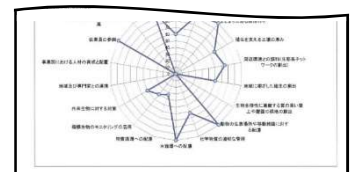
Creatures confirmed at Fujinomiya Works (in part)

### ◆ Quantitative Evaluation of Biodiversity

AMADA Group's domestic works strive to make systematic improvements by conducting quantitative evaluations in order to gain a concrete understanding of the progress in their biodiversity initiatives and to clarify such questions as, “What types of positive possibilities there are within the premises?” and “Where are the main factors of environmental load?”

The approach was evaluation using the tools promoted by the Office of the Symbiosis of Living Things from the Japan Business Initiative for Biodiversity. By improving the score, we aim to promote initiatives in biodiversity. In fiscal 2019, this initiative was implemented and evaluated at Toki Works.

Year of Evaluation	Target of Evaluation
2015	Isehara Works
2016	Ono Plant
2017	Fujinomiya Works
2018	Fukushima Plant
2019	Toki Works



Toki Works biodiversity quantitative evaluation table

### ◆ Participation in removal activities for specific nonindigenous species (Noda Works)

Noda Works participates with the general public in the “Tone Canal bur cucumber removal” (organized by the Tone Canal Council) to remove bur cucumber, which is designated as a nonindigenous plant. The “bur cucumber” (*Sicyos angulatus*) is a plant in the gourd family that is native to North America. Cultivation of the plant is prohibited by law in Japan. In order to protect the precious creatures of the Tone Canal, Noda Works will continue to work with the region in an effort to eradicate specific non-native plants.



Tone Canal Aletliuli removal activity held in July 2019

# Activities, Fiscal 2019

## Preventing global warming (Reducing CO<sub>2</sub> emissions associated with our products)



### Introducing AMADA ECO PRODUCTS (Registered in 2019)

#### ◆ HRB-1303

The HRB-1303 is a downward press brake, adopted with a hybrid drive system. The hybrid system allowed for the decrease of the hydraulic volume by controlling its temperature rise. Furthermore, the hydraulic motor spins only at the time of table actions, therefore reduces energy consumption.

Achieving a 60.7% improvement to power-saving performance and 13.1% increase in productivity compared with the conventional AMADA model (HM1003 used as basis of comparison), the HRB-1303 has been certified as an AMADA Eco Product.



# HRB 1303



## Preventing global warming (Reducing CO<sub>2</sub> emissions associated with our business activities)



### ▪ Toki Works

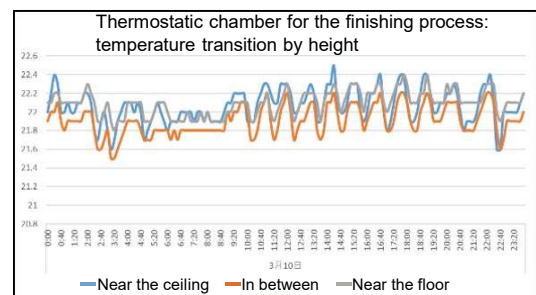
#### ■ Controlling the Numbers of Operating HVAC (Heating, Ventilation and Air Conditioning) Equipment

The tooling factory (T876 Plant) uses a lot of energy for heating, ventilation and/or air conditioning. Especially, at the thermostatic chamber for the finishing process, the 80db noise emission had also been seen as an issue. For this reason, Toki Works installed a system that can control the number of equipments running, to counter both energy-saving and noise emitting issues. Although there was concern about temperature variation within the thermostatic chamber, the measurements showed nothing more than a 1°C difference, and the noise emission had reduced to under 65dB.

Compared to FY2018, the energy saving performance by controlling the number of operating HVAC equipment was approximately a 105,000kWh decrease for the use of electricity (half-term) and a 48.04t-CO<sub>2</sub> decrease for CO<sub>2</sub> emission (half-term).



T876 Plant thermostatic chamber (finishing process)



Controlling the temperature variation inside the thermostatic chamber



## Effective use of resources



### • Fujinomiya Works

Fujinomiya Works is continuously putting effort into reducing many wrapping materials for delivery. By changing boxes for delivery to reusable boxes, wastes have reduced, and it is also contributing to save space in storage areas as boxes are foldable and dismantlable.



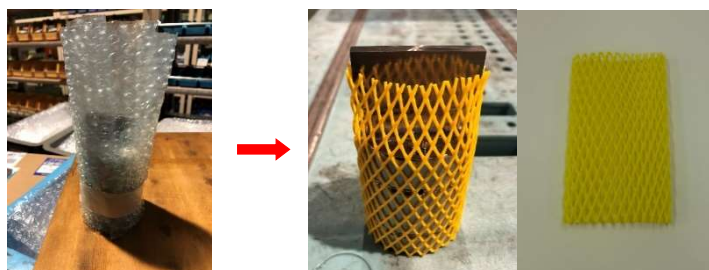
Foldable and dismantlable reusable delivery box  
(Fujinomiya Works)

### • Toki Works

Toki Works reviewed their product wrapping methods, whereas they had been using bubble wraps to deliver punching tooling they produced to suppliers.

The new wrapping material for delivery is safety netlon. Safety netlon can be used repeatedly, reducing plastic disposal. Also, because the wrapping process became easier, time spent for packing has reduced.

With this change, Toki Works no longer had to use bubble wraps to deliver, reducing plastic waste by approximately 40kg (annually) compared to the last fiscal year of 2019.



Changed the wrapping material from bubble wraps to safety netlons (Toki Works)

## Regulated chemicals control



### • Fujinomiya Works

By using ecological primer (Edobosei EPR) for painting, Fujinomiya Works made the reduction of toxic chemical substances and improvement of workability possible.

By changing the painting material, it did not only reduce the load on the environment (containing 0% xylenes and ethylbenzene), but also reduced the waiting time required for coating as it dries faster.

By giving instruction on the painting method, it resolved the issue with lighting from putty on the surface, had better visuals, and it also improved the quality and adhesion.



Reduced toxic substances by changing the painting material (Fujinomiya Works)

# Assessment of Water-Related Risks



## Actions for Water Resources

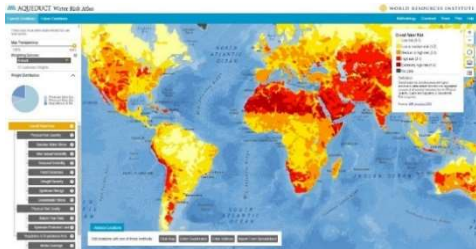
The AMADA Group believes, as the world is facing frequent floods, drought, etc., predicting water-related risks that could connect to direct operational risks is essential to continue our corporate activities.

### ◆ Leveraging a global tool to assess water-related risks

The AMADA Group owns a total of 19 manufacturing factories within and out of the country. Regions where these plants are located varies, therefore possible water-related risks vary. It is the AMADA Group’s responsibility to analyze the risks regarding water resources that accompanies our corporate activities, and to release the status of how we are responding to these risks.

Just as the previous year, we have confirmed and have understanding on water-related risks of each manufacturing factory, as we have conducted an outlined evaluation of water-related risks with the global evaluation tool “Aqueduct” of the World Resources Institute for all 19 factories\*<sup>1</sup>.

<sup>1</sup> all 19 factories (of the AMADA Group): All group manufacturing factories dealing with production (7 within Japan, 12 overseas)



Aqueduct, a water-related risk assessment tool

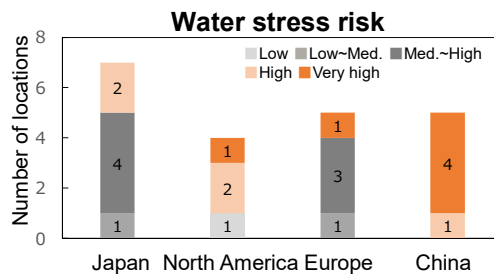
\* We adopt the use of Aqueduct, a tool used by many of the countries responding to the CDP Water Security Questionnaire, due to its ability to offer comprehensive, side-by-side assessment of water-related risks for our production bases, which are scattered throughout the world.

### ◆ Results of water-related risk assessment

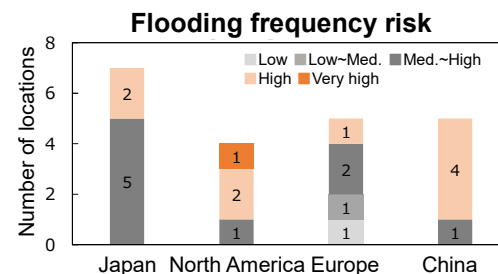
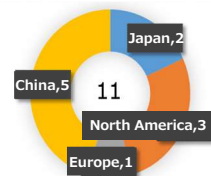
The results of the water-related risks evaluation showed that the plants in Japan, North America and China were at high risk for “water stress” and “frequency of flooding”, as it did the previous year.

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. 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.

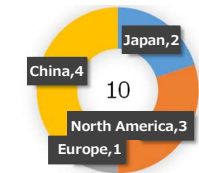
As with water stress, some regions were found to be at high risk with regard to the frequency of flooding. We identified particularly high levels of risk for water stress in North America and China. As precipitation patterns are forecast to undergo changes due to climate change, we will continue to pay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



### Locations with high water stress risk



### Locations with high flooding frequency risk



### ◆ Investigation for internal cause

This year, in addition to the outlined investigation on external causes that was done with Aqueduct, we conducted an internal investigation, analyzing the causes of risks for water environments at nine domestic factories<sup>2</sup>. The investigation looked at the volume of water used in the manufacturing process and the effect of draught and floods, etc. within the past 10 years. We will continue to analyze the results of external and internal causes, tying it to future business strategies of water-related measures.

<sup>2</sup>Investigated at nine factories in Japan, including two plants of Amada Press System (former Amada Orii)



## Isehara Works Awarded by the “Factory Greening Award Program ”

The Amada (former Amada Holdings) Isehara Works was awarded the “Kanto Bureau of Economy, Trade and Industry Director’s Award” of the “Factory Greening Award Program” (or the National Award for Greenery Factory) of 2019 at the “38th National Assembly of Factory Greening Promotion Initiatives” sponsored by the Japan Greenery Research and Development Center.

At the commendation ceremony that was held at the “Ishigaki Memorial Hall” in Akasaka, Minato-ku, Tokyo in October 28th, 2019, certificates were given after a presentation on the process of selection, and Isehara Works received the certificate by the Kanto Bureau of Economy, Trade and Industry.

The reasons for winning the award are the following:

- ① for promoting the fusion of buildings and greenery under the concepts “harmony between water, green and buildings” and “spaces of hospitality” for nearly 40 years -the design concept is currently upgraded to “contributing to biodiversity”, and is proactively putting effort into greening cities;
- ② the AMADA Museum that was established for our 70th anniversary is putting effort into creating new greenery spaces to bring upon “the fusion of tradition, culture, art and greenery” as “greenery for the future”; and
- ③ the building is equipped with various forms of green areas, such as a roof garden, a lane of four seasons, a zelkova tree line, a forest of plum trees, a Japanese garden, an indoor greenery, etc.

Isehara Works received the award for the content above being recognized.

This award program, built upon the spirit of the “Factory Location Act”, is aimed to further promote the greening of factories by awarding ones that take initiative in greening their environment and has made remarkable achievements in improving the internal and external environments of their factory.

Greening of a factory means to build a good relationship between a factory and its surrounding environment, in which these factories promote the harmony between the factory, regional environment and the society; then tying this relationship to the improvement of the environment within the facility premises.

Based on this principle, 37 ceremonies have been held by fiscal 2018 since its first event in FY1983 to commendate the Kanto Bureau of Economy, Trade and Industry Director Award, where 96 factories and three organizations were awarded until FY2018, after undergoing investigations of factory sites and reviewing by external specialists.

Isehara Works was awarded the “Japan Greenery Research and Development Center Chairman’s Award” in fiscal 2016, and “Kanto Bureau of Economy, Trade and Industry Director’s Award” in fiscal 2019. As a factory (or a business complex) in Kanagawa Prefecture, it was the first to receive the “Kanto Bureau of Economy, Trade and Industry Director’s Award” in six years, since 2013.

Encouraged by receiving this award, Isehara Works will continue environmental preservation activities, pursuing harmony with the local society; the next goal is the “Minister of Economy, Trade and Industry Award.”



The 38th National Assembly of Factory Greening Promotion Initiatives: the National Award for Greenery Factory commendation ceremony



Isehara Works that received the “Kanto Bureau of Economy, Trade and Industry Director’s Award”

### ※What is the Factory Location Act

A law that is aimed to contribute to the healthy development of the nation’s economy and improve social welfare by implementing investigations regarding the location of factories while publicizing location rules regarding factories, and giving recommendations, commands, etc., in order to appropriately situate factories while preserving the environment.

# Communication



## With our customers

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

### Europe



Participation and cooperation to WORLD SKILL  
AMADA U.K. (UK)



Work training for students  
AMADA EUROPE S.A. (France)

### Asia



CSR event at a nearby educational facility  
AMADA INDIA (INDIA)



Overseas training of students from a Japanese  
technical school  
AMADA ASIA PACIFIC (Thailand)

### America



Supporting regional events for students  
AMADA TOOL AMERICA, INC. (USA)



LATC public tour  
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

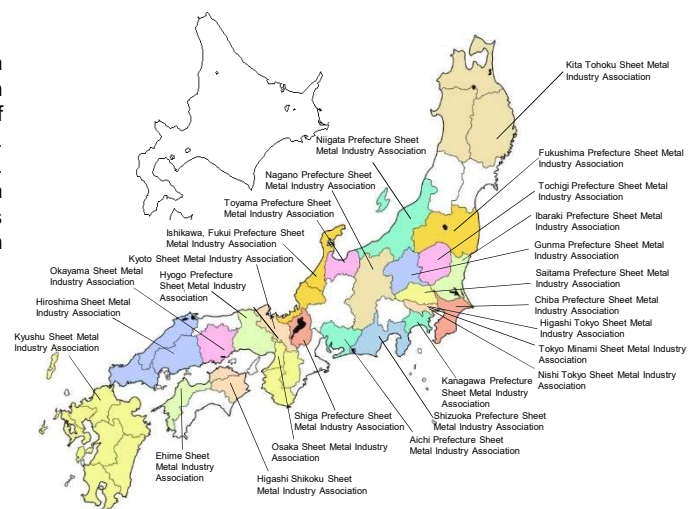
Sheet metal industry associations are groups of companies involved in the sheet metal processing industry established in each region of Japan by to promote the planning, proposal, implementation, and research of activities for the prosperity and global expansion of member companies. To date, 26 such 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 award winners of the 32nd Precision Sheet Metal Technology Fair were announced in March 2020. 296 entries were submitted, of which 108 were submissions from overseas, with 26 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 32nd Precision Sheet Metal Technology Fair awards ceremony was held online due to the spread of COVID-19.

### 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 AMADA Group's human resource strategy is themed "develop human resources who pursue creative and challenging activities". We are aiming to build a corporate culture where the workers reach self-actualization through work, by everyone working with the mindset "the current condition is never the best and there could be a better way," and by having each worker move towards their individual goals.

Regarding human resource cultivation, we are putting our efforts into cultivating global human resources as the business ratio is growing overseas, and also of new generations as a vision for becoming a century old company. Furthermore, we are proactively striving for work style reforms and also working on the promotion of various human resource measures while taking into account the possible decrease in the Japanese workforce, for example actualizing work-life balance and establishing measures with diversity in mind.

### Human resource cultivation

The AMADA Group proactively supports the activities to raise students' awareness on profession and career building, and as part of this, we provide internships every year. The internship program in our company provides students a chance to experience the forefront of a *monozukuri* (manufacturing) environment from various perspectives including the development, production, and even management sector and more. Furthermore, it is programmed to allow interns to reflect on their experience to build their own career, not just by working, but by asking them to set a goal(s) during the pre-internship training and give each individual a feedback after the course.

With these efforts recognized, the program was awarded for its excellence at the "Internship Award 2020" (supported by: the Ministry of Economy, Trade and Industry; the Ministry of Health, Labour and Welfare; the Ministry of Education, Culture, Sports, Science and Technology; Nikkei Inc.; and Mynavi) which awards internship programs that contributed for students to take initiative socially and professionally, chosen by students. The award was given to six programs out of 482 programs from 361 companies. The AMADA Group will proactively continue to provide a location that can be utilized by students to open the door to their future career, putting effort into cultivating human resources for *monozukuri*, who shoulders our future.



### Promoting diversity

#### ■ Woman's career support

Currently, giving roles to female managers is one of the top priorities for the AMADA Group. For that reason, we are moving forward with the proactive cultivation and appointment of female leaders to shoulder the responsibility of the next generation. From a cultivation point of view, women's career training was given to female workers who entered the company within the past five years, which was centered around lectures and group works, which were aimed to present them with career opportunities and to clear their concerns. After the training, we received positive feedback, for example "the training was something that would make working women in Japan feel positive" and "it made me think that I want to build my career to become a female leader." 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. 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.

#### ■ Building a working environment where workers with disabilities can strive

The AMADA Group established the "Council for Promoting Employment of Persons with Disabilities" in July 2019, aimed at building a working environment for workers with disabilities to be able to take initiative and be enthusiastic about their work. The council is mainly putting effort into selecting possible work for workers with intellectual disabilities in order to expand the field for them to work in, and also securing numbers of workers with disabilities. The types of work include not only cleaning or collecting and delivering mail, but is continuing to grow for example "assisting the creation of PDF manufacture directions" at Fujinomiya Works and "ID engraving" at Isehara's tooling plant.

To take initiative in the proper management of our special subsidiary company, Amada Plantech, and support for its workers with disabilities to take initiatives themselves, we will continue to strengthen the mutual communication of / with the human resources, general affairs and business management sectors, as well as the occupational health staff, of applicable companies.

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

## Promoting work-life balance

### ■ Promoting Support for Childcare

The AMADA Group is encouraging male employees to take child care leave by establishing an independent child care leave system, which differs from the original system by allowing employees who want to participate in childcare to redeem unused paid holidays that have expired. In FY2019, a total of 24 workers took a paternity leave (11 were granted with the legal system), the longest being 2 months. The AMADA Group further supports their male and female workers in the parenting generation to make time for their children, for example granting them an extra leave for attending their child(ren)'s open school day.

Gender	2017	2018	2019
Male	4.2%	6.2%	18.0%
Female	100%	100%	100%

Maternity/paternity leave acquisition rate (including the internal system) Scope: AMADA

#### **【Interview with a worker who took paternity leave】 AMADA: sales management (age: 30s)**

As the kindergarten shut down, I took paternity leave for about a month for my 5-month-old child. I didn't hesitate because I had always taken care of my child and done housework, but after actually taking a paternity leave and taking care of my child all day long, it made me realize that it is hard work. Some might think taking care of a baby is easy because they're always sleeping but it's not the case at all. It's actually what is most time consuming, and they don't often leave enough time for housework. However, I feel that it was a very rewarding month.

### ■ Harassment countermeasures

The AMADA Group has been complying with the measures that shall be taken by business owners, as stated on the "Power Harassment Prevention Act" of June 2020. Measures that need to be taken and discipline the workers could face regarding any kind of harassment is communicated through the "Harassment Prevention Rules", and training for harassment prevention over the intranet, harassment countermeasures, etc. are being given. Furthermore, there are harassment hotlines installed within and outside the company. Reports can be anonymous, and its content is carefully reviewed.

### ■ Extension of shortened work hours for childcare provision

Reduced working hours can be applied for childcare reasons until the workers' child(ren) graduates elementary school, which is beyond the period that the legislation mandates, and the system is utilized by many workers in the child-raising generation.

### ■ Initiatives concerning the taking of annual paid leave

In addition to five legal paid days off, we give and promote the use of two days of scheduled paid days off and four paid days off for personally planned paid days off every year. Furthermore, the actual results of paid leaves taken by the workers are reported to each of their bosses, to ensure that every worker uses their paid leave.

### ■ Return-to-work system

The AMADA Group has a return-to-work system that is applicable to workers who left the Group for various reasons, not only for childcare. With this system, it allows former workers who left to take care of their child(ren), family member, etc. or to improve their own skills, to come back and strive once again.

## Health-Oriented Management

By developing an industrial health and hygiene system and through collaboration with the AMADA 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 part of a cooperative project with the AMADA health insurance union, we have integrated the mental consultation office run by the company and the family-health consultation office that was run by the AMADA health insurance union. We are creating a system for our workers and their families to be able to ask about their mental or physical health, second opinion, etc.

### ■ COVID-19 outbreak prevention measures among workers

With the slogan "We WILL NOT bring COVID-19 into the AMADA Group", a Counter COVID-19 Headquarters was established. Basic measures include: daily temperature and condition checks, mask-wearing, thorough hand-washing and sanitizing and social distancing. Specific countermeasures include the recommendation of virtual-meetings, restricting the use of meeting rooms for face-to-face meetings. Elevators have stricter boarding capacities, and the space to stand is designated. Virus countermeasures are also strictly enforced in the cafeteria, where shields (or sheets) to prevent droplet transmission are installed, and workers are asked to leave as soon as they are finished eating. Furthermore, staggered working hours are applied to every worker. A "COVID-19 Countermeasure Flow" is distributed to all workers, and a system is put in place to ensure that anyone who is not feeling well will take a day off. Furthermore, a local medical institution has agreed to cooperate with Isehara Works, where they have arranged for our workers to smoothly take a PCR test if anyone is feeling sick or unwell.

The COVID-19 Countermeasure Headquarters is not only aware of the information about workers in Japan, but also of workers of local affiliates overseas and their families, responding coordinately.

## Safety Management

With regard to occupational health and safety in the AMADA Group, a General Safety and Health Committee is jointly formed with each company within the Works. A Safety Division, Health Division, Disaster Prevention Division, and Transportation Division are established as expert organizations and group companies, including sales offices are jointly organized to systematically solve problems across the group. In 2019, we changed the specification of our helmets, one of the most essential protection tools. Specifically, the changes in its specifications includes the betterment of forward visibility for service engineering, breathability and weight saving. Furthermore, the design is adaptable to the future multi-functional ability such as equipping vital-sensors and web-cameras. It has heightened the safety and efficiency of our work.



Change of helmet specifications

## Opening of a short-term daycare center

In January 2020, we opened a daycare center for temporary childcare inside Isehara Works. It was established with the purpose of supporting workers to balance work and raising their child(ren), as we are proceeding with supporting work-style reforms and hiring more women. The feedback from our workers is good, with comments such as "I would like to use it again." Currently, the daycare service is only available on certain scheduled days, however, if the needs were to rise, we are considering opening it as a permanent at-work daycare center.



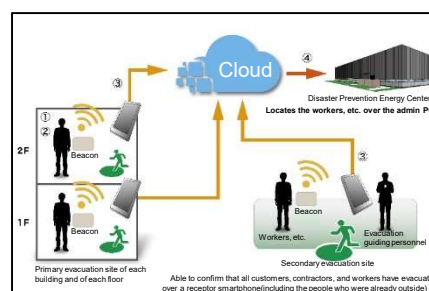
Daycare center at work

※As of Nov. 2020, it is closed as a measure to prevent the spread of COVID-19

## Establishment of the "BCP location system"

A new system was installed to locate every person inside the facility in real-time, which conventionally had to rely on actual calls by the workers. If, by any possibility, someone went missing during a disaster, the system will locate where they are, using the information for the initial response to save their lives.

Just as the system was able to locate the workers inside the facility during the period when we took measures against COVID-19 with staggered working hours and telework mandates, it can be utilized for improving work efficiency and maintaining a safe working environment.



The BCP location system (image)





## 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 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.



Volunteering for local cleaning (Miki Plant)

### 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.



The Nikkei "Hoshi Shinichi Award" trophy

### 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 (2020 will be held online). Many of our employees support the tournament by participating as operational volunteers. We also co-sponsor the Ōyama Hiking Marathon held each year (Cancelled in March 2020) 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 10th such event in fiscal 2019.

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 10th annual Hanami-cation (Ono Plant)

### Supporting "Shonan Bellmare"

Since February 2020, the AMADA Group is officially supporting the J League professional soccer team "Shonan Bellmare" as the 2020 Official Club Partner.

Shonan Bellmare is a team based in several cities across Kanagawa Prefecture, including Isehara City where the AMADA Group headquarters is located. Our Group will support Shonan Bellmare with all the people in the region while taking proactive measures for a rich future and development of the region and society.



# Corporate Governance

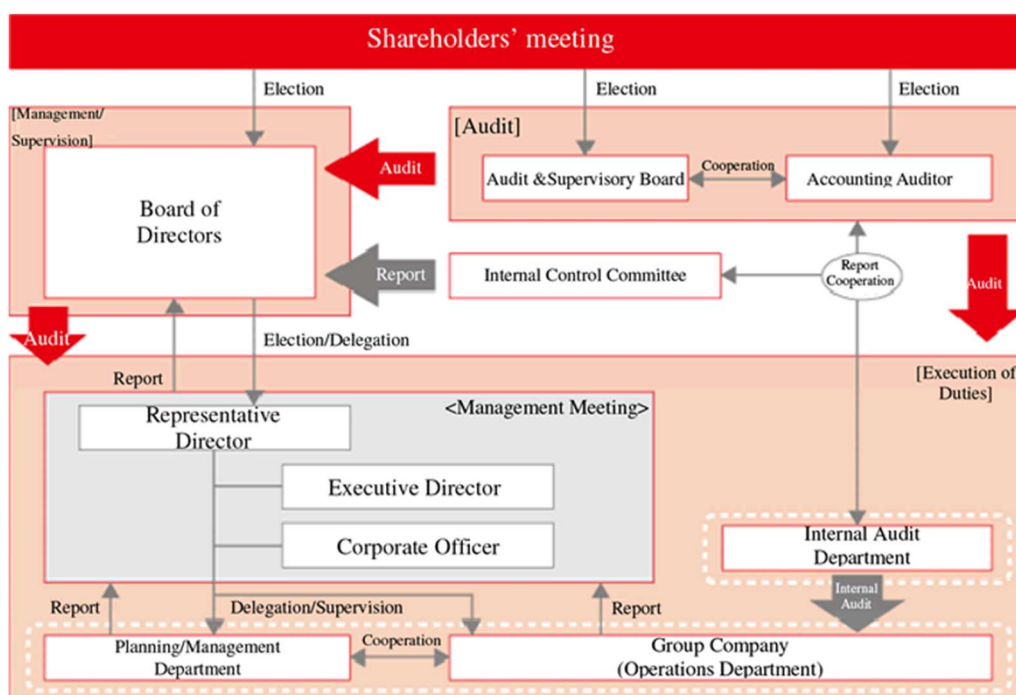
The AMADA Group believes that sound activities based on high ethical standards and fairness are crucial. AMADA Group will work to enhance corporate governance built on ensured transparency and thorough compliance with laws and regulations throughout management and operations, in line with the following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



### 【Organizational Form】

Audit & Supervisory Board  
Establishment Company

### 【Board of Directors】



No. of members stipulated in Articles of Incorporation: No more than 10  
Term: 1 year

### 【Audit & Supervisory Board】



No. of members stipulated in Articles of Incorporation: No more than 4  
Term: 4 year

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 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 7, 2020, the effectiveness of the entire Board of Directors in fiscal 2019 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," "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 (including site-observations) has progressed and is contributing to the further activation of discussions," and "as the voluntary nominating committee and compensation committee were established, the activation of discussions that contribute to the improvement of directive functions by the Board of Directors, for example the compensation system of managers, the appointment and dismissal of managers, the cultivation of next-generation managers, etc. can be anticipated."

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, and it is essential for the measures to be taken with speed as the managerial environment is changing drastically."

Taking into account the current results of assessment, for the purpose of improving Board efficiency, AMADA's Board of Directors will continue to strengthen supervisory functions as recommended by the advisory committees. Furthermore, AMADA will work to conduct expanded discussions contributing to the responses for the ESG, risk management, etc. and to increased medium- to long-term corporate value.

## Voluntary Advisory Committees

The AMADA Group has established a "Nominating Committee" and "Compensation Committee" in April 2020 with an independent external director as the head of these committees, as a voluntary advisory organization for the Board of Directors; these are aimed for the group to fully appreciate the knowledge and advice of external directors and to also further strengthen the functions of the Board of Directors: independency, objectivity and accountability. Each committee consists of four members; the majority (three) are independent external directors.

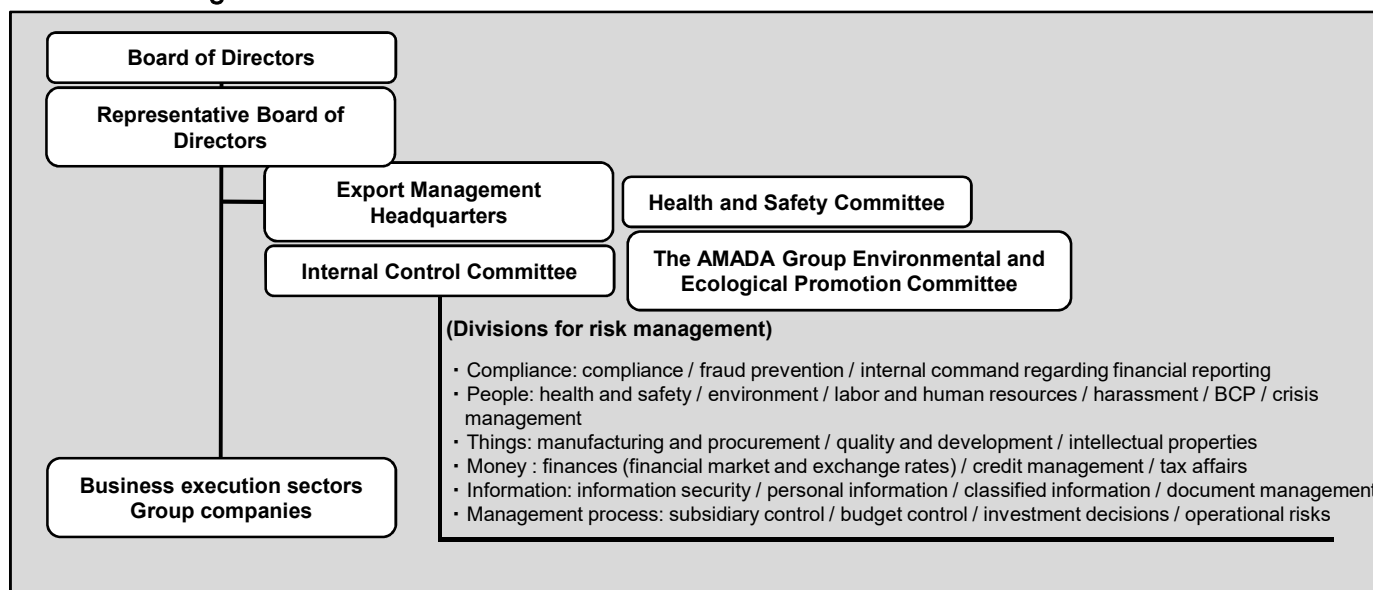
The Nominating Committee deliberates over the appointment, dismissal, etc. of company directors. The Compensation Committee deliberates over remuneration policies, its contents, etc. for company directors and other workers of higher positions. After consideration, they are to report with advice and recommendations.

# Risk Management

## Risk Management Structure

In order to prevent risks that could significantly impact the management of the AMADA Group, or to minimize its effect if these risks were to occur, AMADA is putting their best efforts into risk management, for example considering risk countermeasures before a conflict actually occurs. Each of these risks are managed and responded to by specialized committees such as the “Health and Safety Committee,” the “Export Management Headquarters,” and “The AMADA Group Environmental and Ecological Promotion Committee.” In addition, the risk management division of the Internal Control Committee establishes policies for significant risks related to the categories of people, things, money, information, etc. Furthermore, when a significant event or case occurs, they are responded to in a timely manner with the establishment of emergency headquarters, etc., for risk management.

## The Risk Management Structure



## Disaster Prevention Structure

The AMADA Group is operating production and sales centers globally. If these centers experienced a devastation for example earthquakes, floods and other natural disasters, the widespread outbreak of a disease, or a conflict and/or terrorist attack, and if the reconstruction and recovery from these devastations were to continue for a long period of time, it could also impact the group’s results.

As part of the business continuity plan (BCP), some of the Isehara Works buildings are installed with seismic isolators, and a Disaster Prevention Energy Center is constructed with an independent generator and emergency water and food supplies. Also, the group is promoting the expansion of manufacturing centers in Japan and overseas, to lower the risks of centralized production and supply.

## Responding to COVID-19

The AMADA Group’s responses to COVID-19 are the following.

### ① Regarding sales

Each office provides their usual sales activities and services. While conducting thorough infection prevention measures as we develop every possible system to support our customers’ businesses, we are putting effort into providing them with the best service and supplying them with consumables.

### ② Regarding supplies

In addition to responding to the environment surrounding the whole manufacturing business, three domestic factories (Fujinomiya, Toki, and Fukushima Plants) had stopped their operations during the State of Emergency as a prevention measure of the spread of COVID-19, however, the operation is now restarting sequentially. The factories for toolings and blades, as well as parts centers that supply consumables are operating as usual.

### ③ Response, etc. for the workers

The workers have put effort into preventing the spread of the virus by complying with thorough hand washing, gargling and mask wearing, and also by principle the prohibition of business trips, both domestically and abroad. During the period of State of Emergency, we have introduced telework, etc. however, we have nearly transitioned back to the normal state. To be prepared for infection risks, the workers are mandated to “wear a mask, wash and sanitize their hands and fingers, and to avoid the three Cs (closed spaces, crowded places, and close-contact),” while establishing staggered working hours.

The AMADA Group will continue to put our best efforts into providing the customers with demanded products and services, while putting the workers, their families, and the customers’ health and safety first, taking appropriate measures to prevent the spread of COVID-19.

# Status of Responding to Stakeholders

Stakeholders	Main responsibilities and issues	Main point of contact	Main method of communication
<b>Customers</b>	• Improving the customers' satisfaction	<ul style="list-style-type: none"> <li>• Sales</li> <li>• Services</li> <li>• Quality assurance</li> <li>• AMADA SCHOOL</li> </ul>	Contact (HP / each office), sales activities, website, showrooms, events, exhibitions, customer questionnaire, and providing job training with the use of metal fabrication machines (AMADA SCHOOL)
	• Providing safe and high quality products		
	• Highly-rated customer support		
<b>Workers and their families</b>	• Promotion of a safe working environment and healthy management	<ul style="list-style-type: none"> <li>• Human resources</li> <li>• General affairs</li> </ul>	Whistleblowing system, intranet, corporate newsletters, trainings, workers' awareness survey, daycare center, etc.
	• Respecting human rights / personalities / individualities		
	• Cultivating and utilizing human resources Human resource cultivation		
	• Fair employment and treatment / respecting diversity		
<b>Government / autonomous body / business entities</b>	• Legal compliance / reporting / notifying	<ul style="list-style-type: none"> <li>• Management planning</li> <li>• Public relations</li> <li>• General affairs</li> </ul>	Joining municipal committees and its meetings, joining the activities of industrial and/or economic organizations, and supporting the Sheet Metal Association
	• Responding to regulations		
	• Activities and cooperation for the growth of the industry		
<b>NGO / NPO / civic groups</b>	• Cooperate to solve social issues	<ul style="list-style-type: none"> <li>• General affairs</li> <li>• Environmental promotion</li> <li>• AMADA SCHOOL</li> </ul>	Volunteering, joining social and environmental dialogues, and providing job training for the use of metal fabrication machines (AMADA SCHOOL)
	• Environmental dialogues		
<b>Business partners and suppliers</b>	• Building a relationship with fair transactions	<ul style="list-style-type: none"> <li>• Materials</li> </ul>	Green Procurement briefings, suppliers' environmental survey, etc.
	• Reducing the environmental load among the supply-chain		
<b>Local society</b>	• Activities for social contribution	<ul style="list-style-type: none"> <li>• General affairs</li> <li>• Public relations</li> </ul>	Activities for social contribution (cooperating with autonomous bodies, volunteering, etc.), sponsoring sports events, research funding, factory tours, and sponsoring cultural events
<b>Shareholders and investors</b>	• Appropriate disclosure of information / pursuit for accountability	<ul style="list-style-type: none"> <li>• IR</li> </ul>	Results briefings (four times a year), general shareholders' meeting (once a year), IR events / meetings with individuals, information disclosure on the website, responding to interviews, briefings for organizational investors and analysts, briefings for independent investors
	• Appropriate profit return		
	• Improving the corporate value		
	• Constructive dialogue with shareholders		
	• Responding to the ESG investment / evaluation		
<b>Others (University, educational research institution, etc.)</b>	• Contribution to research activities	<ul style="list-style-type: none"> <li>• Research and development</li> <li>• AMADA SCHOOL</li> </ul>	Industrial-academic cooperation, research funding, information center, educational programs and events
	• Joint research		
	• Providing educational opportunities		

# 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	<ul style="list-style-type: none"> <li>• Top Message</li> <li>• Corporate Governance</li> <li>• Risk Management</li> </ul>	P05 P33-34 P35
Human rights	<ol style="list-style-type: none"> <li>1. Due Diligence</li> <li>2. Crisis regarding human rights</li> <li>3. Avoidance of complicity</li> <li>4. Complaint resolution</li> <li>5. Discrimination and the socially vulnerable</li> <li>6. Civil and political rights</li> <li>7. Economic, social, and cultural rights</li> <li>8. Basic principles and rights at work</li> </ol>	<ul style="list-style-type: none"> <li>• With our employees</li> <li>• With our local community</li> </ul>	P29-31 P32
Labor practices	<ol style="list-style-type: none"> <li>1. Employment and employment relationship</li> <li>2. Working conditions and social protection</li> <li>3. Social dialogue</li> <li>4. Health and safety at work</li> <li>5. Human resource development and training in the workplace</li> </ol>	<ul style="list-style-type: none"> <li>• With our employees</li> </ul>	P29-31
Environment	<ol style="list-style-type: none"> <li>1. Prevention of pollution</li> <li>2. Use of sustainable resources</li> <li>3. Climate change mitigation and adaptation</li> <li>4. Environmental protection, biodiversity, and restoration of natural habitats</li> </ol>	<ul style="list-style-type: none"> <li>• Reducing CO<sub>2</sub> emissions associated with our products</li> <li>• Reducing CO<sub>2</sub> emissions associated with our business activities</li> <li>• Effective use of resources</li> <li>• Regulated chemicals control</li> <li>• Biodiversity</li> <li>• Activities, Fiscal 2019</li> <li>• Assessment of water-related risks</li> <li>• Data</li> </ul>	P19 P20 P20 P21 P22 P23 P25 * Separate volume, "Data"
Fair operating practices	<ol style="list-style-type: none"> <li>1. Prevention of corruption</li> <li>2. Responsible political involvement</li> <li>3. Fair competition</li> <li>4. Promotion of social responsibility in the value chain</li> <li>5. Respect for property rights</li> </ol>	<ul style="list-style-type: none"> <li>• AMADA Group Our Management Philosophy / Environmental Principles and Policy / Environmental Declaration</li> <li>• Corporate Governance</li> </ul>	P03 P33-34
Consumer issues	<ol style="list-style-type: none"> <li>1. Fair marketing</li> <li>2. Protection of consumers' health and safety</li> <li>3. Sustainable consumption</li> <li>4. Consumer service and support / resolution of complaints and disputes</li> <li>5. Consumer data protection and privacy</li> <li>6. Access to essential services</li> <li>7. Education and raising awareness</li> </ol>	<ul style="list-style-type: none"> <li>• Reducing CO<sub>2</sub> emissions associated with our products</li> <li>• With our customers</li> </ul>	P19 P27-28
Community involvement and development	<ol style="list-style-type: none"> <li>1. Participation in the community</li> <li>2. Education and culture</li> <li>3. Job creation and income creation</li> <li>4. Technology development and access to technology</li> <li>5. Creation of wealth and income</li> <li>6. Health</li> <li>7. Social investment</li> </ol>	<ul style="list-style-type: none"> <li>• With our customers</li> <li>• With our employees</li> <li>• With our local community</li> <li>• Status of Responding to Stakeholders</li> </ul>	P27-28 P29-31 P32 P36

# SDGs Response Chart

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Risks and Opportunities	P03																	
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Our Works	P09-10																	
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Special Feature No. 2: AMADA Eco Products at our customers	P13-14							●		●				●				
Special Feature No. 3: AMADA Eco Products at our customers	P15-16							●	●	●				●				
Mid-term environmental plan	P17-18																	
Preventing global warming (Reducing CO <sub>2</sub> emissions associated with our products)	P19							●		●				●				
Preventing global warming (Reducing CO <sub>2</sub> emissions associated with our business activities)	P20							●		●				●				
Effective use of resources	P20											●	●					
Regulated chemicals control	P21			●								●	●					
Biodiversity	P22															●		
Activities, Fiscal 2019	P23-24			●				●		●		●	●	●				
Assessment of water-related risks	P25						●					●	●					
Special Feature No. 4: Winning the Kanto Bureau of Economy, Trade and Industry Award	P26															●		
Communication: With our customers	P27-28				●					●								●
Communication: With our employees	P29-31			●		●			●		●							
Communication: With our local community	P32															●		●
Corporate Governance / Risk Management	P33-35																	
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